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Navigating the Information Ecosystem: Getting Personal with Source Evaluation, IF I APPLY

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INTRODUCTION

As the information ecosystem continues to evolve, so should the process of teaching source evaluation. In 2004, Sarah Blakeslee introduced a source evaluation acronym known as the CRAAP test. Blakeslee argued that with the amount of information on the internet, librarians needed something to trigger students' memory on how to evaluate the credibility of the content they were using (2004). While the basics of this source evaluation tool are still essential, in the past fifteen years since the Blakeslee's CRAAP test, the internet's user-generated content, smart phones, predictive search, and the advent of social media require a shift in source evaluation. Librarians are not new to this concern and ongoing discussion. Mike Caulfield of Washington State University in Vancouver argued the need for a digital literacy paradigm shift, and Ann Agee and peers at San Jose State University worried about students' abilities to "evaluate the news the received from online sources like Reddit, Instagram, and Facebook," (Supiano, 2019). This paradigm shift is embodied by a brand-new acronym and tool: IF I APPLY.

Created in 2016 by three Marshall University librarians, IF I APPLY is a new source evaluation tool that takes into account these evolving challenges and the proliferation and viral nature of flawed information. While the CRAAP test focused on evaluating static websites for 'crap', IF I APPLY tasks learners with *applying* critical thinking to the process of seeking, using, and evaluating sources of information for research. This dynamic tool can be used to evaluate any source (i.e. Tweet, blog post, print journal, or news article), not just websites. IF I APPLY starts with personal steps: IF I. These personal steps first encourage reflection on feelings and perception in relationship to the topic. Asking learners to identify their emotions is essential in order to identify confirmation bias. Seeking out information that agrees with our hypothesis is a cognitive error that weakens the research process (Ehrlinger, Readinger, and Kim, 2016). Confirmation bias is not new; however, powerful algorithms shaping predictive search results are and it is these technological advances that make confirmation bias easier and more pervasive for our learners. The APPLY steps offer a systematic way to incorporate lateral reading. Lateral reading requires the students investigating to open up new tabs in order to find out more about the source rather than simply scrolling up and down the source itself. This acronym introduces the concept of critical thinking to the research process so that learners think about the way that they cognitively process information, and the way in which those cognitive processes can flaw the research process. In the current Digital Age, researchers must understand not just the quality and credibility of sources, but the cognitive biases that hinder rendering judgements based on the best possible information.

IF I APPLY

IF I APPLY Discussion

Personal steps

Identify emotions attached to topic

Find unbiased reference sources for proper review of topic

Intellectual courage to seek authoritative voices on topic that may be outside of thesis.

Source steps

Authority established. Does the author have education and experience in that field?

Purpose/Point of view of source. Does the author have an agenda beyond education or information?

Publisher? Does the publisher have an agenda?

List of sources (bibliography)

Year of publication

In 2016, Oxford English Dictionary's word of the year was *post-truth*, defined as "relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief," (Pennycook, Gordon, and Rand, 2018). Rather than ignoring personal views of our learners, IF I APPLY asks these to be identified in recognition that our information infrastructures, like Google, as well as our own worldviews tend to push us to embrace the information that we prefer to see rather than the most credible information that we ought to see. The second step of the personal process asks that the learner find unbiased reference sources for a proper review of topic in order to investigate any unwarranted assumptions. This starting point enables the instruction librarian a chance to highlight reference databases. The last personal step encourages intellectual courage to seek authoritative voices on the topic that may be outside of the thesis. Often our learners begin the research process committed to one thesis. This step highlights the need to challenge confirmation bias not just in the overview of the topic but also when seeking out more information from experts in the field.

