

## **Librarians Joining the Fight Against Fake News: A NUS Case Study**

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### **Abstract**

Since the Singapore Government published the Green Paper on Deliberate Online Falsehoods in January 2018, there has been an increasing number of concerns related to fake news in Singapore. To join the fight against fake news, two librarians from the National University of Singapore Libraries collaborated with an instructor from the Department of Communications and New Media to deliver information literacy programmes embedded within a module's curriculum. This paper will reflect upon the experiences, methods and learning points that the librarians encountered throughout the two semesters.

### **Keywords:**

*fake news, information literacy programmes, academic libraries, IMVAIN, misinformation*

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## Introduction

What started as a one-shot class with a Communications and New Media (CNM) module, *NM2303: Fake News, Lies and Spin: How to Sift Fact from Fiction* where librarians shared their knowledge on evaluating information, has since evolved into a collaboration with the module instructor on equipping students with the necessary skills to scrutinize misinformation. The module has two interrelated goals and learning outcomes. The first is to equip students with the skills to become literate and responsible consumers (and sharers) of information. With the knowledge and skills, students will then be able to achieve the second goal of reducing the spread and impact of misinformation. While the module is an elective offered to students from the CNM department, students from other faculties in the National University of Singapore (NUS) were also allowed to read the module to fulfil their Breadth or Unrestricted Elective Module requirements under the Undergraduate Curriculum Structure. As such, the students reading the module came from various faculties in NUS ranging from the Faculty of Arts & Social Sciences, Law, Engineering and even foreign exchange students.

This paper will cover the many aspects of fake news as experienced by the librarians while working on the module. The topics covered are; a brief report on the fake news landscape in Singapore and Malaysia which highlights the policies and laws that would affect the spread of fake news in the region, the content of the library tutorials and the experience and reflections of the librarians after two semesters working on the module.

## Fake News in the Context of Singapore and Malaysia

Fake news has been defined as many things. While there is no universally agreed definition, it is important to understand the differences between mis-information (false information created without intention to cause harm), dis-information (false information created with the intention to cause harm) and mal-information (factual information leaked and shared to cause harm) (Wardle & Derakhshan, 2017). To set a premise, we based our definition of fake news on it being closely linked to the notion of misinformation as fake news mimics the characteristics of authentic news and is deliberately created with the intention to mislead others into sharing and spreading misinformation.

While news outlets like The Guardian and CNN have observed US President Trump claiming that he has propelled the term ‘fake news’ into its prominence today (Cillizza, 2017; Flood, 2017), the term and phenomenon is in actual fact, nothing new. In neighbouring Malaysia, a special committee was set up to study the possibility of enacting a law to combat fake news (Shah, 2018). The Anti-Fake News Act in Malaysia was established quickly in April 2018 but has subsequently been repealed in August 2018 (Reduan & Abdul Karim, 2018; Yeung, 2018). In the local context of Singapore, the topic received much limelight when the Singaporean Government issued a Green Paper in January 2018, citing the increasing amount of deliberate falsehoods being spread online (Ministry of Communications and Information & Ministry of Law, 2018). This resulted in a 300-page report that was compiled and presented in the Parliament of Singapore by the Select Committee, with 22 recommendations on legislations to combat deliberate online falsehoods in Singapore (Select Committee, 2018). One of the recommendations aims to put in place a national framework guiding public education initiatives, focused on increasing efforts in building critical thinking and information and media literacy skills with the end goal of fostering responsible online behaviour. From the perspectives of librarians and information professionals, this recommendation strikes right at the heart of what we engage in daily, which is to impart the knowledge of evaluation skills through methods such as the CRAAP test (Meriam Library, 2010). This knowledge of evaluating information was the antecedent to our collaboration

with the module instructor, paving the way for us librarians to contribute in the creation of a sound curriculum that would produce students who are discerning consumers of news.

### **Library Tutorial Experience**

At the time of writing this paper, the module has been offered for the third semester, with student intake increasing gradually every semester. Over time, the librarians' role evolved and became more embedded within the module's curriculum. The following sections will describe in detail the librarians' experience, methods and reflections on this journey.

