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Title

Fake or for real?: A fake news workshop

Abstract

Purpose: This article seeks to provide an in-depth overview of a series of fake news information literacy library workshops, which were offered 19 times over the course of two years. It examines the results of a fake news game, which was played with a wide variety of audiences.

Design/methodology/approach: This case study examines workshops offered by two librarians at [name of institution], a major research institution in [city], [country]. It describes the workshops in detail and demonstrates how others may follow this model.

Findings: The authors found that while high school students proved to be the most adept at recognizing fake news, the literature suggests that mere exposure to digital media is not sufficient in preparing Generation Z in their digital literacy critical assessment skills.

Practical implications: Library and information professionals are provided with the tools to adapt this workshop to suit the needs of their respective users.

Originality/value: This article examines how a workshop can be adapted to seven unique audiences, spanning from high school students to university alumni. It incorporates the ACRL Frameworks and the latest literature into informing its practice.

Keywords: fake news; workshop; information literacy; game; high school; college; university; faculty; staff; alumni; journalists; ACRL Framework

Introduction

The authors are two librarians at McGill University, a large research institution in Montreal, Quebec, Canada. They were approached by McGill University's team at Enrolment Services in the spring of 2017 to lead a library session for a new program: a summer academy for international high school students. These were prospective students taking part in a two-week program to experience life on-campus. Enrolment Services provided the authors carte blanche in developing the 90-minute library sessions. The workshop presented an interesting challenge to the librarians: how does one teach a library workshop to students who do not have a research project and do not have access to the McGill Library's resources? How does one teach something valuable to a group of international 16-year-olds in a way that is interactive, attention grabbing, and fun? The outcome of the United States 2016 Presidential election was at the forefront of the librarians' minds, as was the newly popularized term "fake news." The election of President Donald Trump presented the authors with a landmark event that had international repercussions. Surely, the librarians surmised, teenagers from all over the world would have a stake and strong opinions around this world-changing election. Finally, the librarians' brainstorm led them to centering their workshop on fake news, with the hope that they could help these students learn effective tips and tricks for navigating the increasingly complex news cycle and hone strong information literacy skills. The intention was to create a memorable and lively experience for the students, not simply so they would retain some core critical learning skills, but also so they would keep McGill University in mind when it came time to apply for university.

Given the amount of time and effort spent on developing the workshop for international high school students, the authors decided to offer the workshop to undergraduate students, graduate students, faculty, staff, and alumni in the fall of 2017 and winter of 2018 semesters. The workshops were well-attended and generated positive word-of-mouth, which resulted in the authors being asked to deliver tailored versions of the workshop, over the course of the winter 2018, fall 2018, and winter 2019 semesters, to: a conference of university journalism students; a political science undergraduate class; two communication studies undergraduate classes; a library and information studies graduate-level class; a conference at a local college; and two local high school classes. McGill University's Enrolment Services contacted the authors to lead the same sessions again in the summers of 2018 and 2019, and for good reason: following a poll that Enrolment Services took of its students in 2017, 86% of students rated the library session as excellent, very good, or good. In fact, the library session was the highest-ranked workshop of all the events the students attended during their two-week stay on campus.

At the time of article submission, the workshop has been offered 19 times to seven different kinds of audiences over a period of two years. This article seeks to provide an in-depth overview of the workshop, including how it was tailored to a wide-variety of audiences, so that others may adapt it as they see fit. The article will touch upon how the workshop fits the Association of College and Research Libraries' (ACRL) Information Literacy Framework. It will then present the results of a game that was played with a wide variety of workshop participants and discuss the results within the context of the growing body of literature on incorporating discussions of fake news in library information literacy sessions.

Literature review

Oxford Dictionaries selected "post-truth" as the 2016 International Word of the Year due to a 2000% increase in usage of the term from the previous year (Oxford Dictionaries, 2016). Similarly, the term "fake news" was declared the official Collins Dictionary Word of the Year in 2017, when, after monitoring all forms of media, the dictionary determined use of the term was up 365% from 2016 (Quin, 2017). While the usage of the terms "post-truth" and "fake news" increased considerably during the lead-up and aftermath of the 2016 United States Presidential election, the concept of fake news is not new. Watson (2018) cites examples of fake news throughout history, going as far back as Ancient Rome, and then on to more recent historical examples such as Benjamin Franklin's 1782 counterfeit issue of the *Boston Independent Chronicle,* and the 1958 fake news radio program *War of the Worlds.* Weiskott (2016) links today's fake news to British medieval prophecies, which were used to guide political action. He suggests that both medieval prophecy and fake news effectively persuade the public by playing to their fears or telling them what they really want to believe. Weiskott argues that the impact medieval prophecy had on shaping the political action of the time should act as a warning about the potential impacts of fake news today.

While not a new concept, the American Library Association's (ALA) Public Programs Office suggests the increase in attention fake news has received since 2016 is the result of both "a

divided electorate" and the current "social media landscape where misinformation is shared with a click" (ALA, 2017). Although social media platforms like Twitter and Facebook have been described as a "key vector" in the transmission of fake news (Grinberg et al, 2019, p.374), a series of studies by the PEW Research Centre show an increasing number of Americans are obtaining their news via social media. In 2018, 68% of adults reported that they obtained their news from a social media platform—a significant increase from 49% in 2014 (Barthel, Mitchell and Holcomb, 2016; Shearer and Matsa, 2018). Despite the fact that 57% of people say they expect to see inaccurate information on social media, they continue to choose social media as a news source because of convenience. Additionally, 23% reported having shared a fake news story, knowingly or not, on social media (Barthel, Mitchell and Holcomb, 2016).

