**Where Should I Search? It Depends!**

**The Value of Free and Deep Web Resources (aka Google vs. Databases)**

**Main Message:**

* Both the free web (e.g. Google) and the deep web (e.g. databases) offer valuable resources depending on your information need.

**Outcomes:**

Students will be able to …

* articulate the value of using both the free web (e.g. Google) and the deep web (e.g. databases) to find sources.
* recognize that an information need may influence where one chooses to search.

**Lesson Overview:**

This lesson is intended to illustrate that there are benefits and drawbacks to using content from both Google (the free web) and databases (deep web).

Part I: Hear about the benefits and drawbacks of both free and deep web resources with two videos: “How Search Works” Matt Cutts and “Deep Web” from Common Craft. Capture these pros/cons, based on video content and students’ personal experiences, in a chart. See the Sample Chart for ideas.

Part II: Conduct the same search in both Google and in Academic Search Complete. Compare the results to illustrate the different types of sources available in each and how these sources could be useful for different information needs. In this process, you will show students how to access a library database (deep web source). Return to the chart of pros/cons of searching in the free web or deep web. Students may have other items to contribute.

Part III: Based on their knowledge, ask students to consider where they would search for information (free web, deep web, both) based on information need scenarios. Scenarios are provided on an accompanying handout.

**Time:** 30-45 minutes

**Part I: Free Web vs. Deep Web**

As a college student, you will often be asked to locate sources for your academic work. We also regularly search for information for personal information needs. E.g. What is showing at the movie theatre? What is the bus schedule? Today we are going to explore more about searching in both Google and databases. Let’s start with this video by Google’s Matt Cutts. Think about how Google finds information and why we use it.

With the class watch “[How Search Works”](https://youtu.be/BNHR6IQJGZs) by Matt Cutts video (~3 min), embedded at <http://libguides.ucmerced.edu/google_deep_web>

In this video, Matt Cutts from Google explains how Google’s search works. Topics discussed include web crawling spiders, and how Google decides which search results to display first.

After watching, ask the following questions and record pros & cons to searching in Google in a chart (e.g. on board or in a Word doc.) See sample chart.

* How does Google find information? (e.g., web spiders, links, etc.)
* What are the benefits of searching in Google? Why do we use Google?
* Are there any drawbacks to search in Google?

With the class, watch [“Deep Web”](https://www.commoncraft.com/video/deep-web) video by Common Craft (~2min 30sec), embedded at <http://libguides.ucmerced.edu/google_deep_web>

This video explains that the deep web includes databases that can only be accessed with permission e.g. a student credential or through paying a fee. This video explores why deep web sources might be worth accessing.

After watching the video, ask the following questions and record pros & cons to searching in the deep web (e.g. database) in a chart.

* What are the benefits of searching in the deep web?
* Are there any drawbacks to searching in the deep web? (Record on the board. See chart below.)

Sample Chart:

|  |  |
| --- | --- |
| **Free Web / Google** | **Deep Web / Database** |
| PROS* Easy to use / no learning curve
* Easy to get to – in my browser
* Familiar
* Lots of results on any subject
* Freely available (usually)
 | PROS* Access to deep web/restricted material/academic resources
* Targeted information (e.g. subject database, image)
* Functionality to narrow results, cite results etc.
 |
| CONS* Too much information
* May not be a quality source (not vetted, anyone can publish)
* Could offer information *about* source but does not offer full-text
* Not many options for narrowing results
 | CONS* May not realize deep web resources exist
* Need to authenticate to access (be on the network)
* Unsure how to get to a database (may not come up in a Google search or with the correct URL)
* Could offer information *about* source but does not offer full-text
* May not be clear what you are searching
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**Part II:** Free Web vs. Deep Web Search

Let’s try a search in both the free web (Google) and in the deep web through a library database called Academic Search Complete. We are going to try a search for *modern wheat* since we want to learn more about this topic. In particular, we want to determine if it is different from heritage wheat.

* Show the students how to navigate to Academic Search Complete or other selected database.
* Search for *modern wheat* in both Google and Academic Search Complete/selected database.
* Have a discussion with students about what information is returned in these results.
* What kind of information appears in the first page of results in Google?
* What kind of information appears in Academic Search Complete? How is the content different / similar?
* Would you trust and use this information from free web / from databases?
* Will these results help us determine if modern wheat is different from heritage wheat? Is one set of results better than the other?
* In what situations would this information be most useful from the free web / from databases? Which information is “best”?

Note: You may wish to mention that access to databases from off-campus requires authentication through the VPN. Connect this back to the deep web video.

**Part III:** **Consider Our Information Need**

Depending on the information we need, we may decide to search in Google (free web) or in databases (deep web). Typically, we’ve been very good at using Google, but as a college student you have access to even more information sources. Let’s briefly look at some scenarios and think about where we might find the information we need.

Activity: In pairs, determine where you would search for the following information. On the handout, indicate whether you would search in Google, Databases, or in Both. Be prepared to explain your choices. Consider the question found at the bottom of the chart. (\*Students will answer based on their own knowledge. They will not actually search in Google or a database for answers to these scenarios.)

 Information Need Scenarios: (handout & answer key are available)

1. You need to access a scholarly article for your biology paper.
2. You need to locate a recipe to make goodies for your club meeting.
3. You want to find out more about the drug Trexall that your grandmother has been prescribed for rheumatoid arthritis.
4. You want to know the pros and cons of Lasik eye surgery.
5. You need to locate high quality images of Middle Eastern architecture from the 7th century.
6. You heard that the Scientific American Mind magazine published on the topic of *Pain: New Ways to Find Relief without Opioids*.  You want to read articles in that issue.
7. You are starting a research project on community protests in Fresno and you want to access some local Fresno newspapers.
8. You want to find statistics that refer to the number of deaths from distracted driving in the U.S. in 2016.

Debrief:

Ask students to give their answers. Ask them to justify their selections. Discuss.

Possible Questions:

* Were you unsure about any of these?
* Overall, what kinds of questions seem best answered by Google versus databases? Is there a pattern?
* Overall, did you find that personal information needs could be answered on the free web while more academic endeavors required database research? Do you think this always the case?

**Conclusion:**

Revisit the outcomes.

* Can students articulate the benefits and drawback of free web and subscription database searches?
* Do students realize that their information need may influence where they look for information?

**Framework for Information Literacy**

This lesson addresses one frame in the [Framework for Information Literacy for Higher Education](http://www.ala.org/acrl/standards/ilframework) (ACRL): Authority is Constructed and Contextual.