

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. The shapes are primarily triangles and polygons, creating a dynamic, layered effect. The central text is positioned in the white space between these green elements.

# Finding Valid, Useful Online Sources

# The What

- ▶ The purpose of this presentation is to help students determine which online sources are useful and of sufficient merit for academic research work.
- ▶ This is a skill that is not only necessary for essays, presentations, and research papers; it is also useful for anybody who wants to learn about any subject without being misled by unreliable online information.
- ▶ There are some common myths we'll dispel - like Wikipedia has no use whatsoever and .com websites are universally inappropriate for research work.
- ▶ By following the guidelines presented here, you'll ensure you get valid information for whatever research you need to do.

# Key Ideas Before We Start

- ▶ First, always base your research on a **QUESTION** that you come up with. By doing that rather than just entering a topic into a search engine, *you'll* do actual research rather than simply report on the research *other people* have done.
- ▶ Second, make sure your research question is **NARROW** enough. If it's too broad, you will only scratch at the surface of all available information on your topic, and your paper will be overly basic. The idea is to “go deep rather than broad.”
- ▶ So instead of just having a topic like “the Industrial Revolution,” you should ask a specific, narrow question you're curious about - for example, “How did the Industrial Revolution affect poverty in urban England?”
- ▶ Finally, don't get frustrated if you run into a dead end or if you feel like you're not getting things done quickly enough. Use a good process (like the ones you'll find here); take one step at a time; and remember that learning something useful often involves some work. Conducting effective research is an excellent life skill.

# The How

- ▶ In short, there are two ways to determine whether or not an online source is useful and valid in a solid academic research project.
- ▶ The first makes use of a search engine or database that automatically chooses academically reliable source material.
- ▶ Of course that sounds good, but a potential problem lies in the fact that such search engines and databases can exclude many sources that could be considered relevant and academically reliable.
- ▶ The second approach does require some additional work and thinking, but if you apply the strategies outlined here, you will indeed find academically reliable source material. It's not hard to do - a little investigation is all that's required.

# Approach 1 - Starting out

- ▶ To start: use **Google Scholar** (not just Google), **GALE**, or **Pubmed** to search.
- ▶ **Google Scholar** is concerned with any type of “scholarly literature,” which is useful for many academic purposes of course, but not necessarily for all.
- ▶ For example, according to Google Scholar itself, “Content such as news or magazine articles, book reviews, and editorials is not appropriate for Google Scholar.”
- ▶ So the upside to Google Scholar: If you find a useful document there, that document will certainly have academic merit.
- ▶ The downside: You might not find everything you’re looking for.
- ▶ **GALE** is a database that also works well for academic searches, and it’s available on the TBT website. However, GALE is only accessible on TBT computers, not at home.
- ▶ **Pubmed** is similarly dependable, but that one is even more narrow than Google Scholar because it is only concerned with information about the health sciences.

# Approach 1 - the Details

- ▶ To use **Google Scholar**, simply type “Google Scholar” into any search engine (like Google). Once Google Scholar opens up, type in your search criteria.
- ▶ To use **GALE**, go to the TBT school website at <http://tbt.mysdhc.org/> , find the “Resources” tab on the home page, and click “Media Center.” After that, click the “High School Virtual Library” link, which will open up GALE. On that page, find the “Title” you need (like Science, Literature, History, etc.).



- ▶ To use **Pubmed**, type that into any search engine. That will bring you to the following url: <https://www.ncbi.nlm.nih.gov/pubmed> .



# Approach 1 - finishing up

- ▶ Ok, so you found an online document on GALE (or Google Scholar or Pubmed), for example. What else needs to be done to determine if it is one you should use for an academic research task?
- ▶ Check two things:
- ▶ 1. **Currency** - Is the online text too old or not? Have new innovations happened since it was published? If so, then the text is not ideal for your needs. On the other hand, some online texts are “old,” yet they are still valid because there have been no significant changes in the way the subject matter is understood by experts.
- ▶ 2. **Relevance** - Is the content of the text something that helps you directly answer your research question? If so, go with it. However, if it is on the general topic you’re investigating but doesn’t provide information about your chosen topic’s specific aspects that are relevant to your research question, the online text is not relevant.