Social media can be a troublesome news aggregator for a number of reasons. Viviani and Pasi (2017) suggest that, in a digital media environment, the burden of information evaluation has shifted away from professionals to individual consumers. There is an absence of clear standards for information quality and information can be manipulated quite easily. The absence of quality can become particularly troublesome in a social media environment, where people have the ability to share stories instantly, whether or not they have been read first, and where a readers' perceptions of credibility are typically based on crowd consensus (Cooke, 2017; Viviani and Pasi, 2017). A study by Columbia University and the French National Institute found that 59% of links shared on social media have never actually been clicked (Gabielkov et al., 2016). In 2016, the satirical news site the Science Post published a block of "lorem ipsum" text under the headline: "Study: 70% of Facebook users only read the headline of science stories before commenting." The article was shared almost 46,000 times (Dewey, 2016).

Additionally, social media facilitates the "echo chamber" or "filter bubble," which allows users to avoid encountering alternative viewpoints and only interact with stories that align with their own beliefs and opinions. Within the confines of an echo chamber, wrongly informed citizens will stay wrongly informed (Bakir and McStay, 2018; Cooke, 2017; Lor, 2018; Rochlin, 2017; Rose-Wiles, 2018). As Rochlin (2017, p.386) explains: "if a person on my contact list posts articles I do not like, I delete them from my list. I do not need to see that." Beyond the self-selected "echo chambers" described by Rochlin, social media algorithms also create a filter bubble. In a 2017 research study on social media news spreaders, Reis et al. (2017) determined that the data-driven algorithm used to determine "trending stories" on social media is biased. Their study suggests that the sharing of news on social media platforms is not equal across demographics, concluding that demographic groups of white and male users are more likely to share news URLs on Twitter, thus having greater influence on the "trending stories" than other demographics, and disproportionately shaping the news. The result of all of this, is that users get limited exposure to wider information and different viewpoints, particularly information they might disagree with (Bakir and McStay, 2018).

Research suggests that individuals are not equipped with the necessary skills to navigate this landscape and discern what is real and fake in the news they consume. In 2016, the Stanford History Education Group conducted a series of 15 student assessments to measure the ability of middle school, high school, and college students to determine the credibility of online

information or "civic online reasoning." Assessments included such activities as examining Tweets, evaluating online photos, and analyzing the *Slate* homepage to determine the difference between articles and advertisements. A rubric was used to rate students' responses. The results were not encouraging, as the study found that approximately 80 percent of students participating in the study struggled to evaluate the credibility of an online resource. Digital natives are from developed countries and have grown up with access to the internet since childhood. While it is easy to assume that digital natives should recognize credible information online, the group concluded that the students were "easily duped" and the authors "[…] worry that democracy is threatened by the ease at which disinformation about civic issues is allowed to spread and flourish" (McGrew et al., 2016, pp. 4-5).

The 2016 PEW study asked respondents who they felt was responsible for stopping the spread of fake news. Respondents assigned equal responsibility to a) the Government/Politicians and Elected Officials, b) Members of the Public, and c) Social Networking Sites/Search Engines (Barthel, Mitchell and Holcomb, 2016). Rochlin (2017) suggests that we should assume that fake news will always exist, but that it will be combated with literacy. Librarians have been described as the "best line of defense in the war on fake news" (Neely-Sardon & Tignor, 2018, p. 111). Fortunately, as Bushman (2018, p. 214) writes, "the profession has responded vigorously" to the fake news crisis, with public, academic, and school librarians developing multi-faceted education programs for their patrons, including workshops, events, research guides, full courses, and web-based learning modules (Batchelor, 2017; Auberry, 2018; Johnson, 2018; Musgrove et al., 2018; Rush, 2018; Osborne, 2018).

While approaches to teaching students about fake news vary, there are popular tools that are used widely across various settings. For example, activities or worksheets like the CRAAP (Currency, Relevance, Authority, Accuracy, Purpose) Test, CARS (Credibility, Accuracy, Reasonableness, Support) Method, and RADAR (Relevance, Authority, Date, Appearance, Reason for writing) are very popular (Auberry, 2018; Musgrove et al., 2018). While such checklists and formulas can be an excellent starting point for many students, these tools have also been criticized for their limitations, as they cannot take the place of deep, critical thinking skills (Bluemle 2018; Johnson 2018).

There has been considerable discussion in the literature about the need for education to push beyond the classroom and focus on real-world skills. Members of the public are required to make decisions based on information sources they find online and via social media multiple times a day (Mitchell, et al., 2017). Simply teaching students how to find credible sources for school assignments in a classroom setting does not necessarily address this need, as evaluation skills taught in school, do not always translate easily into the real world. Rush (2018, p. 128) argues that students will be more likely to turn their knowledge into "concrete action" when they are taught to develop strategies for critically examining sources in "real life circumstances." Additionally, Bluemle (2018, p. 273-274) suggests that students may be able to "fake it" in a classroom setting. The authorities they "appear to acknowledge on the surface may not be those they recognize as legitimate, that is, those that actually influence their thoughts." In dealing with fake news, Bluemle (2018, p. 276) finds the ACRL's Information Literacy

Framework to be limited. As she writes: "[c]harisma, emotion, and inherent plausibility are nowhere to be found in the authority frame."

In *Web Literacy for Student Fact-Checkers,* Caulfield (2017) highlights the role emotion plays in the consumption and sharing of fake news. He encourages readers to develop the habit of checking their emotions prior to sharing news: "Because you're already likely to check things you know are important to get right, and you're predisposed to analyze things that put you [in] an intellectual frame of mind. But things that make you angry or overjoyed, well… our record as humans are not good with these things" (Caulfield, 2017). In a world where fake news content is specifically created to elicit a strong emotional reaction in order to prompt sharing via social media, the ability to recognize and navigate these emotions is essential (Bakir & McStay, 2018). When individuals stop to consider their emotional reaction to a news story before sharing it on social media, they are helping to take responsibility for stopping the spread of fake news. A number of librarian-led workshops and materials have been designed in order to increase participants' knowledge and awareness of the role they play in the fake news cycle (Ireland, 2018; Rush, 2018).

