LIBRARY IS A VERB

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Why is this critical to research?
The Beginning – Dr. Werner Gitt

- Biologist and Information Specialist, Director of Information Technology (retired) at the German Federal Institute of Physics and Technology.
- “It should be noted that the activities of all living organisms are controlled by programs comprising information. Because information is required for all life processes (i.e., DNA), it can be stated unequivocally that information is an essential characteristic of all life.”
  (emphasis added)
Bits & Bytes

- 1 Bit = Binary Digit
- 8 Bits = 1 Byte
- 1000 Bytes = 1 Kilobyte
- 1000 Kilobytes = 1 Megabyte
- 1000 Megabytes = 1 Gigabyte
- 1000 Gigabytes = 1 Terabyte
- 1000 Terabytes = 1 Petabyte
- 1000 Petabytes = 1 Exabyte
- 1000 Exabytes = 1 Zettabyte

1000 exabytes = 1 million petabytes = 1 billion terabytes = 1 trillion gigabytes

Current estimate: 44,000,000,000,000,000,000 bytes, that is!

- 1000 Zettabytes = 1 Yottabyte
- 1000 Yottabytes = 1 Brontobyte
- 1000 Brontobytes = 1 Geobyte
- 1000 Geobytes = Alottabytes!
To print the Internet, how tall would that stack be? Earth to Moon? Earth to Mars? Saturn? Pluto? 13 stacks from the Earth to Pluto! It would deforest the planet 12 times! So how much is there today?
These below may sound familiar to you:

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- 1000 Gigabytes = 1 Terabyte
- 1000 Terabytes = 1 Petabyte
- 1000 Petabytes = 1 Exabyte
- 1000 Exabytes = 1 Zettabyte
- 1000 Zettabytes = 1 Yottabyte
- 1000 Yottabytes = 1 Brontobyte
- 1000 Brontobytes = 1 Geopbyte

In 2008-09, I saw two studies estimating the amount of information in the world. It included: DOCs and DOCx files, PDFs, web pages, computer programs, spreadsheets, databases, audio files, visual files, audio-visual files, emails, etc. They also factored in that you might forward this to various people. In 2008-09, one study suggested that there was 250 exabytes of information in the world and the other 500 exabytes (or
one-half zettabyte). Toda’s estimates are now in the zettabyte range. So how easy will it be to find exactly what you really want now ...or in the future?
We can’t keep up with our need to store information. We’re creating information too fast.
The Beginning
Dr. Claude Shannon

- 1916-2001
- *Mathematical Theory of Communication*, 1949
- Father of modern information theory
- Information indefinable
Shannon’s Theory of Communication

- Technical: Did you hear me?
- Semantic: Did you understand me?
- Behavioral: What are you going to do?

Is this communication or research? Could it be that they are the same thing? Also, consider this – how does this relate to your Bible study session, personal quiet and worship time, or a sermon?
Dr. Dervin is Professor of Communication at Ohio State. She posits that information works on a space-time continuum like *Back to the Future* or *Star Trek*. We have gaps in our information creating chaos. Information restores order to one’s universe.
OED suggests a different perspective of information that follows along what Dervin’s beliefs. That time continuum is in perpetual motion. Everything shapes how you view and use information. That will impact your research!
Comparing Shannon and Gitt

- Shannon
  - Technical/Semantic/Behavioral
- Dr. Werner Gitt – Apobetics
  - Information has a purpose. This completes the information transfer.
    (John 5:24, Acts. 8:26-39)
Communication...

Research is all about communication. Sending a message from Point A to Point B...

God to you...

...and you to your audience.
Research Methods

How can you find better results?
If you don't know where your going, any road will get you there.
Who said that first?
Need a hint?
Yes, Lewis Carroll. And you are going to feel like a crazy Mad Hatter, too, trying to gallivant around the Information Wonderland. You will be chasing rabbits if you are not careful to plan your search strategies!
Apollo 15 was one of the most successful missions of the Apollo program and was the first to use the lunar rover. Before venturing out on their first exploration mission, Commander Scott stood on top of the lunar via the hatch and did a 360-degree survey. That survey helped them plan how and where to do their research. When it comes to research, everyone should discover the best journals, databases, books, and authors of their major field of study. Until you begin your studies in your major, you need to become familiar with the general research process and “get a lay of the land” – where things are and how things work.
https://hbu.edu/library or go to the HBU Portal.
LibGuides by Subject is available on the left side of the library home page. Highly useful for any class!
https://hbu.libguides.com/annobib

https://hbu.libguides.com/phil1313
What is an annotated bibliography?