After the personal steps are established, the second half of the acronym focuses on the sources that the learner collects. Before including the source in the research project, learners are tasked with moving through the APPLY source evaluation steps. These steps include authority, purpose, publisher, list of sources, and year of publication. These tried and true steps reveal the credibility of the sources. These steps taken alone are traditionally highlighted in source evaluation lesson plans; however, as the information ecosystem evolves enabling ideological echo chambers, the personal steps must be included and highlighted throughout the research process. Unlike the CRAAP test, IF I APPLY requires students to open up new tabs to find deeper information on the source from outside of the source itself. Lateral reading of information is a key component to verifying the virility of a source. An example of this is demonstrated with **L** – list of sources (bibliography). Not all resources will have a traditional bibliography; learners are encouraged to "build" a bibliography with the information at hand. Are experts, institutions, studies, interviewees, etc. referenced within the body of the resource? If so, lateral reading leads learners to build and research an unofficial bibliography as part of the source evaluation process.

The IF I APPLY source evaluation tool is meant to infuse critical thinking into the source evaluation process by encouraging learners to think about the way in which they seek out information and how they cognitively process facts, arguments, and positions that contradict not just their thesis but also their world view. The intent of IF I APPLY is versatility. Learners no longer receive information from static websites or academic databases. The information ecosystem and the very infrastructures continue to evolve, learners need a flexible source evaluation tool that begins with critical thinking about cognitive biases head on. Learners need to know how to assess the credibility of a tweet, text post, as well as print and online articles. As our technology increases the ease our biases, we must impart on our learners the steps to keeping their sources accountable.

IMPLEMENTATION AND INITIAL RESULTS

The modes of implementation of IF I APPLY range from one-shot lower level sessions with traditional research-based assignments to community outreach. Applied in many capacities, this evaluation tool is flexible and adaptable for any group, lesson plan, or individual research need. Frequently a list of Think Questions are provided in conjunction with instruction to assist students with moving through all steps of IF I APPLY. The most common implementation so far has been to supplement source evaluation assignments, most notably the annotated bibliography.

Figure 1: Sample handout of IF I APPLY Steps
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Figure 2: Sample handout of IF I APPLY Think Questions
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In a mid-level English writing intensive course, we tasked the students to use the tool with many source types, most importantly tweets and other social media posts. Since a large percentage of researchers commonly source their daily news from social media it was important to mimic that action, much like subscription database searching can mimic Google research actions at the impetus of research. Meeting students at their skill level and research routine is important simply because when you meet them where they are they come along the journey beside you, rather than against.

Working within the course of Fundamentals of Speech Communication, professors universally complained about the sources that students used for both their informative and persuasive speeches. Not only did the quality of the sources hurt the students research project; ultimately, professors found that students cherry picked information for their informative speeches rather than holistically and educating their audience on a topic. IF I APPLY assisted this course because it encouraged students to critically think about their topic before selecting sources. Within their final speeches, students were required not only to verbally cite their source, but also to state why the source was credible using the source steps of IF I APPLY.

This tool was embedded throughout an English 102, Research and Writing, across the curriculum of an entire semester. Students, tasked with writing a Website Credibility Essay as an initial writing assignment, selected a disease and three websites covering their topic of choice: one credible, one so-so, and one not credible. Students used IF I APPLY during their critiques and analyses of each site – first discussing why they selected a site, then analyzing the credibility of the source, and lastly stating whether they would share the source in a research project, with a family member, or not at all, and why.

An instructor of Health Policy and Administration teaching a Health Care Payment online course voiced nearly identical issues with student source selection as did the professors of Fundamentals of Speech Communication, with four "What's on the Web" assignments throughout the semester requiring students to select and analyze three websites covering a variety of healthcare payment topics. Prior to IF I APPLY, site selections were strongly biased towards the students' points of view, and were, at best, semi-credible, and, at worst, consisted of poor quality or biased sites like Yahoo Answers, FOX News, and CNN. IF I APPLY was introduced in a LibGuide, followed by a short video tutorial employing lateral reading to the IF I APPLY steps, and rounded out with an interactive discussion board hosted and graded by the librarian.