Incorporating active-learning components to a workshop, particularly knowledge-testing or fake news detecting activities have been found useful in helping students recognize the gaps in their knowledge and push their thinking beyond the classroom (Auberry, 2018). It can also be beneficial for students to leave the workshop armed with a set of tools they can use in their day-to-day lives, such as websites like *FactCheck.org*, *Snopes*, or *Politifact* (Osborne, 2018).

While library efforts to combat fake news are well documented in the literature, librarians are not the only group actively involved in educating the public on this topic. There are notable examples from the media, government, and non-profit organizations promoting awareness and education. Examples from media outlets include: *The Guardian*'s weekly award-winning Instagram series "Fake or For Real," which was created to familiarize users with common elements found in fake news stories (The Guardian, 2019); the "Fake News" section on the *BBC News* website (https://www.bbc.com/news/topics/cjxv13v27dyt/fake-news), which keeps readers abreast of local and international fake news stories, as well as stories to combat fake news; and *CBC*'s very recent "Fake News Chat Bot," which guides participants through a five week program on determining trustworthy sources, spotting suspicious articles, and recognizing altered photos or videos (CBC News, 2019). From the non-profit sector, News Literacy Project (https://newslit.org), a national education nonprofit has created multiple programs to teach students "what to believe in the digital age." In the United Kingdom, a number of government departments have been asked to investigate the impact of fake news and provide recommendations on how to ensure that citizens have access to factual information. In February of 2019, the Digital, Culture, Media and Sport Committee published its final report on Disinformation and Fake News (Great Britain. Digital, Culture, Media and Sport Committee, 2019), which explores such topics as data targeting, foreign influences on elections, and digital literacy. While teaching students about fake news in a classroom setting, the authors have found it useful to use or point to these broader efforts to show the scope of the issue, and the

very immediate real-world consequences of the dissemination of fake news. While fake news may always exist, education efforts on all fronts may be society's best hope.

Overview of the workshop

History of fake news

The authors began their presentations by touching on the history of fake news by demonstrating that it has existed, under various names, long before it became *Collins Dictionary*'s 2017 Word of the Year (Quin, 2017). The authors began by asking participants to share examples of fake news throughout history. Examples included propaganda during both First and Second World Wars; the Salem Witch Trials; the "birther" movement in the United States that incorrectly claimed President Barack Obama was born in Kenya; Joseph Stalin removing acne from his photographs; "yellow journalism" during the Spanish-American war; Chinese news coverage of the 1989 Tiananmen Square protests; advertisements for weight loss; the "red scare" which promoted fear behind a potential rise in communism; and justifications for the First Crusade.

After soliciting examples from participants, the authors would then share two key examples of fake news throughout history to demonstrate that it has existed in some way, shape, or form, for centuries. The first example cited was that of prophecies used in Medieval Britain, including the Prophecy of the Six Kings and the prophecies of Merlin, which were used to justify political action. The authors shared these and other examples outlined in Eric Weiskott's 2016 article in *The Atlantic*. The second example was the term "snake oil" or "snake oil salesman." Participants were asked to define snake oil, and generally were correct when they posited that it is a euphemism for deceptive marketing or disinformation. The authors explained the history of the term as outlined in Lakshmi Gandhi's 2013 article for *National Public Radio*. The authors went on to explain that snake oil was actually a real and valid medical treatment, as it contains anti-inflammatory properties. It can be found in the Chinese water snake and was brought over to the United States at the turn of the twentieth century by Chinese labourers working on the trans-continental railway. How the term "snake oil" came to be associated with fake news was due to a man named Clark Stanley, who was also known as the "Rattlesnake King." Stanley capitalized on the popularity of snake oil by creating his own formulation. However, in 1906 the Pure Food and Drug Act was passed in the United States, making it mandatory to list products' ingredients. It was discovered that the contents of Stanley's alleged snake oil were in fact turpentine, beef fat, and red pepper. He was fined $20.

Various synonyms for the term "fake news" were shared, such as "alternative facts," and the various purposes behind the existence of fake news was explored. Purposes included: discrediting an individual; selling a product; deliberately creating confusion; manipulation; social commentary; and humour. The latter two were demonstrated by including headlines from two prominent news parody websites *The Onion* and *The Beaverton*. As the workshops were tailored to suit different audiences, specific headlines were chosen to achieve a strong impact and resonate with the specific workshop's participants. (See Table 1 for examples.)

Journalistic and personal bias

The participants were then lead in a group discussion about journalistic bias and the many ways in which it may manifest: political partisanship; spin or clickbait; bad reporting; or journalists' own biases. They were asked to define each of these terms and provide examples. While some of the younger audiences struggled to define political partisanship, many made correct assumptions about the term. Participants were most engaged when asked to provide examples of spin or clickbait. The most common answers were: *YouTube* video titles, advertisements on the sidebars of websites, and article headlines on the website *Buzzfeed*. As a natural progression of discussing what might inform journalists' biases, the participants were then asked what might inform their own personal biases. The most common replies included: family, friends, teachers, religion, culture, race, gender, and sexual identity. Once the list of potential biases was identified, the authors shared ways in which the participants may compensate for their biases, such as assuming different perspectives by reading from myriad news sources, as well as paying attention to sources, facts, and figures.

The CRAAP Test

The authors then explained the CRAAP Test to the participants. The CRAAP Test (Blakeslee, 2004) stands for Currency (the timeliness of the information), Relevance (the importance of the information), Authority (the sources of the information), Accuracy (the reliability of the content), and Purpose (the reason the information exists). The objective of the test is to help individuals evaluate information. The authors circulated papers outlining the test's evaluation criteria, which included prompting questions.

