

How Can We Help Our Students?

Teach Information or Media Literacy

Students today have never lived in a world without computers and cellphones. They have always been immersed in technology and bombarded with information. This is normal for them. They use technology easily and accept new technology readily. They are willing to experiment and are quick to discard anything that is not entertaining or that takes too long to complete. They live in a world of 3-D, virtual reality, and predictive searching. They have a preference for visual rather than written material. They skim the surface of the information they receive, rather than doing a deep dive to thoroughly research a topic. They expect technology to work for them, at lightning speed, without the need for instruction or intervention.

Most people are confident that they know more than they do. Experiments conducted by David Dunning and Justin Kruger in 1999 showed that people who know relatively little about a subject are overconfident about their level of expertise in it.¹ The “Dunning-Kruger effect” finds that students and others overestimate what they know, despite knowing that they lack experience or knowledge of the subject. People in general tend to trust their social media friends, and students in particular tend to rely on social media for their information. The sources of information they trust are the ones their friends share with them. The expertise of the author, the possible bias of the producer, the geographic location of the creator, the facts that back up an assertion or claim, all take a back seat to the credibility of their friend network. This makes them particularly susceptible to manipulation. If they happen to have unknowingly friended a bot that feeds

them misinformation, they are likely to believe that information.

Helping individuals learn to be information- or media-literate is one of the single most important skills we can offer. It translates into the ability to understand, control, and apply information. In order to combat fake news, the first step should be to start teaching students early in their education. By the time students get to high school, which is typically the first place they encounter “information literacy” today, their learning habits are ingrained. We need to teach basic information literacy skills much earlier in life, and we need to repeat lessons throughout a student’s education.

Psychologically, the first thing we see or hear about a topic is what we remember as true. The more times we hear something repeated, the more likely it is that we will remember it, even if it is not true.² To start students on the road to information or media literacy, we need to start teaching those skills in elementary school so that critical thinking and questioning will become ingrained and habitual. We need to capitalize on children’s propensity to ask questions and encourage them to do so. We also need to help them learn how to find answers to their questions. A scaffolded curriculum of information literacy across the K–12 system would build a foundation that students could use to approach adult problems after graduation.

Students need guidance as they often lack life experience. Teaching students to seek out experts and to value those who have expertise in a subject will provide them with a key to avoiding fake news. With the democratization of access to information via the internet, it is easy to find information, but is it not

always easy to determine if that information came from an expert and trustworthy source.³ Students should understand that information coming from an expert source will be more reliable than information coming from an unknown source. Teachers should provide guidelines for students to use in identifying and selecting information supplied by experts.

As students reach high school, their tendency is to rely less on the expertise of their teachers and rely more on their friends. This is problematic in terms of fake news because many students get their news only from their social media newsfeed. Teens often share news they have received via social media because a headline or a picture, rather than the actual content of an article, has caught their attention. They are often unaware that they are receiving information from bots driven by algorithms based on the likes, shares, and clicks at their social media pages. They are often unaware that the information they see can be influenced by nonhuman actors. Students often do not seek out alternate sources of information, nor do they compare information to see how details might differ. We need to encourage them to do so and show them how. Technological interventions that are entertaining as well as instructive can help to get information across to teens.

Make Students Aware of Psychological Processes

Knowledge is power. When we are aware that we are psychologically programmed to believe information first and then reject it later if necessary, it becomes easier to insert skepticism into our analysis of news. This makes it easier to reject fake news if we can initially accept that it might be fake news. It is easier to dismiss the initial misinformation if we know our brain has a tendency to hold onto it. Explaining the psychological tendencies that could cause students to believe fake news, and reminding them of those tendencies periodically, can give them a means of examining that news more critically. Making students aware of how their brains are working can improve their performance.⁴

In college, students are often psychologically ready for a fresh start or at least exhibit a willingness to consider new ideas. At this critical juncture, it is important to provide the reasoning and the instruction that will help them to apply their critical-thinking skills to their new environment. The freshman experience concerning information literacy can be very important, as it can, if successful, create the basis for the rest of their college work. It is important to introduce academically related information-literacy concepts and skills at a time when they can be applied immediately to an assignment or problem. Skills concerning

fake news can be taught any time as fake news is a “hot topic” in the nonacademic world, and students will have the opportunity to apply what they learn immediately in their personal lives. Workshops, tutorials, YouTube videos, and games can be created based on the topic of fake news. The information-literacy skills conveyed in the exercises about fake news can be applied immediately, but can also be transferred to academic issues at the appropriate time.

