Teaching Online Research in the "Fake News" Era

Allison Faix
Coordinator of Reference Services, Kimbel Library
Coastal Carolina University
P.O. Box 261954
Conway, SC 29528
(843)349-2511
afaix@coastal.edu

Introduction

For teachers and librarians helping students navigate the world of online information, the rise of fake news has created new challenges for information literacy instruction. Helping students find, evaluate, and use credible sources of online information can be more difficult than ever in the current era of "fake news", "alternative facts" and extreme political polarization. However, practical tools and strategies can be used by teachers and librarians to help students critically analyze the information they find online through social media, news outlets, and web searches and to make well informed decisions about the value of the sources they choose.

Background Information

Although fake news is nothing new, the ease and speed with which it can spread online, especially through social media channels, has given it a newly widespread influence. In the past, many people got their news primarily through print newspaper and magazine subscriptions or from watching television programs. These traditional media sources generally have long-established editorial and fact-checking processes in place. Even so, the public's trust in these mass media news outlets has been declining and by the year 2016 that trust "dropped to its lowest level in Gallup polling history, with [only] 32% [of Americans] saying they have a great deal or fair amount of trust in the media" (Swift, September 14, 2016). Just one year later in 2017, the Pew Research Center reported that one out of four adults in the US got their news from social media sites, with Facebook being the most popular choice (Grieco, 2017). Accessing news through social media has increased in popularity while trust in and use of traditional media sources has been declining.

Unlike traditional media, however, online content can be created quickly and inexpensively by anyone with an internet connected device. Social media in particular makes it easier than ever for anyone to publish anything and potentially reach a large audience: "Content can be relayed among users with no significant third party filtering, fact-checking, or editorial judgement. An individual user with no track record or reputation can in some cases reach as many readers as Fox News, CNN, or the *New York Times*" (Alcott and Gentzkow, 2017, p. 211).

On social media sites, any interaction with an item that has been posted, even comments that point out factual errors, serve to increases the visibility of that posting and helps it become a "trending" news item. Social media can encourage the spread of fake news because of the way this works. "Fake news" entrepreneurs purposely design articles that are more likely to provoke the social media interactions

that will help their articles reach more viewers. They also choose topics with high "clickbait" potential. The goal of these fake news creators is often just to make as much money as possible, and they are paid by advertisers for each click their site receives. This could be as much as $1000 an hour for particularly viral stories (Shane, 2017 January 18). While some fake news creators also have an ideological agenda they would like to promote, others simply choose to write articles on whatever subjects they believe will earn them the most social media interactions and subsequent page views. And it works: In a 2016 study, the Pew Research Center found that almost one in four Americans said that they "have shared a made-up news story--either knowingly or not" through the online social networks they participate in (Barthel, Mitchell, & Holcomb, 2016).

Fake news stories shared by social media influencing bots can also be used as a form of information warfare, manipulating public opinion (Prier, 2017). A 2017 study estimated that somewhere between 9-15% of twitter accounts are bots rather than people (Varol, 2018). These bots are created by individuals or groups who seek to influence public opinion on a grand scale, as Russia did during the run up to the 2016 presidential election in the United States (Shane, 2017, September 7). And although political fake news has gotten the most press in recent years, fake news exists on many other topics that students re-search, including celebrities, medicine, and science.

But the need for page views is actually true of most online content: "fake news writers, and even 'real' news writers, are heavily motivated to create the most sensational headlines they can" (Spratt and Agusto, 2017, p. 18) to get as many people as possible to click their links. Most websites are constantly vying for attention because they are paying their bills with advertising revenue rather than subscrip-tions. Even "real news" sites are incentivized to use overly dramatic, clickbait style headlines in order to draw in readers, which can often give the real news an air of sensationalism that makes evaluating sources difficult. And because traditional newspapers have been struggling to transition to the digital world, newspaper jobs have "declined more than 37% between 2004 and 2015", meaning there are of-ten fewer journalists and editors working at these mass media news outlets, too (Pew Research Center, 2017). These things together create an online world in which it is more difficult than ever to navigate through the noise to find information that can be trusted.