Once the participants were familiar with the Test, the authors brought up a recent Tweet from President Donald Trump, which they also read aloud. (See Table 2 for examples.) Participants were encouraged to work in small teams of two or three to see if the Tweet passed the CRAAP Test. After giving the groups a few minutes for discussion, the authors asked the participants to discuss as one large group and determine if the Tweet passed the CRAAP Test. Invariably the largest amount of discussion stemmed from the question of authority. This led to a debate amongst participants over whether or not the President should be considered an authority on the subject under discussion. While the vast majority of participants were vocal in sharing that they did not support the President's views, some did acknowledge that, depending on the Tweet, the President was ultimately the elected authority and held important decision-making power that could affect the outcome of the topic under discussion. The Tweets, which were selected by the authors in the days leading up to the workshops, were always deemed to be current by the participants. Determining the Tweets' relevance was often cited as being particularly subjective and depended upon an individual's information needs. The accuracy of the Tweet was another item on the CRAAP Test that led to much debate. Some Tweets, participants felt, were based on the President's opinions rather than on tangible facts. When it came to determining the Tweets' purpose, many thoughts were shared. However, the overwhelming trend observed by the authors was, regardless of the Tweet in question, participants felt the President had a specific agenda and used Twitter as a means to persuade his audience with emotional appeals.

As a second example for the CRAAP Test, the participants read a news article. For the first few workshops, participants read an article from *WebMD* (2018) titled "Healthy eating for knee osteoarthritis." In later workshops, participants read an article published in the *New York Times* titled "Walnuts for weight loss?" *(*Bakalar, 2017). The latter was selected over the former due to its brevity. Participants were given time to read the article on their own and then to discuss it in small groups before launching into a discussion led by the authors. While participants were all weary of the *WebMD* article due to its source, there was more trust placed in the *New York Time*s. This resulted in interesting discussions surrounding the authority portion of the CRAAP Test. Participants were encouraged to read the abstract of the scholarly study that the news article was based upon. Many participants noticed that the study was funded by the California Walnut Commission and discussed the possibility of this influencing the authors' biases. Others pointed out the study included only 10 participants and felt this was not a sufficient number of subjects from which to draw meaningful conclusions. What usually followed was a debate around the title of the article. Many felt it was an example of spin or clickbait - that is to say that the article was crafted to encourage readers to click and learn more, and was perhaps deceiving in its suggestion. Others felt the question mark at the end of the title absolved the author of the article from taking a hardline stance on the subject.

While a useful starting point to discuss reliability, the authors recognize the limits of the CRAAP test, noting that a simple checklist does not necessarily lead to deep, critical thinking. Similarly, they recognized that the CRAAP Test fails to deal with a large factor in the dissemination of fake news: emotions. To round out the CRAAP Test, the authors added another evaluation tool to their workshops in the summer of 2019, entitled "4 moves and a habit" (Caulfield, 2017). The moves, which complemented the activities and content already in the workshop, include: 1) Check for previous work, 2) Go upstream to the source, 3) Read laterally, and 4) Circle back. The "habit" refers to checking emotions. As Caulfield (2017) explains "when you feel strong emotion-happiness, anger, pride, vindication – and that emotion pushes you to share a "fact" with others, STOP. Above all, these are the claims that you must fact-check."

Spotting fake news

The first few workshops included tips on how to determine whether a photograph had been retouched or altered. This information was gleaned from the article "The six sure signs that a photograph has been retouched*"* (Shields, 2017). However, as the authors adapted the workshops over the course of two years, they felt this information was superfluous for specific audiences - particularly high school and college students. These audiences are digital natives, who are often "the first to adopt new online technologies as they arise and engage extensively with all existing features of the Internet," (Firth et al., 2019, p. 120). Generation Z, which encompasses anyone born between 1995 and 2010, "prefer short bites of real time information with pictures, have short attention spans, prefer simplification, and spend copious amounts of their free time using mobile devices and social media," (Torocsik, Szucs and Kehl, 2014, p. 43). Since current high school and college students are digital natives and part of Generation Z, the authors felt that the students' exposure to digital media precluded them from needing information on how to spot altered images. However, in reviewing the literature for this paper, the authors discovered a growing body of evidence that "mere exposure to digital media is not

enough for students to develop these skills" (Macedo-Rouet et al., 2019, p. 318). As research continues to inform the authors' practice, they are reconsidering reincorporating this element into the workshop.

These first few workshops were also a time in which the authors played around with the order of introducing various concepts. For example, through trial and error the authors discovered that it was best to include a list of websites that debunked fake news before leading the participants in a game of judging whether a reported news story was fake or real. It became clear to the authors that they had to equip their participants with the necessary resources to ensure they would be adequately prepared to play the game. Consequently, the authors provided the participants with a list of three American websites that were known to debunk fake news: *Snopes*, *PolitiFact*, and *FactCheck.Org.* Through the recommendations of workshop participants at a journalism conference, three Canadian websites were added: *FactsCan*, the French language *Hoaxbuster*, and *Emergent*. The latter was later dropped, as it was no longer being updated. The authors learned to check these websites on the days of the workshops, to ensure there were no unpleasant surprises when quickly showing each website to the participants. This followed an observation made by the authors during the version of the workshop that was held at the university student journalism conference. One of the websites featured a story that sought to debunk the myth that students from Marjory Stoneman Douglas High School in Parkland, Florida, who spoke to the media after a shooting at their school, were so-called "crisis actors." A participant in this workshop was visibly upset when this news item appeared on the screen, left the room, and did not return. The authors decided that, going forward, they would check the websites shortly ahead of time and, if necessary, either provide a trigger warning ahead of presenting potentially sensitive material, or not showcase that particular website.

Domain names

It was explained that even with the aid of the aforementioned websites, participants might encounter information online that they will need to assess on their own. When seeking information from websites that are new to participants, the authors recommended taking three steps. First, they asked participants to take note of the website's domain name. Participants were asked to provide examples of websites that ended in, for example, .gov.ca, .edu, and .org. They were then asked if they would trust information found on websites that ended with these domain names. Overwhelmingly, participants agreed that websites ending in .org were reliable, as they belonged to non-profits and/or non-governmental organizations. Second, they were told to always consult the "about us" or "contact us" section of a website to learn more about the organization. Lastly, it was recommended that they find multiple sources to back up the information they found from a particular website, to ensure its information was credible.