Tie Information Literacy to Workplace Applications

Building a curriculum to serve college students is critical to producing the workforce practices employers are looking for. It is critical to tie information literacy to the world outside academia and beyond college. Students need to know how important the information literacy skills are going to be to their future success in the working world.⁵ Most students will not have access to the research databases available to them at the university level once they move into the working world. Students are usually familiar with common platforms such as Google and Facebook. Lessons involving Google and social media platforms can provide a focus for instruction using sources students might have available to them as workers and that they will certainly use in their everyday lives. Tips, shortcuts, and cautions can center on the issue of fake news, to make a class or workshop content relevant while teaching valuable skills.

The information literacy skills and concepts students are taught need to be offered in memorable ways, across the curriculum. Offer students instruction options in as many media as possible. Remember students today are visual people for the most part. They don't read deeply, and they tend to reject anything that has no entertainment value. A YouTube video can have more impact than an in-class demonstration. A comic book about information literacy problem solving can be more memorable than a checklist hand-out. Make sure the tools you make available are easily accessible electronically. A problem-solving online game can be effective as well as entertaining. Having students create information literacy projects centered on issues they feel are important could offer them an opportunity for deeper understanding of the subject and provide valuable insight. Get input from students about what teaching tools they find most effective and compelling.

Collaborate with a film studies class, an art class, or a computer engineering class to address information literacy topics in new and interesting ways. Partner with other instructors as often as possible to allow students to get information literacy training in more than one setting, while they are learning another

subject. This will allow students to understand the applicability of information literacy to other subjects.

Have students work on hands-on exercises that demonstrate the need for care in selecting sources. In memory studies, it has been shown that people remember better if they have done something themselves.⁶ Rather than telling or showing students how to find a source or check for factuality, plan instruction so that the students do the work, guided by the teacher. Go the next step and have students apply what they learn in one setting to a problem in another setting. It has also been shown that students benefit from working in groups. Allowing instruction to take place in small groups with input as necessary from a roaming instructor will help students to learn from one another and to better remember what they learned.

Teach Students to Evaluate Information

Teach students about author credentials and how to evaluate them. *Credential* is a term librarians often use, but many students do not know exactly what the term means. What is a credential? What credentials are legitimate indicators of expertise? Acceptable credentials will vary from subject to subject, so the definition is hard to pin down. Academic researchers often try to use sources with peer-review processes in place to do the vetting of authors for them. Unfortunately, in daily life those academic sources do not always serve. They require extra steps to access, and they often require affiliation with an organization that supplies the sources. Most people receiving news from social media are not likely to check that news against an academic database or other reliable source in any case. It can be time consuming to discover an author's credentials. Students will benefit from instruction in what constitutes a credential, where to find evidence of credentials, and why it's worth the time it takes to discover an author's credentials.

In the same way, students should be encouraged to think about bias. Everyone has biases that shape their worldview. That worldview has an impact on the interpretation of events. In reporting on a controversial situation, a journalist should strive for objectivity, but bias can color the representation of the event. It can have an effect on what an eyewitness sees. It can have an effect on the words a reporter chooses when writing a story. Knowing the point of view of the author will help students to identify bias. Biographical information about the author can be helpful in this regard, as is knowing the viewpoint and reputation of the organization the reporter works for. Have students consider, for example, how a reporter working for the NRA might present information about a school shooting. That same school shooting will probably

be reported differently by a reporter writing for an anti-gun group. When confronting controversial subjects, students should be given instruction that will help them find information from both sides of the story. Once students understand why the credentials of authors are important and how those credentials inform the reader of possible bias, have a discussion to help them to understand why they should not rely on anonymous sources of information.

Teach Information Literacy Skills and Concepts

Concentrate on information literacy concepts and skills, rather than teaching students how to use a particular tool. Use those general concepts and skills in concert with exercises that allow students to explore a variety of research tools. Instructors will never have enough time to demonstrate every database for students. It is more efficient to explain to students how databases work in general and then have them use a variety of databases to experience how they differ from one another. Students have been using computer databases most of their lives—Google, Facebook, Twitter—and they frequently learn how to use them by trial and error rather than by reading a help page or following step-by-step instruction sheets. Have them spend their time applying searching and evaluation skills to content rather than learning how to use a particular database.

Make fact-checking sites known and available (see gray box). If students are taught to be skeptical about information, they should have questions about the truth of the news they access. In order to verify news as real or fake, students should be given the tools necessary to do so. Rather than relying on their network of friends or the popularity rating of a post, students should be directed to fact-checking sites, and information about what those sites are should be readily available at multiple locations—websites, social media pages, printable lists, and so on.