The actual definition of fake news itself has also been debated. Fake news, in its simplest definition, is news which is intentionally false or misleading. This is separate from questions of bias and media in-fluence--just because a news organization is perceived to have a bias does not necessarily mean their news is fake—they may still be adhering to strict standards of journalistic integrity. Fake news is also not news with accidental mistakes that are later corrected. Mistakes can happen to any media outlet, especially when covering breaking news stories. Quickly correcting mistakes is a sign of good fact-checking processes at work. More troubling, "fake news" has also come to be synonymous for any news which the reader doesn't agree with, doesn't like, or doesn't want to acknowledge: "[Fake News] is now used to mean 'I deny your reality.'" (Menand, 2018). Whether or not someone likes a news sto-ry has nothing to do with whether it is real or fake--a much deeper analysis of the facts--or lack thereof--is required. This has been called "information tribalism", the idea that people choose sides based on a sense of their own identity and believe news stories that they want to be true (Beck, 2017) whether or not the facts can be objectively verified. But what can teachers do about this?

Teach an awareness of how the Internet works

While it might not seem to be directly related, teaching students a greater awareness of how the internet operates can help them identify when something may be fake news. Many fake news sites will try to approximate the look and feel of a legitimate news website by using similar formats and URLs. When students understand how URLs are constructed they can quickly determine if the website they are looking at is commercial or not, what country it is coming from, and where it falls in the larger website's organizational scheme. Showing students how to check the official list of domain names to find out what an unfamiliar domain might say about that website can help students realize that the URL can provide essential information about a website if you know how to read it.

Another important feature of how the internet works to share with students is the idea of the "filter bubble" and how search engine algorithms tend to show you what they think you want to see based on your search history. Eli Pariser's Ted Talk, "Beware of online 'filter bubbles'", first brought this issue to a wide audience in the year 2011, and the idea of getting lost in your own echo chamber online is still important for students to be aware of. If students don't make an effort to search for information outside of their own viewpoints, they probably won't find any articles outside of their own viewpoints, but that doesn't mean that other sides of the arguments don't exist.

One activity that is easy to do in the classroom to demonstrate this is to simply ask every student in the class to use Google to look up the exact same thing, and then compare results. This may not work as well as it did in the past, because Google has made some changes to their search in order to try to limit this filter bubble effect, but differences in the advertising on the pages, especially if students search from their home computer rather than a school one and print the results to bring to school with them, should be noticeable. Another activity to try that will potentially work better is to have students search for the same thing using different ways of phrasing their question and then compare results. For example, have the class look for information on coffee and have one group search "is coffee good for you?" and have the other group search "is coffee bad for you?". Even though both groups want the same information on whether or not coffee is healthy, the group searching with the keyword "bad" will be more likely to find negative information than the group searching with the keyword "good". The search engine is anticipating what they want to find. This is still a kind of filter bubble that searchers might not even realize they are stuck in. Google, on a recent posting to their blog (Sullivan, 2018), used a similar example to explain the problem and their awareness of it. It is possible that Google will address this problem in the future, but activities like this one can help students develop an understanding that search engines are not a neutral technology and that it's important to have an awareness of all the things that might be influencing your search results. In this example, students could think of another way to search for the information that might work better.

It can also be helpful for students to be aware of how and why stories tend to "go viral" on the internet. Studies have shown that evoking strong emotions like awe or anger in readers can create a story that is more likely to be shared widely (Berger, 2012). If students are drawn to a source because of a strong emotional reaction they have to it, an awareness of this might help them realize they should further investigate its veracity. Asking students to identify the emotional reaction they have from reading a source can be a helpful step to add to their source evaluation process.

Librarians and teachers can also work to make students aware of the processes behind creating online content and how this can differ widely depending on the source: "Because the Internet does not require them, there is much less quality control of material today." (Finley, 2017, p. 8). Although one of the strengths of the internet is the fact that it gives everyone the opportunity to publish and the potential to be heard, one of the drawbacks is that editing and fact-checking is not always done. And because there are no official approvals for what is published, literally anything can be. Teaching students about the ways that traditional editorial processes work can be valuable because "now that so much available information has not undergone these vetting processes, we need to draw attention to the value of the effort involved. Some may argue that these processes were elitist. Perhaps they were, but they were and are about quality control." (Finley, 2017, p. 8). Making students fully aware that not every internet site conducts any type of review on its content can help them realize more fully the importance of doing things like fact-checking for themselves, or the value of finding and using sites that do have editors working on their content.