The participants were then asked to put these skills into practice. They were asked if they would trust information found on a website with the name *MartinLutherKing.Org*. Most workshop groups were unanimous in their support of a website with that domain name. When asked who they felt might own this website, once again the participants were unanimous that it must be a non-profit organization dedicated to the history of Martin Luther King. In the 2017 iterations of the workshop, the participants were then shown the website. According to screenshots taken by

digital web archive *Wayback Machine*, *MartinLutherKing.Org* was taken down sometime after January 15, 2018, and before April 12, 2018. All workshops following April 2018 used screenshots of the website instead of a live demonstration.

The participants were asked for their gut reaction to the visual elements of the website. The strongest reaction came from both international and local high school students, who unanimously shared that they did not trust the information contained on the website due what they determined to be highly suspect visual design. Elements that were highlighted as being odd or suspicious included: the fonts; the layout, which was reminiscent of websites from the mid-1990s; and information that did not seem directly relevant to Martin Luther King, such as "Rap lyrics" and swear words. The participants were then asked where they would click to learn more information about the ownership of the website. Most participants noticed a link at the bottom of the page that read "Hosted by Stormfront." When asked, the majority of participants did not know who or what Stormfront was. The authors then searched for Stormfront online and read aloud from its *Wikipedia* (2019) page: "Stormfront is a white nationalist, white supremacist, antisemitic, Holocaust denial, neo-Nazi Internet forum, and the Web's first major racial hate site." The participant reaction to this revelation was always very strong. It was then explained to the participants that a domain name that ends in .org can be purchased by any group or individual, and that it does not necessarily mean that the group is a non-profit or non-governmental organization.

Advanced search techniques

In some iterations of the workshop - particularly those aimed at McGill University students - the authors elaborated upon advanced Google search techniques. These included: narrowing down a search by domain name or type; narrowing down a search by file type, such as PDF; and narrowing down a search by title. This portion of the presentation was only included for McGill University students and the attendees of the journalism conference who would most likely be seeking grey literature to supplement their research. Students were also shown how to create a link to McGill Library's catalogue through Google Scholar to help when conducting known-item searches. This practice was deemed too time-consuming for the international high school students, and perhaps too in-depth for their needs.

Workshops aimed at McGill University students also reviewed how to critically appraise a news article that cites an academic article. This tied-back to the earlier exercise on evaluating "Walnuts for weight loss?" Action items for the participants included: Does the news item include sources? Are the references authoritative? Does the news item "spin" the story? Read the full news article and critically appraise it. The authors then shared information on the existence of, and how to spot, predatory scholarly publishers.

Workshops created for students at McGill University included a section on predatory publishers, which are also known as illegitimate publishers. The students were cautioned against relying heavily on Google Scholar for conducting research, as there remained the possibility that the articles they discovered might be published by predatory publishers. The authors used this as a springboard to address questions of information privilege, access, and prioritizing database

searches over Google Scholar searches. This provided an opportunity to remind students of the library's subject guides and liaison librarians.

Wikipedia

The first few iterations of the workshop, which were offered first to international high school students, and then to undergraduates, graduate students, staff, faculty, and alumni, included a slide that touched on *Wikipedia*. It is common for teachers, professors, and/or librarians to caution against citing *Wikipedia*. The authors took the opportunity to debunk some myths associated with *Wikipedia*, such as its reliability, and help participants understand that while they may not wish to cite *Wikipedia* in a paper, it is an excellent source of background information with reference lists that could be mined for valuable primary and secondary sources. This section of the workshop was later dropped due to time constraints.

Fake or for real

Each workshop built up to the grand finale: playing the "Fake or For Real" game. The idea for this game came about in the spring and summer of 2017. The British newspaper *The Guardian* had started to use Instagram Stories on a weekly basis to play a game with its followers called "Fake or For Real." Host Leah Green would present viewers with three current news items that had been reported upon that week and asked viewers to guess whether the news was fake or real. The news stories were always presented in a fun and quirky manner, with Green holding up a large paddle that had the "thumbs up" emoji on one side to represent when a story is real, and the "poop" emoji on the other side to represent when a story is fake. The authors felt these videos would make for great in-class activities and reached out to the team at *The Guardian* to see if the Instagram Stories - which disappear from the Instagram application after 24 hours - could be uploaded to *YouTube*. Producer Eleni Stefanou (2018) uploaded 31 videos total to *YouTube*, including subtitles.

Of the 31 videos, the authors identified three in particular that fit the following criteria: they could be understood by teenagers from around the world; they did not contain any highly inappropriate material; and they were more or less timeless. This last facet was most important, as the authors used these videos over the course of two years.

Voting

For the international high school students who attended the first version of this workshop in the summer of 2017, the authors created over 50 paddles that resembled Green's for the students to vote with. The paddles were well received and the participants were enthusiastic when voting. For the workshops offered in the Fall 2017 and Winter 2018 semesters to undergraduates, graduate students, faculty, staff, and alumni, as well as the Winter 2018 journalism conference, the authors polled participants using a free version of the online polling website Poll Everywhere. This allowed participants to vote anonymously, and their results were shown on a screen in real time. All workshops that took place after the Winter 2018 semester simply had participants vote by a show of hands.

After each news story was presented, the authors paused the video and asked the participants to vote using only their gut instincts to say whether each story was fake or real. After tallying the participants' "gut reaction" votes, the authors then asked the participants to take a moment to go on their device - many participants had smartphones with a Wi-Fi connection, but the authors also had tablets available for some to use if they preferred - to find a reliable source that verified whether or not the story was real. Participants were asked to shout out the answer as soon as they found it, and to share their source. Participants were also asked if they were familiar with the source and whether they trusted it. Finally, the video would be un-paused and the participants would watch Green share the answer on whether the story was fake or real.

This method for engaging students is supported by the literature, particularly a study conducted by Macedo-Rouet Mônica et al. (2019, p. 317) that looked at adolescents' evaluation of the quality of web information. The study found that students should be encouraged to "express their evaluations orally and informally during document-based activities. The oral modality may facilitate the detection of quality issues in web documents because students can concentrate on the analysis of the texts, not on the construction of their written answers."

