This video is part of the Research Toolkit Series and we’ll show you how to use advanced search strategies to find just the right resources as you complete your research assignments.

So, what is a search strategy? A search strategy is a plan for translating your assignment, thesis statement or research question into a search string that can be entered in a catalog, library database, or search engine to retrieve relevant resources.

And just a quick review of these type of resources:

- A catalog is where you will go to find books and DVDs.
- You’ll go to library databases are where you will go to find electronic resources and these include encyclopedias, books, articles, and more.
- And then there are search engines. Most of you are familiar with and that is where you find your web-based resources.

So a search string is a group of keywords and/or phrases connected by Boolean operators. This may sound like a foreign language at this point, but the good news is by the end of this video you’ll have a sense of what these words mean, what the concept is, and how to employ these advanced search strategies.

So, I hate starting on a negative note but I am going to start on what is not a search string because this is the kind of thing we see at the library a lot...which are common mistakes people make when they are searching, researching for resources. So first and foremost a search string is not a complete sentence. It is not a question in the form of a fragment or a full sentence. A lot of people like typing questions into search boxes. It is a habit... you’ll learn new habits to replace that. A search string is not a group of words that include one or more prepositions. So small words...prepositions...so: for, in, by, with. Right?

A search string is not a group of words that include a group of words that includes one or more articles (so: the, a, an).

And definitely what a search string is not is your assignment instructions or question word for word. This is probably the most common thing that we see when people get really frustrated about not being able to find resources is people will just literally type in the question from their assignment or the assignment. Search tools are just not able to really handle that level of language. So let’s move on and talk about what is a search string and what our strategies will look like.

So we are going to talk about today when you have something specific. So you have something in hand, you’ve written your thesis statement or you have your research question or your assignment is in front of you and you are looking for something specific to tie into that assignment.

So, there are five steps. The first thing you want to do is have that language right in front of you. You want to extract the main concepts. Then you go through and create a list of synonyms and related concepts. Then you link synonyms and related concepts with OR. Then you link main concepts with AND. And, finally you utilize phrases and truncation. Again, if none of this means anything to you, don’t worry, we are going to step through this step by step.

So the first thing you need to do is extract main concepts. So what we are going to do is work with a thesis statement that reads:

“The United States government should provide comprehensive health services in all its prisons, because the number of mentally ill prisoners is
disproportionate to the number of persons suffering from mental illness in the
general population and providing these services would increase prison safety.”
So let’s break this down. In this thesis statement I’ve pulled out four main concepts. We have prisons, we have mental illness, we have safety, and we have the United States government. OK, let’s break this down a little bit further.

If you are not just looking at something and being able to pull the concepts out really quickly by yourself the first thing I would suggest is just going back and highlighting all of your nouns. So I’ve done that in red here. The next step is you go to those nouns and extend your highlighting so you are incorporating the entire concept. OK, so let’s look at the first one that we extended which is... was... services was the noun, but I’m now highlighting mental health services... so you have the type of services, so you have the entire concept. The next one that we extended was prisoners and we are incorporating the idea of mentally ill prisoners. So your whole concept is mentally ill prisoners. So you get the idea. And then finally what you are going to do, from that list, identify your main concepts. OK, so here we have the U.S. government, mental health services, prisons, mentally ill prisoners, mental illness, and prison safety. You’ll see that there is a lot of overlap here.

So finally what you are going to do is let’s see.... one, two, three, four, five, six concepts is then hopefully filter it down to three to four concepts. Three to four concepts is usually a manageable place to be and it also means that you have probably narrowed down your topic enough that you will have a good narrow topic for research purposes.

So here we are back to our main concepts: prisons, mental illness, safety, and the United States government. So we have our main concepts. Next we are going to create a list of synonyms and related concepts within each of the boxes or columns for each of those concepts.

So, for instance we started with prisons. Here are some synonyms: incarceration and correctional facilities. Concept two is mental illness. So here what we are going to do, actually, is instead of looking for synonyms, look for our related concepts from our thesis. So mental health treatment is the other side of mental illness, right? So we are going to include both of those and then we will have some synonyms for mental health treatment.

Safety, we have a couple of synonyms here and again we have the opposite of safety which is violence. So sometimes it is good to drop in the opposite, right? If you are wondering about, if mental illness is affecting safety in prisons, what does that do with the incidences of violence? That might be another route to go.

Concept four: United States Government. Right? So when we are talking about the government and how it works with certain policy issues we are usually talking about legal aspects of the law and we are also talking about funding. So we will drop those in and then maybe we’ll look at laws within the states as well. Once you have the synonyms and related concepts you are going to drop in the Boolean operator OR between the related concepts.