Fact checking websites

Another activity that can help students become better at evaluating online sources is to introduce them to concept of fact-checking and acquaint them with fact-checking websites that already exist as important tools for researchers. It may be good to start with a site like Snopes.com, where a less controversial meme or a fun trending topic could be chosen by teachers to demonstrate how fact-checking works, rather than starting off with a topic that students may already have a bias about. Another simple activity to try could be to ask students to choose a trending story from their own social media feeds and look for it on Snopes.com, which tends to fact-check trending stories, to see if they can find out more about the story there. Ask students to notice the way that Snopes.com or other fact checking websites will link to evidence when it is available and will explain when they are unsure whether something is true or false and why. For more controversial issues that have been covered by more than one fact checking service, ask students to compare reports on the same event to see if different services give different or similar verdicts.

Recommended Fact Checking Websites

Website:	Website run by:
Snopes.com	David Mikkelson
FactCheck.org	Annenburg Public Policy Center
Polifact.com	*The Tampa Bay Times* (independent Florida newspaper)

There are also many tools available that students can use to do their own fact checking, and this can be an especially valuable exercise because it can give students more insight into how the internet works. Many tools can be found in the Verification Handbook (http://verificationhandbook.com/), which is a free ebook published by the European Journalism Center to teach journalists how to verify news stories as they are researching and writing them. Students could be asked to use some of the many tools recommended in this handbook, like reverse image searching or tracing the owner of a website. A similar

free ebook written for a student audience, <u>Web Literacy for Student Fact Checkers</u>, is available from educational technologist Michael Caufield. This book recommends many fact-checking activities for students. A video like the TED talk from journalist Markam Nolan, "<u>How to separate fact from fiction online</u>", can also be a good introduction to the idea of how real news stories are written by journalists and how real journalists do their own online fact checking before publishing a story.

Bias and Confirmation Bias

Students can also benefit from an awareness of bias and how it can affect the research process. People often say that they want unbiased sources, or that they are looking for facts without bias. In reality, however, all sources will have some kind of bias, even if that bias is simply that they try to remain as neutral as possible. Because of this it is important to have an awareness of bias, the tools to spot bias, and the ability to decide whether or not the bias of an article or website would prevent it from being a good source for your research project.

Students may not be aware of their own bias, or may think that they don't have any biases. The word "bias" itself is often used with negative connotations, when it really just indicates a stance, a perspective, or a point of view. An activity that might help students develop an understanding of their own bias is asking them to use an online tool like the "<u>Rate your own Bias</u>" quiz on the website Allsides.com or the <u>Political Typology Quiz</u> on the Pew Research Center website. Understanding that everyone has some type of bias is an important step in realizing that every article has some type of bias as well, and that being aware of bias is important.

The website Allsides.com can also be a good tool for teachers to use when teaching about bias. This website is run by a team of editors from many different backgrounds who work together to rate the bias of news stories and news outlets, giving each one a rating on their five point scale categorizing each story as right, left or center. Current event articles will tend to be grouped by topic on the site, so students can easily find and read different versions of stories about the same event. An easy classroom activity to help students gain a better understanding of how bias presents itself in news articles would be to ask students to choose three articles on the same topic or event, one from the right, one from the left, and one from the center, and compare the articles. Have students answer questions like: what is the same in all three articles? What only appears in one of the articles? Do the articles tell the same story of the event?

After coming to a better understanding of what bias is and how it works, students can begin to explore confirmation bias and how it can affect their research. In confirmation bias, researchers look for articles that back up opinions they already have. Asking students to find sources they disagree with could help prevent this, especially if teachers explain the value of using sources that you don't agree with to come to a fuller understanding of your own beliefs. Good researchers are open to finding ideas they had not already anticipated and changing the focus of their research questions in response. Teaching students that they are researching in order to learn more about their topic, not to find confirmation of things they already know, is also a useful approach.

Source Evaluation Techniques

There are many source evaluation techniques that can help students analyze sources and decide whether or not they are worth using. One frequently used test, the C.R.A.A.P. test, which was originally created by librarians at California State University-Chico (2010), asks students to look at the currency, relevance, authority, accuracy, and purpose of a source. There are many variations on this test, and these kinds of tests can be a good first step to help students think about the factors that make a source credible. It's also important to give students the tools to know when an article is "sponsored content" (or other euphemistic phrases that indicate a paid advertisement which looks like a news article). In the now famous Stanford University study that looked at middle and high school students' media literacy skills, researchers found that 80% of the students they tested could not tell the difference between sponsored content and news articles at all (Wineberg, 2016, p. 10).