Videos

The first video presented to participants was "Episode 6" (Stefanou, 2017a). The three news items it presented were as follows: 1) Green showed a photo of 80 falcons traveling onboard an airplane; 2) Green showed a photo of Canadian Prime Minister Justin Trudeau watering a tree in the rain; 3) Green stated that 80% of top-earning European bankers live in the United Kingdom. Green also provided additional information to put the news story in context. For example, concerning the photo of the 80 falcons traveling on board an airplane, Green shared that it was real: the falcons were on their way to Jeddah in Saudi Arabia for a hunting trip. She went on to explain that falcons are a big part of Middle Eastern culture and that many have passports in order to prevent smuggling.

The authors also drew back on information they shared earlier in the workshop to highlight how it could be applied to evaluating the veracity of these videos. For example, many participants who searched online to determine if the photo of Prime Minister Trudeau was fake or real landed upon a page that debunked the photo, found on the website *Snopes*. Green explained where the photo was shared (an anti-Trudeau Facebook page), how it was modified (by using photo editing software Adobe Photoshop), and how far it was spread online (as of the creation of the "Fake or For Real" video, it had been shared on Facebook over 5,000 times). The authors then pulled up this information on *Snopes*, which showed the photo was originally taken of the presidents of Turkmenistan and Belarus. The last item shared in this video - regarding the European bankers living in the United Kingdom - is an item the authors will soon no longer be able to feature in future workshops, once Brexit occurs. Furthermore, the information Green shares in the video - that more than 4,000 London-based financiers earned more than one million Euro - is based on statistics from 2015.

The second video the authors played was "Episode 14" (Stefanou, 2017b). The three items the participants had to debunk were as follows: 1) a Chinese theme park is launching a full-scale

replica of the Titanic; 2) Green showed a photo of actor Leonard Nimony, dressed in costume as his character Dr. Spock from the *Star Trek* television series, standing next to John Lennon, singer-songwriter from the British rock group The Beatles; and 3) IKEA is building affordable housing for its employees in Iceland. Much like with the Prime Minister Trudeau image, the image of Nimoy and Lennon had been altered and participants generally found an item on *Snopes,* which debunked the image. The Titanic replica news item was indeed true and Green shared that the British Titanic Society had condemned the project, which resulted in the theme park cancelling an "iceberg crash experience," (Stefanou, 2017b). The IKEA news item was also true, and Green explained it was the result of rising housing costs in Reykjavik, the capital city of Iceland.

The third video, "Episode 10" (Stefanou, 2017c), was only used during the first two workshops with international high school students in the summer of 2017. For all future workshops, it was cut due to time constraints. As a result, it will not be examined in this paper.

Workshop conclusion

The authors then concluded the workshops with a "How to spot fake news" infographic created by the International Federation of Library Associations (2019). It served as a helpful visual reminder of all of the information covered in the workshop. If the authors were presenting to a group of students at McGill University they would include an additional slide reminding students that they each had their own proper subject librarian with respective libguides to aid them in their research.

ACRL Framework

The authors attended a one-day workshop offered by the ACRL in the spring of 2018 titled "Engaging with the ACRL Framework: A catalyst for exploring and expanding our teaching practices." It highlighted that the previous workshop the authors led already applied the ACRL Framework. However, in all subsequent fake news workshops, the authors were able to address the frames more directly - specifically when providing a version of the workshop to School of Information Studies students at McGill University and during a presentation at the 2018 Workshop on Instruction in Library Use (WILU) conference.

The ACRL Framework (2015) consists of the following: 1) Authority is constructed and contextual, 2) Information creation as a process, 3) Information has value, 4) Research as inquiry, 5) Scholarship as conversation, and 6) Searching as strategic exploration. For the first frame, Authority is Constructed and Contextual, the application of the CRAAP Test helped the participants define different types of authority and showed them how to use research tools of authority to determine the credibility of sources. The second frame, Information Creation as a Process, recognizes that information may be perceived differently based on the format in which it is packaged, and nothing highlighted this better than the exercise looking at the Martin Luther King website. The third frame, Information Has Value, recognizes issues of access or lack of access to information sources, and this was addressed specifically with students at McGill University when the authors highlighted the students' information privilege given their access to thousands of otherwise cost-prohibitive databases. This frame was also one on which the authors frequently reflected upon when presenting to audiences who did not have access to the vast and rich number of resources available at McGill Library. The fourth frame, Research as Inquiry, encourages users to monitor gathered information and assess it for gaps or

weaknesses, which was exactly the practice the game “Fake or For Real” encouraged. It also asks users to synthesize ideas gathered from multiple sources, which the authors featured during the game, when they asked participants to share the myriad sources that confirmed or disputed the reported news item. The fifth frame, Scholarship as Conversation, asks users to critically evaluate contributions made by others in participatory information environments, which the authors did by having the participants evaluate Tweets by President Trump, and in early iterations of the workshop when discussing the reliability of *Wikipedia*, which is an encyclopedia that can be written and edited by anyone. The sixth and last frame, Searching as Strategic Exploration, asks users to match information needs and search strategies with appropriate search tools, which the authors addressed in workshops offered to students, faculty, staff, and alumni at McGill University when demonstrating where to go for information on current news events versus which databases to consult when looking for research articles.

Results

The groups under review for the results of the “Fake or For Real” game are the following:

- Group A, two groups of international high school students who played the game in the summer of 2017
- Group B, undergraduate students, graduate students, staff, faculty, and alumni of McGill University who played the game in the fall of 2017
- Group C, journalism students from four universities in Quebec attending a journalism conference in the winter of 2018
- Group D, undergraduate students, graduate students, staff, faculty, and alumni of McGill University who played the game in the winter of 2018
- Group E, four groups of international high school students who played the game in the summer of 2019

It is important to note that Groups B and C were only shown one out of the two videos, due to time constraints. Groups B, C, and D voted anonymously using the online polling software Poll Everywhere. Group A voted with paddles turned towards either “fake” or “real” and Group E voted by a show of hands.