# Approach 1 Final Thoughts

- ▶ The three resources provided earlier are reliable - but you still need to check if what you've found is CURRENT (if it needs to be) and RELEVANT.
- ▶ If you can get to **the main library on the USF campus**, you'll have considerably more excellent search tools because USF provides databases that are not available to the general public off the USF campus. You must be in the actual USF library to use these tools, but once there, you can access them on a USF computer. In other words, USF has more resources like Google Scholar, GALE, and Pubmed that are targeted to specific disciplines. **That means more doors of investigation will be open to you.**
- ▶ Of course, speaking with a media specialist at TBT, USF, and/or a public library can be extremely helpful. Those experts are there to help!

# Approach 2

- ▶ The first approach (using GALE, for example), only requires that you determine the relevance of the online content. The second approach is one that requires **more actual investigation** of specific web pages.
- ▶ This second approach works well, but it has been described as somewhat of an “art” because there is no automatic “yes” or “no” answer to the question “Is this particular website academically valid?”
- ▶ The good news is that, with some knowledge of the process provided in these next slides, **anyone can successfully determine whether or not a site is academically valid**. It’s not hard if you follow the guidelines....

# Approach 2: Overview

- ▶ The sources you use for any type of academic or formal research should basically be **RELEVANT** to your research and **ACADEMICALLY VALID**.
- ▶ What makes an online source *academically valid*?
  - ▶ The information should be complete, accurate, and free of bias.
  - ▶ It should be intended for an appropriate audience (you), meaning the content is neither too simple (intended for 6<sup>th</sup> graders, for ex.) nor unnecessarily complex.
  - ▶ In many cases, it should be timely - in other words, “not old.”
  - ▶ Its publisher should be a credible expert or authority in the field you’re investigating.
  - ▶ The goal of its publisher or website should not be to entertain or to make money off of its audience.

# The way to check for academic validity

- ▶ There are many specific methods people have created in order to do this, but the good ones all do basically the same things: they provide a series of steps to take or questions to ask.
- ▶ Here, we'll look at one with a particularly memorable acronym: CRAAP (!)
- ▶ That stands for Currency, Relevance, Authority, Accuracy, and Purpose.
- ▶ “Developed by librarians at California State University-Chico, the **CRAAP Test** is a handy checklist to use when evaluating a web resource (or ANY resource).” - Source: [http://libguides.cmich.edu/web\\_research/craap](http://libguides.cmich.edu/web_research/craap)
- ▶ Please note: Much of the content of this presentation has been “©Adapted with permission from University of Wyoming Libraries (in 2017) and may not be used for commercial purposes without permission from the University of Wyoming Libraries.”
- ▶ In the next slides, we'll look at each aspect of the CRAAP test.

# Before we start - How this works

- ▶ Basically, the following series of questions (about Currency, Relevance, Accuracy, Authority, and Purpose) should give you a clear idea about how much academic validity a particular online source has. However, again, this is somewhat of an art.
- ▶ **What does “somewhat of an art” mean** in this case?
- ▶ It means you need to decide if a particular online source passes **ENOUGH** of the criteria/questions provided here. If, for example, you don't know the name of the person who wrote something - but you do know the information is sufficiently timely, and you also know that the content is relevant, and you also know that there are valid sources cited at the end of the online text, and you also know the organization that produced the website is a university then you can generally assume that particular online text is academically valid and relevant to your research.
- ▶ So, if you have enough evidence of academic validity and no major issues that would make such validity questionable, you can go with the online source.

# C: Currency

- ▶ **CURRENCY** is important because information can quickly become **obsolete**. Supporting your thesis statement with facts that have been superseded by new research or recent events **weakens your argument**. **Of course, not all assignments require the most current information; older materials can provide an historical or comprehensive understanding of your topic.**

**To check the currency of a source, ask yourself:**

- ▶ When was the information published or last updated?
- ▶ Have newer articles been published on your topic? (If so, do those offer new insights?)
- ▶ Are links or references to other sources up to date? (Check things like this carefully.)
- ▶ Is your topic in an area that changes rapidly, like technology or health care? (If that is the case, then your source should be more current than a source on, for example, a biological process that scientists still understand in the same way today.)

# R: Relevance

- ▶ **RELEVANCE** is important because you are expected to support your ideas with **pertinent information**. Not everything that pertains to your topic necessarily belongs in your paper. As an obvious example, a source detailing Einstein's marriage and family life would not be relevant to his theories in physics.

**How do you know if your source is relevant?**

- ▶ Does the information help directly answer your research **question**?
- ▶ Does the information meet the stated **requirements** of the assignment?
- ▶ Is the information too **technical** or too **simplified** for you to use?
- ▶ Does the source add something **new** to your knowledge of your topic? (Regarding this final question, it is important to verify a source's information by checking other credible sources. However, only one source should be included in your paper for each new idea you cover.)