Annotated bibliography is a list of sources that includes a brief descriptive and evaluative paragraph, the annotation. The purpose of the annotation is to inform the reader of the relevance, accuracy, and quality of the sources cited.

Why bother with citations?

Creating bibliographies is more than just creating a list of resources. So why do we need them?
- helping your audience learn more about a topic,
- demonstrate that you are using credible resources to support your arguments (build your credibility),
- help your readers know from where the information came, and
- assist other researchers.
- helps establish trust.

This assignment is not just giving a list of books. You will need to cite the resource properly (APA, MLA, Turabian, or Chicago style) depending on your class. Consult your class syllabus regarding length and detail of annotations. This will vary by discipline or class level (undergraduate or graduate).
What kind of sandwich is this? People use different terms of identification in various regions of the country. What do you call the drink that you swallow to wash the sandwich? In the mid-1990s, the term “light bulb” was not an acceptable word in subject headings by the Library of Congress. The correct term was “incandescent lamp” back then. Now suppose I was doing a history of the light bulb for a class paper. If I used “light bulb” as a subject heading keyword search in those days, I would have had zero results. Thankfully, the Library of Congress loosened their thinking and light bulb is now an acceptable term!
Internet and library databases search and store data from every field today. Search engines (library or Internet) search the full text of articles and books or any specified field (depends on the database). The search engines perform global keyword searching by default unless you start with limits (Advanced Search). Global keyword searching is the primary cause of the high number of results. Keyword does know that Apollo is a Greek god and apart of Greek mythology or if is part of the space program. Global keyword only matches the letters (literally) that you type in the search box.
This is NOT a way to maximize your Google search.
Do you really want to search through 175 million pages? I don’t think so.
Spelling is important as it will impact your search. Also, use unique search terms instead of general terms. Will this be any better? Let’s see...
Wow! This is much less and is a HUGE statistical improvement (10 times)! 10 million pages is certainly better than 175 million. Now imagine doing this on library database.
Why waste time doing a global keyword search when you can limit your search options? You do want to be efficient, right? An easy choice to make from the start is to select the subject headings or abstract fields. Your search will only include these fields. Remember, “Subject Headings” means that the entire article is ABOUT that topic(s).
Use Filters to Limit Results

- Refine Results
  - Search:
    - Keyword: legacy of John Dewey
    - Exclusions: faculty members, subjects, locations
  - Date: from 2000 to 2020
  - Format: academic journals, books, magazines, reports
  - Source: Journal Title
  - Filter by Subject
  - Filter by Publisher
  - Filter by Publication

- Just getting started?
  - Watch a tutorial to learn more about searching online databases.

-遊教育進歩主義の教義: John Dewey / Progressive education today: the legacy of John Dewey

- John Dewey’s Feminist Legacy

- Randolph Bourne. John Dewey and the Legacy of Liberation

- Fidelity in Public Education Policy: Reclaiming the Deweyan Dream

- Note: Duplicates removed from the results.
Be a detective!

- Titles
- Abstracts
- Subject Headings
- Text (as you read)
- Bibliography for more resources
What We’ve Discussed So Far

- How do you limit results?
  - Use specific synonyms
  - Use unique terms
  - AND (add) more terms to big searches
  - Utilize filters to limit results (options will vary by database)
Now that we have discussed the problems of databases and languages, let’s look at some basic searches to see how good they are. The better searches are on the right side because the terms are more specific. The other terms on the left are vague and have multiple meanings. Tip: Natural language searches are still problematic. We have not yet gotten to Web 3.0 (semantic web where search engines actually understand language better).