Data collection was not available to the authors for the following unique groups: two communication studies classes; one library and information studies graduate-level class; a conference at a local college; and two local high school classes. As such, their results for “Fake or For Real” cannot be examined.

The videos presented to the participants were as follows:

Video 1, News item 1: Participants were presented with a photo of what appeared to be 80 falcons traveling on board an airplane. This was real.

Video 1, News item 2: Participants were shown a photo of Canadian Prime Minister Justin Trudeau watering a tree in the rain. This was fake.

Video 1, News item 3: Participants were told that 80% of top-earning European bankers live in the United Kingdom. This was real.

Video 2, News item 1: Participants were told that a Chinese theme park is launching a full-scale replica of the Titanic. This was real.

Video 2, News item 2: Participants were shown a photo of actor Leonard Nimoy standing in costume as his *Star Trek* television series character Dr. Spock next to John Lennon from The Beatles. This was fake.

Video 2, News item 3: Participants were told that IKEA is building affordable housing units for its employees in Iceland. This was real.

The most encouraging results the authors found were the following:

- 100% of participants in Group E (section 1) voted correctly that IKEA was building affordable housing.
- 94% of participants in Group E (section 1) voted correctly that the image of Nimoy and Lennon had been altered.
- 89% of participants in Group E (section 3) voted correctly that the image of Prime Minister Trudeau had been altered.
- 79% of participants in Group E (section 3) voted correctly that the Titanic replica was indeed real.
- 72% of participants in Group E (section 2) voted correctly that the photo of the falcons on the airplane was real.
- 67% of participants in Group D voted correctly that the fact about the EU bankers was real.

Of the six videos presented to these groups, Group E (international high school students in the summer of 2019) had the most accurate gut instincts for five out of the six news items. Group D (undergraduate students, graduate students, staff, faculty, and alumni in the winter of 2018) had the most accurate results for one out of the six news items.

However, many participants were duped:

- 83% of participants in Group D incorrectly thought that the image of the falcons had been altered.
- 75% of participants in Group E (section 3) wrongly assumed that the EU bankers story was fake.
- 72% of participants in Group A (section 1) incorrectly guessed that the Titanic replica story was fake.
- 50% of participants in Group D believed the altered image of Nimoy and Lennon was real, when it was fake.
- 36% of participants in Group B thought the altered image of Prime Minister Trudeau was real, when it was fake.
- 33% of participants in Group D incorrectly assumed IKEA was not building housing for its employees.

Group D also had the worst results overall, with their gut instincts leading them the most astray for three out of the six news items. Group B (undergraduate students, graduate students, staff, faculty, and alumni who played the game in the fall of 2017), had the worst gut instincts for one out of the six news items. Only two separate international high school student groups (Groups A and E) were fooled more than others for two fake news items.

See Table 3 for the results in full.

Discussion

From these results, the best lie detectors were international high school students, and those whose instincts were not as finely tuned were the mix of undergraduate, graduate, staff, faculty, and alumni. It can also be observed that those who played "Fake or For Real" most recently - in the summer of 2019 and winter of 2018 - had stronger results than those who played the game in earlier semesters. From this, we may infer that following the 2016 United States Presidential election, teachers, professors, librarians, media outlets, and others have been addressing the topic of fake news. Indeed, the literature suggests that school librarians are making a concerted effort to incorporate media literacy into their instruction in order to better equip students with the skills to evaluate news sources. A number of these efforts are detailed in the Fall 2018 special issue of *Knowledge Quest: Journal of the American Association of School Librarians,* entitled "Fighting Fake News: Tools and Resources." In some areas of the United States, state legislators have introduced bills to make instruction on this topic mandatory for elementary and secondary school students (McGrew et al., 2017).

It is also worth noting that a potential limitation to the results is the manner in which the voting occurred; it may have had an influence on the results. For those who voted using the free online polling tool Poll Everywhere, voting was anonymous, and therefore free of judgement from other workshop participants or instructors. For those who voted by a show of hands or with the paddles, the authors observed some participants looking around the room and occasionally changing their mind in order to vote with the majority. Since none of the high school students voted anonymously, there is the possibility that group think or peer pressure influenced the results.

Given that the workshop has been offered 19 times to seven different kinds of audiences over a period of two years - and, following article submission, will be offered four more times in the fall 2019 semester alone - the authors have been continually faced with the challenge of keeping the material relevant and fresh. While this has created additional work for the authors every time they host a new workshop, it has also been a source of inspiration and entertainment. President Trump's penchant for writing controversial Tweets has provided the authors with a seemingly endless source of timely material for CRAAP Test examples. Other librarians who plan to host fake news workshops of their own should take note that the nature of these sessions means that they are always evolving.

Conclusion

The authors feel confident in achieving their initial objective, which was to lead an interactive and entertaining library workshop that provided participants with important digital literacy skills and an opportunity to sharpen their critical appraisal skills. The 2016 United States Presidential election gave the authors a springboard to launch into discussions around journalistic and personal bias, information privilege, and assessing a wide variety of sources of information for gaps and weaknesses, to name just a few. Regardless of the make-up of a given workshop's audience, unique and thoughtful conversations - from analyses of President Trump's Tweets to examinations of altered images of Prime Minister Trudeau - took place during each event. While high school students - both international and local - proved to be the most adept at recognizing fake news, the literature suggests that mere exposure to digital media is not sufficient in preparing Generation Z in their digital literacy and critical assessment skills. However, it is the authors' belief that with library and information professionals' commitment to finding new and innovative ways to address fake news, individuals of all ages stand to benefit.