#### **Semester 1**

When the module was first offered In AY17/18 Semester 1, the instructor went to the librarians with a broad requirement in mind – she needed them to teach a group of 53 students how to search for credible information online and how to evaluate information and information sources. While the CRAAP Test would fit the purposes of evaluating information, the librarians knew they needed to go beyond just the basic steps of evaluating websites when looking at fake news. As such, they looked for resources that dove deep into the domains of identifying elements of fake news and how to evaluate the credibility of sources. In addition, they went beyond print and electronic books or websites and covered methods on evaluating images, academic materials and social media. The instructor also provided the librarians with the module's recommended reading *Web Literacy for Student Fact-Checkers* (Caulfield, 2017) to further enhance their knowledge on the module. By reading what the students were reading, the librarians were effectively immersing themselves in the module's content, allowing them to align the class activities to facilitate learning.

The ideas eventually coalesced into a 90-minute face-to-face tutorial packed full of materials that were divided into five main sections: the steps to detect fake news, in-depth evaluation of sources in news stories, evaluating academic sources, reverse image searching and fact-checking social media posts. To complement the tutorial session, a library guide with various class activities and additional information was created for the module ([www.libguides.nus.edu.sg/nm2303](http://www.libguides.nus.edu.sg/nm2303)). At every stage of the planning, the librarians were in consultation with the lecturer on the content and examples to ensure that both the lecturer's and the librarians' learning objectives were aligned.

The class began with a Kahoot of seven news headlines for students to judge at face-value. Many did not get full marks, which was not surprising to the librarians as it was only the beginning of the semester. It was unexpected, however, to find out that some students had never heard the headline before despite the recency of the news. The librarians had the mistaken impression that the students, having chosen to read this module, would be avid news readers. As a result, the librarians found that it would help greatly to establish the students' news reading habits at the beginning of the class before embarking on the lesson. This exercise on identifying fake news through headlines allowed students to understand that headlines alone would not be enough to judge an article's authenticity as they barely scratched the surface. It also introduced the concept of clickbait headlines.

This was followed by an activity where students were required to evaluate a news story based on a checklist from The News Literacy Project (The News Literacy Project, n.d.). The checklist directs students to look at different parts of a website that may arouse suspicion, e.g. a clickbait headline, the currency of the information, the quality of the sources or whether the article generates a strong emotional reaction from the reader. The librarians felt that this checklist provided a more thorough evaluation of news articles than a CRAAP test would as

it encouraged fact-checkers to check their emotions and refer to fact-checking websites such as Snopes.com or FactCheck.org.

From this simple checklist, the students were instructed to methodically evaluate sources in greater detail using the IMVA/IN framework (Stony Brook Center for News Literacy, n.d.). The framework prompts students to question if the sources are Independent, if there are Multiple sources, if the sources can be Verified with evidence, whether the sources are Authoritative and/or Informed, and lastly if the sources are Named. The goal of both the checklist and IMVA/IN was to get students to be more sceptical about misinformation and sources in an article.

One difficulty the librarians encountered with using these tools was that the examples given were usually very Western-centric, i.e. sources often came from the United States and the UK. The instructor wanted the students to be able to identify with the examples so that they would learn better and thus encouraged the librarians to find localised content. This meant that they could not simply adapt the examples and instead had to source for examples within the region, i.e. from Singapore, Malaysia and some of its neighbouring countries in Southeast Asia, such as Thailand and Indonesia. This proved quite a feat as platforms, such as Facebook, at that time had already begun cracking down on the spread of misinformation on their platforms (Jenkins, 2017). In addition, there was a language barrier in understanding regional news due to foreign languages like Thai or Malay.

How then did the librarians overcome the difficulty of finding local examples? Personal Facebook feeds were first searched for posts that were potential fake news, sometimes making use of the translation feature in Facebook to read posts in foreign languages and double-checking the veracity of the translation with native speakers of the language. In the case of videos, if the language spoken could be identified, e.g. the Chinese dialect of Hokkien, peers who spoke the language would be consulted to help with the translation. Another method was to trawl Google using different variations of keywords, e.g. Malaysia urban legend, Singapore viral news. This started a chain of fake news curation where the librarians were actively finding recent examples of fake news that had not been debunked or if debunked, were simply too good an example to forgo. In summary, first, Facebook feeds were scoured; using the search feature to find recent posts about debunked news such as 'plastic rice' or 'plastic biscuit'. Next, the librarians searched Google. If that did not return any results, they attempted reverse engineering by going on fact-checking websites, finding localised content and trying to find out if the fake news had resurfaced from the original post. This curation process was time-consuming but bore fruit as students were able to relate to the localised content better and gain a better overall understanding of the module.