# A: Authority

- ▶ **AUTHORITY** is important in judging the **credibility** of the author's assertions (i.e., statements, claims, or ideas). In a trial regarding DNA evidence, a jury gives far more authority to what a genetics specialist has to say compared to someone off the street.

**How do you know if an author is an authority on your topic?**

- ▶ What are the author's credentials? (GOOD = PhD in the field you're researching, writer for an authoritative & objective publication/organization such as the American Medical Association, etc. BAD = university student, private blogger, marketer for a business, etc.)
- ▶ Is the author affiliated with an educational institution or prominent organization?
- ▶ Can you find information about the author from reference books or the Internet?
- ▶ Do other books or articles cite the author?

# A: Accuracy

- ▶ **ACCURACY** is important because errors and untruths **distort** a line of reasoning. When you present inaccurate information, you **undermine** your own credibility.

How do you know if your source is accurate?

- ▶ Are there statements you know to be **false**?
- ▶ Are there **errors** in spelling, punctuation, or grammar?
- ▶ Was the information **reviewed** by editors or subject experts before it was published? (i.e., was it peer reviewed?)
- ▶ What **citations or references support** the author's claims? (are there any?)
- ▶ What do **other people** have to say about the topic? (And is there any evidence of bias in any people who support the author's claims?)

# P: Purpose

- ▶ “**PURPOSE**” refers to the author’s/organization’s purpose - **why was the information published?** Purpose is important because books, articles, and Web pages exist to educate, entertain, or sell a product or point of view. Some sources may be frivolous or commercial in nature, providing inadequate, false, or biased information. Other sources are more ambiguous concerning their partiality. Varied points of view can be valid, as long as they are based upon good reasoning and careful use of evidence.

## How do you determine the purpose of your source?

- ▶ Why did the author or publisher make this information available? (Generally GOOD: public service & educational purposes. Often NOT SO GOOD: personal & commercial purposes)
- ▶ Is there a conflict of interest? (Ex: Was an article about the effects of smoking published by a tobacco manufacturer or someone employed by one?)
- ▶ Is there a bias or prejudice? (Does the source exaggerate, overstate, or favor an idea?)
- ▶ Are alternative points of view presented?
- ▶ Does the author omit important facts or data that might disprove a claim?
- ▶ Does the author use strong or emotional language? (In other words, is the rhetorical appeal of pathos used to convey or “sell” the author’s ideas?)

# General Info: Types of Sources

- ▶ **Scholarly Journals**: These are “peer reviewed,” meaning that experts in the given field have approved an article’s content. Journals in general are more academic in nature than popular magazine articles, for example.
- ▶ **Newspapers & Magazines**: These can be good for current events. However, some articles (and some publications) are far more objective and comprehensive (therefore valid) than others.
- ▶ **Encyclopedias**: These are good for initial information-gathering and for brief fact checking. However, they should not be principal sources for academic research.
- ▶ **Books (including online books)**: These tend to be comprehensive in covering a topic; however, they are often not particularly current. Therefore, in some cases (technology, political events, etc.), more current material may be needed.

# General Info: Website Suffixes (.com, .edu,..): Valid or not?

- ▶ Generally, **.edu** (educational source) pages are good - but not always. For example, a “.edu” web page with a tilde (“~”) in its url indicates it is the personal page of someone associated with the given educational institution. Therefore, the views expressed therein may be personal and biased.
- ▶ **.gov** (local, state, or national government page) pages are official & generally ok.
- ▶ **.org** (non-profit status of the affiliated organization) pages CAN BE good, but they can also contain too much bias. In their often noble efforts to champion a particular cause, they may exclude information, exaggerate, or simply misstate facts. Certainly apply the CRAAP test on these pages.
- ▶ **.com** (commercial) pages should always be checked to ensure objectivity and valid purpose. Check carefully.
- ▶ **.net** (network) pages should always be checked carefully as well.
- ▶ For any **other suffixes** (primary domain names) - **check carefully!**

# General Info: What about Wikipedia?

- ▶ **Wikipedia** should **not** be something that appears in your Works Cited page because anybody can alter its content.
- ▶ **However**, that doesn't mean it doesn't have its place in academic research.
- ▶ In the "References" section, some Wikipedia articles cite many valid sources, some of which may be relevant to your research and high in academic merit. For example, on 05/10/2017, the page for "Weld quality assurance" had 29 cited references, many of which were academically valid. For example:

Simpson SW (2008) "Through The arc sensing in gas metal arc welding with signature images", *Science & Technology of Welding and Joining*, **13(1)**, 80-86

Therefore, you can use Wikipedia to **find** valid authors, publications, and other sources of information; just don't use it as an actual source in your paper.