In the fake news era, however, this kind of analysis might not always be enough to help students make informed decisions. Michael Caufield, in his book Web Literacy for Student Fact Checkers , recommends that students employ a process called "lateral reading" to evaluate their sources. This means that instead of "reading vertically" by limiting their analysis to information found on the web page they are evaluating, students would "read laterally" by also doing a Google search to find more information about the website from outside sources. This information could be reviews of the website, information about who owns the website, or other news articles about the website that will help students get a sense of the websites' reputation. Students could also look deeper by finding out who is linking to the website and who is citing it. Knowing what others think about the website should help students decide whether or not it is a source that they also want to use. This kind of information will not usually be available on the website's own pages.

Another source evaluation activity that goes beyond the CRAAP test is the backtrack journal recommended by Andrew Revkin (Revkin, 2016) and used as an assignment in his graduate course in Multi-Platform Communications. This activity asks students to take something they found online and trace it back to its original source, whether that was a tweet, a social media posting, or another type of posting. This would work best for sources students find that aren't traditionally published, but those types of sources are often the ones students want to use most.

Students can also do a media ecosystem analysis activity to help them think more about evaluating sources and bias. This activity was suggested by the *New York Times* in their lesson plan article for teachers, "Evaluating sources in a post-truth world" (Schulten, 2017). Ask students to make a list of all of the websites they use regularly, and then have them do a lateral reading of those websites. After looking more closely at the websites they use most often, students can ask themselves if they think their media ecosystem is too limited, and if there are types of sources they may be missing. This could be a way to bring together many different concepts related to fake news information literacy into one activity.

For a more interactive way to help students practice evaluating fake news, there is an online game called Factitious created by JOLT and the American University Game lab that can be played as a group or individually. To focus the game more on evaluation, ask students to go to the actual sources used in the game and look at the about pages on those sites, then ask students to do a lateral reading of the sites used in the game. For articles in the game that cite studies, students can practice trying to locate the original study and then look at it to see if they agree with how the reporter has summarized the results of the study or not.

Teach Advanced Search Techniques

Part of the reason students may be running across dubious sources of information on the internet could be related to the search techniques they are using. Almost any keywords used in Google will return some results, but some keywords may work better than others at retrieving higher-quality sources. To find good sources, students need to figure out what keywords are being used by scholars, journalists, experts and other credible writers on their topic. Learning how to brainstorm a wide variety of keywords on their topics can be a good place to start. Make sure students know that they should try different combinations of search terms. Advanced search techniques can also be helpful: showing students how to narrow a google search by date can help them find information that is more current, for example. Limiting by domain name in Google can help students easily filter out commercial websites. Asking students to use Google Scholar instead of regular Google can help them focus on finding scholarly sources. Above all, it is important for students to be aware that research is a process in which they may have to experiment with search terms, try different strategies, and look at many articles before being able to select the articles that are going to help them the most. They should expect to have to go far beyond the first three search results that they receive for the first search terms they try. Even experienced researchers can experience frustration when looking for sources and it is important to know how to revise your search process in response to your information need and the information you are able to find.

Conclusion

Teaching students to recognize and avoid fake news requires teaching a wide range of knowledge, skills, and abilities. It's important to recognize, however, that although poor information literacy skills can help to fuel fake news, all of the blame for the fake news problem cannot solely be placed on students, teachers, librarians, and the general overwhelming need for better information literacy skills in the world at large. The fake news problem is complex and many different factors contribute to its continued existence. While it is essential for students to understand that they have an important responsibility to evaluate their sources, it is also good for students to understand how and why fake news is created. The problem is not just that people need to be better at evaluating sources, the problem is also that all of these dubious sources not only exist but proliferate. Source evaluation tends to put all the responsibility on the information user, and none on those writing and publishing dubious information. However, acknowledging that this is unlikely to change can help underline for students the importance of source evaluation as a lifelong information literacy skill that they should not leave behind when their last research paper is written. Being able to critically analyze and make informed decisions about what sources to use and choose and believe will help them become better online researchers no matter what they choose to research in the future.

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