After the second step of evaluating sources with the CRAAP test, we need to further evaluate sources through critical thinking and lateral reading. Lateral reading means that we need to consult multiple sources on the same topic and compare diverse perspectives.

Let’s see what is the benefit of reading laterally with some examples.

Is screen time bad for kids? The answer is probably yes if we only viewed this article from CNN “MRIs show screen time linked to lower brain development in preschoolers.” Will you have a different opinion after you read the second article “Not all screen time causes kids to underperform in school” and the third “Video games help children improve literacy, communication and mental well-being”? Lateral reading will reveal a broader context of the topic and bring a more in-depth understanding of the issue.

In the previous videos, we talked about checking accuracy by seeing if a source backed up its claims with evidence. A source may cite other sources as evidence and it may also use the data or evidence that is primarily collected by researchers themselves. But either way, what makes good evidence? First, let’s compare evidence that is based on anecdotes vs. based on research. While anecdotes and personal stories are great at grabbing our attention and tapping into our emotions, they are often very selective. Research, on the other hand, either qualitative or quantitative, is based on systematic and specific processes for gathering and analyzing data.

Here is an example. To answer the question “would offering small loans be a solution to lift people out of poverty?,” we may encounter an article from the International Finance Corporation that features inspiring stories from India and describes the big impact of small loans on lifting women in India out of poverty. While we believe that small loans did have a big impact on these individuals’ lives, to evaluate if it is a solution to reduce poverty, we need more data based on scientific research. Compare it to the article Microfinance and the business of poverty reduction: Critical perspectives from rural Bangladesh. The article is also based on personal narratives, but the difference is that the study adopted a qualitative approach and involved “observations, focus groups, and in-depth interviews”. The research found “microfinance led to increasing levels of indebtedness among already impoverished communities and exacerbated economic, social and environmental vulnerabilities.” This study enables us to gather deep insights on small loans and poverty-related concepts and experiences. While, in order to establish generalizable facts about the topic, we would need to turn to quantitative study and statistical inference to understand the big picture. The article Evidence on Microcredit: Rethinking Financial Tools for the Poor introduces a study that followed over 37,000 individuals from six countries and found: “microcredit had some benefits, such as expanding business activity, but did not reduce poverty or lead to empowerment for women on average." When using evidence to support our arguments, the evidence that is based on well-designed research is often more credible that that is based on selective personal stories and anecdotes.

But how do we tell if research is of good quality? Reliability and validity are key concepts used to evaluate the quality of research. Reliability and validity are closely related, but they mean different things. Reliability examines how consistently a method can achieve the same result, using the same methods under the same circumstances. Validity examines how accurately a method measures what it is intended to measure. Let’s look at an example. Dr. Diane Driscoll claimed to have invented a treatment for a complex and severely disabling disease called Chronic Fatigue Syndrome. Currently, the disease has no cure or approved treatment. To justify her treatment, Dr. Driscoll involved 27 patients in treatment trials of her patented compound and concluded 93% experienced a dramatic increase in mental/physical energy. Thus, Dr. Driscoll claimed that the product was effective in reversing many symptoms of Chronic Fatigue Syndrome. However, a typical clinical trial usually involves the randomization of hundreds or even thousands of participants to test the effectiveness of treatment in controlled and investigational groups. For instance, Pfizer’s trial of their COVID-19 vaccine enrolled more than 43,000 participants in a placebo-controlled randomized study. In comparison, Dr. Driscoll's treatment trial is less reliable and valid in research design.

Another questionable aspect of Dr. Driscoll’s research is that she herself ran the trial on her own compound. So, it is in her own interest that the trial produces positive results. This leads us to question the objectivity of the research. Here is another example. This research on the effects of avocado consumption was widely cited to support the health benefits of avocados. Although the research involves randomized, controlled trials, it is worth noticing that the research was partly funded by Hass Avocado Board. The Hass Avocado Board states that it exists to help make avocados America's most popular fruit. This might make us wonder about the objectivity of the research and lead to questions like: does the research measure and report potential negative factors? Is there anything else left out by the research?

Remember that Yahoo life article that cited this study and suggested that you should eat an avocado each day? Let’s go back and apply some more critical thinking to analyze that claim. Although the original research supports the health benefits of avocados, it doesn’t make recommendations to ask people to eat an avocado each day. Whether people should be eating an avocado each day depends on various factors and personal situations, such as health conditions, financial situations, available alternatives, or even personal beliefs and values. By lateral reading, we would also find avocado consumption contributes to illegal deforestation in Mexico and results in a substantial environmental cost. Should you eat an avocado each day? It needs a second thought and more evidence.

Making claims like this that go beyond what the original research actually reports is very common in the headlines of online articles because bold claims are more likely to grab readers’ attention. So, besides evaluating sources for their evidence, we need to analyze if the conclusion can be safely derived from the evidence provided. Does it follow logical reasoning? Or does it contain logical fallacies? Fallacies are common errors in reasoning. For example, making a general statement without sufficient evidence to support it or overstating the conclusion is a common logical fallacy called the hasty generalization fallacy. Both Dr. Driscoll’s conclusion on the effectiveness of her treatment and the Yahoo life article’s suggestion made a hasty generalization fallacy in their arguments. There are many other logical fallacies that we encounter in our everyday conversations, on social media, and during online research. We can learn more about logical fallacies from the additional resources of this learning module.

Going back to the topic of evidence, in previous videos, we discussed checking if there are links/citations to other sources and evaluating the accuracy of the content by verifying it with the original source. Through lateral reading, this can be developed into a more systematic approach called evidence tracking. We can follow upstream and even downstream sources and see where it is taking us. We talked about using source links to verify the accuracy of the article. In the case that another specific person, expert, or institution is mentioned, we can use these clues to find more information as well. This CNN article “Screen time and kids: Parents need to worry less about hours logged” mentioned a report by Common Sense Media. Although there is no link, we can conduct our searches and investigation. The search leads to a series of reports released by Common Sense Media. The report “Tweens, Teens, Tech, and Mental Health: Coming of Age in an Increasingly Digital, Uncertain, and Unequal World” is the report referred to by CNN. This might be a better source than the original articles for our research. And with Google Scholar, we are even able to use the “cited by” function to track which articles cited the same report and find newer downstream articles on the same topic.

Now we’ve learned how to read laterally and to think critically about our sources by comparing and tracking evidence. In the next video, the last step for the source evaluation, we will learn how to think critically about our own biases and perspectives.