# General Info: Refining a Search

- ▶ Use keywords, quotation marks, and date ranges (when necessary). But also...
- ▶ **Try this: When you do a search, type “site: edu” at the end of your search criteria.**
- ▶ For example, this search: “prenatal heart disease site: edu” returned .edu sources such as the following: <https://fetus.ucsf.edu/congenital-heart-disease> . It is a state university’s site/page, and obviously it is valid.
- ▶ However, the search also produced the following site: <http://www.clevelandclinicmeded.com/medicalpubs/diseasemanagement/cardiology/pregnancy-and-heart-disease/> Despite the “.com,” this is actually a non-profit; it was reliable.
- ▶ Other non .edu sites produced by this search included: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1380931/> , which is another reliable site.
- ▶ So “site: edu” can be a good filter (but not perfect - always check) for valid sources.

# Ok, Samples: Apply the CRAAP Test

(the following samples courtesy of <http://tip.uwyo.edu/evaluating/>)

- ▶ Your research question is, "What are the social benefits and liabilities for tribes developing casinos on Indian reservations?"
- 1. Which source would likely be more **CURRENT** for your topic?
  - ▶ a book published in 1998 about gaming on American Indian lands
  - OR
  - ▶ Pechanga.net, Indian gaming news on the Internet
  
- ▶ The answer is: Pechanga.net because internet resources are generally more current than books; a Web site should indicate the date it was last updated.

# TEST 2: RELEVANCY

- ▶ Your research question is still, "What are the social benefits and liabilities for tribes developing casinos on Indian reservations?"
- ▶ 2. Which database would be more likely to point you to articles **RELEVANT** to your topic? (Note: An “abstract” concisely describes a research paper that has been peer reviewed.)
- ▶ Sociological Abstracts            OR
- ▶ Biological Abstracts
  
- ▶ The answer: Sociological Abstracts because they would index journals that focus on social consequences of human behavior, which is more relevant to the research question that appears above.

# Test 3: Authority

- ▶ Your research question is still, "What are the social benefits and liabilities for tribes developing casinos on Indian reservations?"
- 3. Which source would likely be more **AUTHORITATIVE** on your topic?
  - ▶ a peer-reviewed article published in *UNLV Gaming Research & Review*  
OR
  - ▶ an article published in *Sports Illustrated*
- ▶ **The answer:** a peer-reviewed article published in *UNLV Gaming Research & Review* because an article in a peer-reviewed journal is more likely to have been written by an expert and will have been evaluated by other experts before it is published.

# Test 4: Accuracy

- ▶ Your research question is still, "What are the social benefits and liabilities for tribes developing casinos on Indian reservations?"
4. Which source is more likely to be **ACCURATE**?
- ▶ employment statistics from a newsletter published by a grassroots organization opposed to gambling
- OR
- ▶ employment statistics from the U.S. Department of Labor web site
- 
- ▶ The answer: The U.S. Dept. of Labor website because it's a government website (indicated by ".gov.") and therefore needs to meet legal standards for accuracy. A grass roots organization opposed to gambling may use legitimate statistics but may also exclude those that don't support a specific agenda, so it could be less valid.

# Test 5: Purpose

- ▶ Your research question is still, "What are the social benefits and liabilities for tribes developing casinos on Indian reservations?"
- 5. Which source would more likely suit the **PURPOSE** of your report?
  - ▶ Pechanga.net, Indian gaming news on the Internet  
OR
  - ▶ a peer-reviewed article published in *UNLV Gaming Research & Review*
- ▶ The answer: The title, *UNLV Gaming Research & Review*, is a clue that the journal is likely to publish studies related to issues surrounding gaming. Also, it is valid because it is peer reviewed. Pechanga.net would probably give you a some idea about what's going on in the world of Indian gaming, but it would not provide scholarly research.

# Wrap Up

- ▶ Don't rush to just find something relating to your topic. Carefully review each source - even if it is academically valid because you found it on Google Scholar, for example. After all, the information must actually be RELEVANT to your research.
- ▶ Don't assume that one format of information is better than others. All kinds of information should be evaluated carefully, including books, articles and web sites.
- ▶ Evaluation is an art, not a science. There is no "one size fits all" set of guidelines for this important activity.