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Date	Audience
Summer 2017	International high school students
Fall 2017	Undergrads, grads, faculty, staff, alumni
Winter 2018	Journalism students
Winter 2018	Undergrads, grads, faculty, staff, alumni
Summer 2018	International high school students
Fall 2018	School of Information Studies students
Fall 2018	College students
Winter 2019	Communication Studies undergrads
Winter 2019	Local high school students
Summer 2019	International high school students

Onion Headline
CIA Realizes It's Been Using Black Highlighters All These Years
Hubble Telescope Desperately Struggling To Contact NASA After Witnessing Murder On Ganymede
N/A
Hubble Telescope Desperately Struggling To Contact NASA After Witnessing Murder On Ganymede
End of an Era: Kellog's is Shutting Down Eggo After Its CEO Had a Freaky Dream About Waffles
Luke, Owen Wilson Recall Meeting On Set Of "The Royal Tenenbaums'
Luke, Owen Wilson Recall Meeting On Set Of "The Royal Tenenbaums'
Congress Agrees to $1.3 Billion For Protective Border Fencers
USC Insists Lori Loughlin's Daughter Was Admitted Solely Based On Socioeconomic Background
Taylor Swift Inspires Teen To Come Out As Straight Woman Needing To Be At Center Of Gay Rights Narrative

Beaverton Headline
Study: Winnipeg still exists
Children rejoice after woman who handed out raisins for Halloween dies
Study finds you are the only person who truly appreciates the genius of Radiohead
Children rejoice after woman who handed out raisins for Halloween dies
Campus leftists under fire for refusing to engage in debate with escaped zoo tiger
Update: Quebec not distinct from Ontario and USA
Thousands of Canadians remind their one American friend on Facebook to vote
New "Roll Up The Rim" prize gives winners a free coffee from better coffee place
Barbie celebrates 60th birthday by retirning from 200 jobs
Meet the Air Canada passenger left on the same plane for the past 15 years

Date	Audience	Date of tweet
Summer 2017	International high school students	Saturday, February 04, 2017
Fall 2017	Undergrads, grads, faculty, staff, alumni	##########################
Winter 2018	Journalism students	Saturday, February 24, 2018
Summer 2018	International high school students	Monday, July 16, 2018
Fall 2018	Communication Studies undergrads	Friday, September 21, 2018
Fall 2018	School of Information Studies students	Sunday, September 30, 2018
Fall 2018	College students	##########################
Winter 2019	Communication Studies undergrads	Monday, February 11, 2019
Winter 2019	Local high school students	Monday, March 18, 2019
Summer 2019	International high school students	Sunday, July 14, 2019

Tweet
The opinion of this so-called judge, which essentially takes law-enforcement away from our country, is ridiculous
The terrorist came into our country through what is called the "Diversity Visa Lottery Program," a Chuck Schume
”Russians had no compromising information on Donald Trump” @FoxNews Of course not, because there is non
Received many calls from leaders of NATO countries thanking me for helping to bring them together and to get t
Judge Brett Kavanaugh is a fine man, with an impeccable reputation, who is under assault by radical left wing pc
So if African-American unemployment is now at the lowest number in history, mediam income the highest, and th
Received so many Congratulations from so many on our Big Victory last night, including from foreign nations (fri
Beto trying to counter-program @realdonaldtrump in his hometown and only drawing a few hundred people to Tr
Joe Biden got tongue tied over the weekend when he was unable to properly deliver a very simple line about his
So interesting to see “Progressive” Democrat Congresswomen, who originally came from countries whose gover

URL
https://twitter.com/realdonaldtrump/status/827867311054974976?lang=en
https://twitter.com/realdonaldtrump/status/925684982307348480?lang=en
https://twitter.com/realdonaldtrump/status/967545724362739712?lang=en
https://twitter.com/realdonaldtrump/status/1018727890345693184?lang=en
https://twitter.com/realdonaldtrump/status/1043121858797686785?lang=en
https://twitter.com/realdonaldtrump/status/1046456403651698693?lang=en
https://twitter.com/realdonaldtrump/status/1060130202418864129?lang=en
https://twitter.com/donaldjtrumpjr/status/1095155471374143490?lang=en
https://twitter.com/realdonaldtrump/status/1107631297076305920?lang=en
https://twitter.com/realdonaldtrump/status/1150381394234941448

Date	Audience	Attendance	Polling method	Falcons (real)	Trudeau (fake)
Summer 2017	Group A - section 1	27	Paddles	50% fake, 50% real	88% fake, 12% real
Summer 2017	Group A - section 2	27	Paddles	48% fake, 52% real	88% fake, 12% real
Fall 2017	Group B	29	Poll Everywhere	59% fake, 41% real	36% fake, 64% real
Winter 2018	Group C	18	Poll Everywhere	43% fake, 57% real	38% fake, 63% real
Winter 2018	Group D	9	Poll Everywhere	83% fake, 17% real	50% fake, 50% real
Summer 2019	Group E - section 1	23	Hands	30% fake, 70% real	47% fake, 53% real
Summer 2019	Group E - section 2	26	Hands	28% fake, 72% real	50% fake, 50% real
Summer 2019	Group E - section 3	24	Hands	43% fake, 57% real	89% fake, 11% real
Summer 2019	Group E - section 4	21	Hands	36% fake, 64% real	76% fake, 24% real

Bankers (real)	Titanic (real)	Lennon (fake)	IKEA (real)
44% fake, 56% real	64% fake, 36% real	64% fake, 36% real	4% fake, 96% real
44% fake, 56% real	72% fake, 28% real	61% fake, 39% real	21% fake, 79% real
61% fake, 39% real	N/A	N/A	N/A
38% fake, 63% real	N/A	N/A	N/A
33% fake, 67% real	50% fake, 50% real	50% fake, 50% real	33% fake, 67% real
59% fake, 41% real	35% fake, 65% real	94% fake, 6% real	0% fake, 100% real
36% fake, 64% real	45% fake, 55% real	75% fake, 25% real	9% fake, 91% real
75% fake, 25% real	21% fake, 79% real	65% fake, 35% real	12% fake, 88% real
55% fake, 45% real	37% fake, 63% real	75% fake, 25% real	10% fake, 90% real