For academic sources, students were tasked to examine if hyperlinks and citations leading to journal articles were always factual or reliable. Students were taught to be sceptical of sweeping claims or generalizing statements that are cited out of context. In fact, they should verify and read the article first instead of just the abstract and try to find the qualifications of the authors. If necessary, the students could also delve deeper into the journal – reading more about the journal's editorial process, whether the journal was peer reviewed or if the journals were indexed in major databases.

For the last section of the tutorial, students were taught how to fact-check images they found online. The first activity involved a reverse image search in Google Chrome of a dubious

online image. The second involved fact-checking a Twitter screenshot and verifying if the tweet in the screenshot was real using Twitter's advanced search function.

The contents may seem ambitious for a 90-minute tutorial, but it met the expectations of the students and the lecturer. Surveys were created to find out how the students evaluated the session and what they learned from the class. Overall, the students expressed appreciation and understanding of the content covered in the class, particularly for IMVA/IN and the other tools and techniques for fact checking. Here are some of the ad verbum comments that were distilled from the surveys:

Qn: What did you learn that was important from the session?

1. *To not take things at the face value and do some detective work to verify the truth.*
2. *The need to always fact check sources, even if they are cited by credible sources like NatGeo and NY Times.*
3. *The most important thing I learned was that it is important to check the hyperlinks in an article. I typically take what the author says for granted but after seeing examples of poor journalism, I understand the important of checking even the author.*
4. *Checking multiple sources is important to verify the authenticity of the news and knowing their motives behind it.*
5. *How to evaluate academic sources, as well as reverse image search. The examples provided were tailored well to the course.*

This was the first time the librarians designed an information literacy programme specially catered to fake news and the positive comments led to further collaboration with the lecturer.

## **Semester 2**

In the next semester, the instructor was keen to collaborate again as the module would be offered for a second semester with 42 students signing up. The librarians had further discussions with the instructor on areas of improvement from AY17/18 Semester 2. One common feedback for improvement was that students felt the tutorial was too fast paced and thus there was little class time for activities. As a result, the instructor allocated an additional tutorial session. With the additional tutorial slot of 1.5 hours, the librarians were able to unpack the contents into two main areas – evaluating text and evaluating images and videos. For evaluating texts, the IMVA/IN framework was retained for evaluating sources in news articles. To facilitate the IMVA/IN group activity, an online form was created for students to complete based on a list of questions crafted from the framework. This form was created using the H5P interactive content creation tool and was subsequently embedded into the library guide for the module (see <http://libguides.nus.edu.sg/nm2303/imvain>). For each criterion, the form provided a short definition and a few guiding questions to aid the students in their discussion. After completing the form, the students could then download the evaluation as a word document to submit in class.

In addition to evaluating sources, an activity was created to get students to distinguish news articles from sponsored content and to look at the number of advertisements on a news website, adapted from *Web Literacy for Student Fact-Checkers* (Caulfield, 2017). Students had to evaluate eight websites comprising of both mainstream and alternative news outlets and rank them based on the number of advertisements the students perceived them to have. This activity considered their preconceived notions about the authority of mainstream news outlets versus alternative news outlets that thrive on advertisements as a form of revenue. Students were then asked to count the actual number of advertisements that exist in all the

websites. The aim of this activity was to get students to identify the purpose of a news article, i.e. whether it was sponsored content, as well as to debunk pre-existing notions that advertisements would mostly be found only on alternative news websites – some of the mainstream news websites in fact had more advertisements than the alternative news websites. One thing to note for this activity was that some students had ad-blockers on in their browsers, therefore diminishing the objective of the activity, so it was important for the librarians to tell students to disable the ad-blockers for the duration of the activity.

To round off the discussion on news articles, the librarians introduced one of the library-subscribed databases, Factiva, so that students could search for news articles on a particular fake news topic. Database filters, such as *date* and *keywords*, were introduced to detect trends about a topic over time, e.g. did the same news topic resurface after a few years. The examples used in class were ‘plastic rice’ and ‘halal pork’.