IF I APPLY is not a tool strictly for the academic or educational settings; it is wholly suited for community settings as well. Recently, a group of managers working for an area child development services group was tasked with using the tool when researching issues that warrant "Google searches with crossed fingers". This group is composed of leaders in providing area children with life-sustaining services and quite frankly, it is a shock to hear they have less than quality resources and training to handle the important research-based needs they have. While explaining IF I APPLY to the group, one manager had an epiphany, that when applying this to their every-day decision making they could gather better information to further back their points up to the higher administration. The group chorused that this tool could be effective in decision-making and were pleased to know that they were not the only group that struggles with finding good resources.

CONCLUSION

The team of librarians who created IF I APPLY, did so out of a need for something new, but not something completely different. CRAAP served a much-needed purpose, and the basics of it still do; evaluate the information. But, just like the information ecosystem, the tools we use to evaluate need to change and lead to progress. This tool reflects how differently we interact with all types of information and how we need to continuously evaluate the information we interact with on a daily basis. Reflecting on the sheer amount of information we connect with each day, IF I APPLY allows for a real, holistic interaction to occur. We must, as consumers, but also as humans, understand that we do, in fact, feel the information we choose to consume. IF I APPLY came out of a need to harness the importance of piqued emotions and a jungle of information sources each person is tasked with getting through each day. No matter who you are, you need information. It is also important to remember that every source has a time and a place where it will be credible, so no source can be automatically or blankly classified as "good" or "bad." Circumstance and need drive the credibility of a source, and IF I APPLY provides the flexibility necessary to make that decision in each unique context. Learning how you have been taught to retrieve it, why, and the process of evaluation is not new. It is heightened now, surely, but not new. IF I APPLY exhibits progress and the change needed. It is a response to the continuous fluxuation of our information environment.

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Quotes from librarians, instructors, and students

➢ Since implementing the "IF I APPLY" guidelines to everything I research and in reviewing my sources, I have learned to view information in a completely different way than ever before. I have taken these skills and applied them not just to this class but also to my other classes as well, and in doing so it has not only made my sources more credible, it has made my language, statistics, and facts far more superior which has taken my writing skills to a higher level. (Student, HPA 210 Spring 2019)

➢ "Well, I have to be honest: what you've created is fantastic! It's pithy, but IMHO really drives home critical principals to students (especially those just getting started in their college careers). In particular, I'm impressed with your upfront mention to "Identify emotions" as, nowadays (when the concept of fake news is being constantly bandied about), that's a key discussion point. As is the idea of "Intellectual courage"...wonderful way to challenge new researchers." (Austin, TX)

➢ "I just wanted to reach out and say thank you for the worked you have generated. I've shared with my colleagues over at the University of Minnesota as well as other systems here in the state. I've already gotten thank you's for sharing your work; I feel it's going to change the dialogue for the better." (Minneapolis, MN)

➢ "IF I APPLY" has particularly helped my students with respect to considering their own biases. I was encouraged when one student volunteered to the class that he had grown up attending Catholic schools and in a religious family and had previously hardened his views on pro-choice based on that background. However, he had read a New York Times article about the impacts of his and his church's stance on women in the developing world with a more open mind and willingness to explore the impact of the church's teachings on women in that world after applying the "IF I APPLY" criteria; he acknowledged that the issue is not clear-cut and that he might reconsider his previously-held views. This is just one example of students in my class using the rubric to explore issues related to information literacy, and it has been very helpful.

➢ "One of the key confusions I notice in students is separating an opinion from an argument. This central confusion in their reading habits obviously carries over into their writing habits. If students can't distinguish opinion from argument in their

reading, they will have difficulty distinguishing it in their research and writing. I've noticed that by having students engage with IF I APPLY as they begin the research process, that it helps reinforce the work we've done in the first part of the semester to aid them in evaluating not only how they feel about what a source says, but also pay closer attention to how useful the source will be for their research. This closer attention to a source, I believe, aids them in choosing better sources for their research projects and I look forward to working with you again and further develop this approach in our classes." (Marshall University)