Snopes
www.snopes.com

PolitiFact
www.politifact.com

FactCheck
www.factcheck.org

Show students the importance of following up on citations and links. Information literacy instructors have used an article called “Feline Reactions to

Bearded Men” to demonstrate the importance of considering all aspects of an article. The article appears to be reporting the results of a research experiment and is formatted to look like a legitimate research article. It is only when one examines the bibliography that things begin to look suspicious. There are articles listed in the bibliography supposedly authored by Madonna and Dr. Seuss, for example. Nonexistent journals are cited as well.⁷ An unwary or novice researcher might be led to believe that the article was reporting on serious research. In the same way, fake news may contain links and citations to articles and other information simply to give the story the look of serious research and reporting. In fact, the links may lead to information that is false, biased, or completely unrelated to the subject. It is important to follow links and citations to verify that they support the claims made in the original piece.

Show students how easy it is to create a fake website using a URL that looks very similar to a legitimate website. Many fake news sites use web addresses that are very similar to the web addresses of legitimate news agencies. It is very easy to assume that the news being displayed is true if one is convinced that the source is legitimate. Unusual add-ons after the domain name, replacement of a capital letter with a small letter, replacing a 1 (numeral one) with an l (lower-case letter L) or vice versa are all tiny details that can make the difference between getting real news and getting fake news.

Teach students to use critical-thinking skills to evaluate a post before they send it on to friends or followers. This could mean training that examines the psychology of memory, the explanation of algorithms and other computer-related processes, or the examination of author credentials. Since librarians typically have a very limited amount of time in which to convey their message, the information must be stripped to the bare essentials for classroom use. This would be a good place to make creative use of technology to create lessons that get the message out electronically, making them available at any time. Lessons online can be assigned for homework or preparation for a class, rather than in a face-to-face class. Make a series of TED-style talks about critical thinking, for example, and post them on the library web page or Facebook page.

Teach students about privacy issues. Students are fairly cavalier about providing personal information online in order to accomplish something. They are often unaware of what happens to the information they supply. Revealing basic information to set up a profile or gain access to a website doesn't seem invasive. However, many groups that ask for basic information sell that information to others.⁸ There are groups that buy information from multiple sources, and using the power of computing, put an individual's

profile from multiple sites into one file, which may reveal more than one might wish. Individually, the profiles are not necessarily useful, but in the aggregate, they can reveal private information without the knowledge of the individual.

Teach students to slow down. Research shows that the average time spent on a web page is less than fifteen seconds.⁹ While this might be enough time to grasp the content of a headline, it is not enough time to examine the meaning of the content or to determine where the information came from. Allowing sufficient time to absorb the content of a page is critical to understanding the message. Taking the time to think about the content of a web page before passing it on to someone else will help to stop the spread of fake news.

Teach the Teachers

Teach the teachers. While librarians have been immersed in information literacy for decades, other teachers have not necessarily had information literacy at the forefront of their curricular objectives. As the automated provision of information has become unavoidable, and the manipulation of that information for good or evil is now in the hands of anyone with sufficient coding skills to accomplish it, teachers at all levels in all subject areas are ready to benefit from the decades-old expertise of librarians. Librarians should make their information literacy instruction materials readily available and advertise their location. Offer workshops and instruction to faculty and others who influence students. Giving workshops for teachers in the late summer or early fall will help them understand the problems associated with fake news and prepare them to help their students. This is also the time to act as a liaison with writing and tutoring centers of all levels and kinds to share information literacy lessons with them. By teaching the teachers we can expand our reach beyond the fifty-minute one-shot session. Cooperation and collaboration with instructors in every subject area will help students to solidify their skills in information literacy and to avoid fake news.

Conclusion

The creation and spread of fake news is a problem that seems ingrained in human nature. It has existed for millennia and has been used to sway public opinion, smear reputations, and mislead the unwary. In the digital age, information travels much more widely and much faster than it ever has before. Computer power makes it easy to manipulate huge amounts of data, aggregate data from past and present research, and

democratize access to information. Computer power also makes it easy for those who know how to “game the system” for their own purposes. Fake news online is difficult to identify, its source is difficult to identify, and the means of making it stop are not yet known.

Information literacy focusing on social media and fake news appears to be the best option for allowing students, teachers, and the general public to avoid being taken in by those who create fake news. In the past, people were told, “Don’t believe everything you read in the newspaper.” More recently, people have been told, “Don’t believe everything you see on television.” Today the warning must be, “Don’t believe everything you see, hear, or read on social media.” Healthy skepticism and rigorous evaluation of sources—authors, publishers, and content—are key to avoiding fake news.

Notes

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