For the tutorial session on evaluating images, the sections on reverse image searching using Google Chrome and fact-checking tweets using Twitter’s Advanced Search were retained from the previous semester. Two other image verification tools were introduced to students. The first was TinEye, an alternative reverse image search platform that allows users to upload their own images for comparison with similar images from other web sources that TinEye has indexed in their database (<https://www.tineye.com/>). In addition to reverse image searching, the librarians also introduced a photo forensics tool through a free web application called FotoForensics (<https://fotoforensics.com/>). After uploading an image onto FotoForensics, the application will allow the user to analyse the metadata of the image and conduct Error Level Analysis. Error Level Analysis is an algorithm that evaluates the amount of change and edits made to a JPEG image; when an image is edited, the modified portions will display high error level potential and display a “rainbow effect” (Beck, 2017). To end off the session on images, students were tasked with an activity where they had to look at examples of viral videos on YouTube and fact-check what was depicted in the video against what was reported in other news outlets.

After these two tutorials, a casual conversation with the instructor on fake figures and charts sparked off discussions on data and graphical literacy. The instructor thought that this would be an interesting topic to discuss during tutorials and allocated a third tutorial session– a first for the librarians to be invited to teach concepts about data and graphical literacy. For the tutorial, a series of different group activities were used to get students to question statistics, advertisements and misleading figures or charts across various materials. The librarians also incorporated examples of academic journals and sources that provided dubious figures to get students to consider the real threat of fake research and fake or predatory journals.

To end off the semester, the librarians took the skills that the students had learnt over the weeks and put them on the ‘producer’ side of the fake news spectrum. This provided an opportunity for students to understand the other side of fake news; of why fake news producers do what they do and how easy it is to create fake news. The assignment included playing a free online game, *Fake It To Make It* (<https://www.fakeittomakeitgame.com/>) where students tried to earn as much money as they could by ‘writing’ fake news articles and learning how to disseminate them in the right places to ensure maximum reach. Students were asked to share their thoughts on the motivations behind the producers of fake news through forum posts. They were then tasked to work in groups to create their very own piece of fake news, following some prompts, for their fellow classmates to evaluate using IMVA/IN. This was done using a private WordPress blog made to look like a fake news site; further enhancing the experience of the students of being fake news producers. The librarians

believe that this assignment helped the students gain the full understanding of the different aspects of fake news and related back to the module's goals of teaching students to be responsible consumers and sharers of fake news.

By the end of the second semester, the librarians had a total of four 90-minute face-to-face tutorial time with the students instead of the two 90-minute sessions initially agreed upon. Here are some of the pertinent ad verbum feedback and general comments from the students:

Qn: What did you learn that was important from the session?

1. *Various new technology functions that aid in identifying fake news, such as FotoForensics, Twitter Advanced Search and TinEye. Would not have knowledge of them if not for this class.*
2. *Fake news can not only come in the form of text, but images and videos as well. I learnt that there are increasing ways people can doctor images and videos to create fake news. But at the same time, I was also taught that there are increasing ways we can verify what we see, whether it is texts, images or videos. So this in itself is very comforting.*
3. *It is hard to distinguish between fake news and real ones because some fake news can be so convincing. And now even photos can be edited.*
4. *It is important to check credibility of certain sources, even in academia.*
5. *More critical thinking and closer look at advertisements and bars and charts. I also learn something new, which is how to evaluate journals.*
6. *Helpful critical thinking skills in discerning graphs, advertisements, statistics to prevent being misled. Bealls list, predatory journals, looking at impact factors, useful skills in aiding our understanding of how to go about finding out the credibility of scientific journals.*
7. *It was fun and also a new experience [of creating fake news] as we are often on the receiving end of fake news.*

### **Reflections and Conclusion**

The following paragraphs will highlight some of the reflections and other learning points from the librarians after conducting these library tutorials.

When the librarians were creating content for the library tutorials, they found that fake news is comprised of many components and mediums, e.g. text, images, videos, social media, scholarly resources etc. The depth that can be covered for each medium could also be potentially very extensive, e.g. for videos, discussions could range from being about misattribution, doctored videos, to even deep fakes. As such, it is important to discuss tutorial contents with the lecturers and faculty members to ensure that the contents are appropriate for the module's requirements.

There are many resources available online and librarians should not be shy about making use of them, e.g. online tools like TinEye, FotoForensics, checklists and frameworks like CRAAP or IMVA/IN. When adopting these tools or resources, librarians need to ensure that the content is adapted accordingly to fit the needs of the class and that the examples used are more relevant to the local context to facilitate learning.