➢ "One of the primary concerns that I hear, when communicating with faculty before an information literacy session is that students are still using websites instead of peer-reviewed sources for their research needs. While scholarly is best, IF I APPLY allows researchers to use a variety of sources, while ensuring that the information that they are using is credible and reliable. IF I APPLY is superior to other source evaluation methods, because it considers the entire research process: researchers are led through the process of identifying the emotions of a topic, establishing a solid overview of the research topic, and looking for credible, authoritative voices before they even have the opportunity to begin looking for the internet sources that they usually gravitate towards. Then, IF I APPLY shows researchers how to evaluate a website or internet resources using the most crucial elements necessary to establish credibility, while still allowing for the thorough evaluation of scholarly, peer-reviewed sources." (Marshall University)

Images for Tables and Figures (Editor will put in body of the text later)

Figure 1

IF I APPLY SOURCE EVALUATION

Often we seek information that confirms our own thoughts and feelings towards a topic. This is NOT RESEARCH. Research and learning comes from finding sources that speak to the truth of a topic, no matter how much it hurts ☺

Only by keeping personal biases in check can you begin to vet information for credibility.

These steps will help you find sources that are credible and reliable in your research process.

Personal steps

Identify emotions attached to the topic.

Find unbiased reference sources that will provide a proper and informative overview of the topic.

Intellectual courage is needed to seek authoritative voices on the topic that may fall outside your comfort zone or thesis.

Source steps

Authority established. Does the author have education, experience, and expertise in the field?

Purpose/Point of view. Does the author have an agenda beyond education or information?

Publisher? Does the publisher have an agenda?

List of sources (bibliography). Is the evidence reliable, sensible, and accessible?

Year of publication. Does the date of publication affect the information?

Figure 2

IF I APPLY Think-Questions for each step

a. **I – identify emotions attached to a topic**
   i. What are your honest opinions regarding the topic?
   ii. Have you addressed your internal biases?
   iii. Make an all-inclusive list of counter-opinions or counter-arguments.

b. **F - find unbiased reference sources that will provide a proper and informative overview of the topic**
   i. Conduct a general knowledge overview.
   ii. Search for information in: encyclopedias, wikis, dictionaries, etc.

c. **I - intellectual courage is needed to seek authoritative voices on the topic that may fall outside your comfort zone or thesis**
   i. Identify credible materials for all of the viewpoints - yours and the additional you identified
   ii. Reject unsound arguments - have the courage to accept that not all viewpoints are valid

d. **A – authority**
   i. Who is the author (may be individual or organization) and/or publisher?
   ii. What are the credentials and affiliation or sponsorship of any named individuals or organizations?
   iii. How objective, reliable, and authoritative are they?
   iv. Have they written other articles or books?
   v. Do they specialize in publishing certain topics or fields?

e. **P – purpose/point of view of source**
   i. Does the author have an agenda beyond education or information?
   ii. What can be said about the content, context, style, structure, completeness and accuracy of the information provided by the source?
   iii. Are any conclusions offered? If so, based on what evidence and supported by what primary and secondary documentation?
   iv. What is implied by the content?
   v. Are diverse perspectives represented?
   vi. Is the content relevant to your information needs?
   vii. Why was the information provided by the source published?
   viii. What are the perspectives, opinions, assumptions and biases of whoever is responsible for this information?
   ix. Who is the intended audience?
   x. Is anything being sold?

f. **P – publisher**
   i. Does the publisher have an agenda?
   ii. When was the information published?
   iii. Publication date is generally located on the title page or on the reverse side of the title page (copyright date).
   iv. Is the information provided by the source in its original form or has it been revised to reflect changes in knowledge?
   v. Has the publisher published other works?
   vi. Is this information timely and is it updated regularly?
   vii. Is the publisher scholarly (university press, scholarly associations)? Commercial? Government agency? Self ("vanity") press?

g. **L – list of resources**
   i. Where else can the information provided by the source be found?
   ii. Is this information authentic?
   iii. Is this information unique or has it been copied?

h. **Y – year of publication**
   i. What makes information "current" or relevant?
   ii. Is this information current? Can you find more current or relevant information?
   iii. Is the cited information current? Make sure work is not based on outdated research, statistics, data, etc.
   iv. Is the information routinely updated?