<table>
<thead>
<tr>
<th>Not As Good</th>
<th>Better Searches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog and cat</td>
<td>poodle and calico</td>
</tr>
<tr>
<td>Native American</td>
<td>Cherokee and war</td>
</tr>
<tr>
<td>Art in France</td>
<td>French painters</td>
</tr>
<tr>
<td>Indian art</td>
<td>Ram Kamur and abstract art</td>
</tr>
<tr>
<td>What is truth?</td>
<td>Truth and objectivity</td>
</tr>
</tbody>
</table>
These are fairly straight-forward searches. Recommendations: take notes! Pay attention to subject headings or the words in titles and abstracts to get additional ideas for more terms. Also, think of all the synonyms pertaining to that term.
This slide demonstrates a more complicated search. This is broken down by the major points you want to support. Beneath is a grid. The grid headers are very vague in terms of intent. The options beneath are more specific. As you do your research, your list will likely grow. Once you have this list, then you mix and match your terms. While going through this process, you will notice that some results will more closely match your expectations. I highly recommend breaking your searches down with grids such as this.
This slide also demonstrates another complicated search. This is broken down by the major points you want to support just like the previous slide.
You will still have to play word detective with your results as you did with your strategy planning. Would you consider using the #1 article for your paper? I think not. This is hard to read but this result is for a computer product termed “Plato” and is not what you are looking for in a philosophy class. Look at the subject headings when in doubt. This is completely irrelevant and why I advocate planning ahead! You could save yourself a lot of time and trouble by planning out your search.
Evaluating Resources – Web or Article

- Consider the source (the writer and the web site).
- Consider the motivation (biases?).
- Consider the quality of the writing.
- Consider the documentation.
- Consider the currency (not necessarily true in philosophy).
- Can you **corroborate** anything?
This student caused a major headache and proved what librarians and professors have said for years. Verify your facts and information before using them – ANYWHERE!
Plagiarism is intellectual theft. After finding a good quote, try closing the book and paraphrase what the author said. You will still need to cite the source since the idea is not yours – but you won’t be plagiarism if you close the book.
Other Services

- LibGuides – over 40 subjects, 30 topics, and 20 classes.
- Interlibrary Loan – borrow resources. Shipped to HBU
- TexShare Card – use other library resources.
- OneSearch – search books, E-books, and articles.
- HBU Answers – ask questions/get answers
- LibChat – chat with librarians
- SMS Texting - 518-633-4687
- EasyBib app! Sign up at easybib.com from HBU computers.
- JIT – Just-in-time Service at the Reference Desk
- Detailed one-on-one research help (appointment)
Google Tips and Tricks

- Put phrases in “double quotes”
- Site: nasa.gov “New Horizon” (root URL)
- Using the tilde (~) before a word looks for synonyms.
- “Star Trek” OR “Star Wars” (will look for either). No “OR” looks for both.
- (“William Shatner” OR “Leonard Nimoy”) (“Mark Hamel” OR “Harrison Ford”)
- ”ancient rome” 500 BC...500 AD (range- dates, $)
- Use “-” (minus) to exclude a word (-buy =purchase)
- Filetype:pdf (or pptx, docx, etc.)
LibGuides is a huge asset for your academic work! The home page displays subject guides but if you click “By Type” you can see subject guides as well as specific topic or course guides.
Do you have questions? We have answers! Please ask!
Imagine the possibilities if you and God partnered together on your research. Ask Him to guide your steps and lead on you the straight and narrow path, free from clutter and junk, to find the resources you need.
I want to conclude by sharing that information is NOT trivial. It may perhaps be irrelevant to you personally. Dr. Werner Gitt, a Christian biologist tells a wonderful story in his book “In the Beginning was Information.” He says that every piece of information is intentional (from a teleological aspect). He says,

“It does not matter whether the originally intended purpose or a different one has been achieved. It should become clear from the following episode that even the information found on tombstones can have a far-reaching effect. Some years ago, A Ghanaian professor who visited Braunschweig to complete his doctorate in architecture told me about a cemetery near Accra. The crosses planted on the graves of the first Christian missionaries are still there, and it is clear from the inscribed dates that they succumbed from tropical diseases with a few days after their arrival. Superficially, if could be said that the efforts of those people were in vain. God ended their lives before they had a chance to proclaim one sentence of the gospel. And there were no visible results. Bit this Ghanaian friend said that he had been moved by the silent witnessing of those crosses to take a decisive step in faith. It became clear that God must have blessed those men with so much love that they went out without regard to their own safety to tell others of this love. It is clear that God’s way is often different from our expectations. What might appear futile in our time stream, is
fruitful and permanent in God’s kairos (life). The purpose of the missionaries was to win Africans for Christ, and after a long time somebody did fulfill this purpose. Now he witnesses for the gospel to many students in his mother tongue. In their hour of death, those missionaries could not have had an inkling that their purpose would eventually be realized."

I want to encourage you that your work and research matters. It can make a difference to your company or organization, a city, a state, a nation or a world. You may be forward-thinking that it may not be deemed important right now. Don’t quit! Be diligent! Do the work! Perserve!