Content creation for such library tutorials is an iterative process and needs constant updating during and over semesters because of the vast amount of information and fake news available online. The recency of the news should also be taken into account to fully illustrate the

prevalence of fake news over time and to keep up with what the students would currently be reading online and be exposed to. It is important to sieve out the relevant content and build the tutorial in collaboration with the lecturer. Furthermore, as laws are being put in place, it may become harder to find examples as they will be quashed out before they can be spread widely. This would prove a challenge to those who seek localised examples that are recent and provide good learning points to engage newer batches of students.

As librarians, tutorial time allocated by the lecturers for library tutorials are often a luxury and librarians should make good use of in-class time. Having said that, it is important to include ample activity time in class for the various exercises to allow students to discuss and share ideas with one another. To be given the necessary amount of tutorial time, it is not only important for librarians to demonstrate their mastery in the subject, but it is also a case of building positive and collaborative relationships with the lecturer of the module.

In conclusion, as fake news continues to plague the online world, it is important that the next generation of news consumers, who are digital natives, have the skills to become responsible consumers and sharers of fake news. It is also important to find like-minded individuals who share the same goal of combating fake news and work towards it together. In this case, the lecturer trusted in the librarians and entrusted them with the evaluation portions of the module. As they were teaching, the librarians also learned more about journalism and how information evaluation fits into a journalist's daily work. It was a win-win situation which helped provide the best for the students.

Librarians are more than suited to join the fray against fake news with their skills in information evaluation and the position of libraries as neutral institutions. While the Singapore Government weighs out its options after the Select Committee put out 22 recommendations for combating fake news, librarians should continue what they do best and ensure that neutrality is maintained in the face of the increasing diversity of opinions on the World Wide Web.

## References

- Beck, T. (2017). How to detect image manipulations. Retrieved from <http://headt.eu/detect-image-manipulations/>
- Caulfield, M. (2017). *Web literacy for student fact-checkers*. Michael Arthur Caulfield. Retrieved from <https://webliteracy.pressbooks.com/>
- Cillizza, C. (2017). Donald Trump just claimed he invented 'fake news'. Retrieved from <https://edition.cnn.com/2017/10/08/politics/trump-huckabee-fake/index.html>
- Flood, A. (2017). Fake news is 'very real' word of the year for 2017. Retrieved from <https://www.theguardian.com/books/2017/nov/02/fake-news-is-very-real-word-of-the-year->
- Jenkins, A. (2017). Facebook has introduced a fact-checking alert to fight 'disputed content'. Retrieved from <http://fortune.com/2017/03/22/facebook-fact-checking-tool/>
- Meriam Library. (2010). Evaluating Information – Applying the CRAAP Test. Retrieved from [https://www.csuchico.edu/lins/handouts/eval\\_websites.pdf](https://www.csuchico.edu/lins/handouts/eval_websites.pdf)
- Ministry of Communications and Information & Ministry of Law. (2018). Deliberate online falsehoods: challenges and implications : a green paper. Retrieved from <https://www.mlaw.gov.sg/content/dam/minlaw/corp/News/Annexe%20A%20-%20Green%20Paper%20on%20Deliberate%20Online%20Falsehoods.pdf>
- Reduan, H. & Abdul Karim, L. A. (2018). Anti-Fake News Bill is now law (NSTTV). Retrieved from <https://www.nst.com.my/news/nation/2018/04/356083/anti-fake-news-bill-now-law-nsttv>
- Select Committee. (2018). Report of the Select Committee on deliberate online falsehoods – causes, consequences and countermeasures. Retrieved from <https://sprs.parl.gov.sg/selectcommittee/selectcommittee/download?id=1&type=subReport>
- Shah, A. (2018). Special committee to study new law to prevent spread of fake news. Retrieved from <https://www.nst.com.my/news/nation/2018/01/330314/special-committee-study-new-law-prevent-spread-fake-news>
- Stony Brook Center for News Literacy. (n.d.). Introducing IMVAIN. Retrieved from <http://drc.centerfornewsliteracy.org/content/introducing-imvain>
- The News Literacy Project. (n.d.). Ten questions for fake news detection. Retrieved from <https://www.courts.ca.gov/documents/BTB24-PreCon2G-3.pdf>
- Wardle, C. & Derakhshan, H. (2017). Information disorder: toward an interdisciplinary framework for research and policy making. Retrieved from <https://rm.coe.int/information-disorder-report-november-2017/1680764666>

Yeung, J. (2018). Malaysia repeals controversial fake news law. Retrieved from <https://edition.cnn.com/2018/08/17/asia/malaysia-fake-news-law-repeal-intl/index.html>