So, remember again we have concept one, concept two, concept three, and concept four. So we are always keeping those concepts together in columns and then within those columns we are finding the synonyms and related concepts and then connecting them with OR. So, for instance, if I search prisons OR incarceration it
would find all resources with either of those terms. So, if one article talked about prisons and another article talked about incarceration, it would retrieve both of those for me. And finally, you are going to link your main concepts, so concepts one, two, three and four, with AND.

OK, and sometimes as I said it might just be three concepts. Typically you will want to avoid moving beyond four concepts. And what the AND will do ... So let’s say we did a search: Prisons AND mental illness. That will retrieve articles that have both, that cover both of those concepts. So, instead of.... if you put OR .... prisons OR mental illness ... you would get articles with either of those terms. If you use AND you will get articles with both of those terms. So, actually, it is a way of narrowing your search.

OK, before we move on to our next step, I just want to define some terms. So, when we search there are two things we are going to use as our language. We are going to use keywords and we are going to use phrases.

Keywords are search terms that are expressed with a single word. Typically, but not always, they are a noun. So here is a list of examples...ah...you might want to think of some others as you are looking at this, but [keywords are] search terms that are expressed with a single word.

Phrases, on the other hand are search terms or concepts that require more than one word to express and there is some examples here as well. So, for instance, “capital punishment.” If you were to search a phrase or if you were to search without those quotation marks, and quotations is what distinguishes this as a phrase, your search engine or database will go out and search and find all resources with the word capital as well as all resources with the word punishment. What those quotation marks do is they hold those words together as a phrase, so you will only get results that have capital punishment, those words together as a single concept. So that is a way of really targeting and narrowing your search.

So let’s go through and we are going to enclose all of our phrases in quotation marks. This is pretty simple. Literally look for the search terms you have more than one word and put them in quotation marks.

So let’s just go through another definition here: truncation. So truncation indicates the root of a word and broadens your search. This is particularly useful for singular and plural and you will see the symbol you are going to use here is an asterisk (*). So let’s look at transport. If you put transport with an asterisk at the end (transport*) this will retrieve articles that have the word transport and any form that changes after that t, so transport, transports, transportation and transporting. This is a way of broadening your search; bringing back more results.

If you do rac*, that will return race, races, racial, and racist. OK, so remember, typically you will use the asterisk but in some databases you will use the question mark (?) ...but typically it is that asterisk and again, it is a way of broadening your search and getting more results; but more still relevant results.

OK, so we are going to go back to our chart and we are going to utilize truncation. So, prison. If we put the asterisk after the n (prison*) we can see prison, prisons, prisoner, prisoners, OK? You get the idea. And, instead of putting incarceration, we are going to put the asterisk after the t, so we have incarcerate, incarcerates, and incarceration. We will just drop this in, let’s look, oh counsel, if we
| 10:00 | put an asterisk there we get counsel, counselor, counsels, counselors...Ok, so you get the idea. Also, you can put that asterisk or that symbol that your database is using before, so if you put that before therapy, you could get psychotherapy, uh, and you get the idea.

OK, just to recap what we are doing with putting together this search string. First you extract the main concepts, then you create a list of synonyms and related concepts, then you link those synonyms and related concepts together with an OR, then you link the main concepts with an AND, and you utilize phrases and truncation. You put it all together and you have a search menu.

So this is something...and you know you can just draw this table in a notebook, and just remember the ORs and ANDs and the different steps...but anytime you do a search you can do this and also, as you continue, aw you are looking for resources and you start noticing different words, different synonyms, different related concepts, you can add them ... you can just start writing them right into your search table. So it is a great working document as you are doing your research. And, really think of this as a menu, so you’d never drop all of those terms into a search box, but you are going to mix and match. So you want to take, let’s say, prison, mental illness, and safety. Those are all concepts that are related and in your thesis statement. Or, prisons and mental health treatment and funding. Or prisons and counseling and funding.

So you’ll get the idea. You’ll start to mix and match and make sure you are connecting your synonyms and related concepts with ORs and your main concepts with ANDs. This is why there are two things that are really great to have in front of you when you are doing your research: 1) your thesis statement, research question, or assignment, and 2) a search table. They’ll both really help guide you through the research process and really cut out a lot of the frustration that people feel when they are doing this kind of work.

OK, so I am just going to show you three quick examples of what this would look like. We are going to start with the catalog, which is where we started looking for a book or a DVD, and you’ll see we are going to do a keyword search, and we are looking for mental illness as a phrase in those quotation marks and we are linking that concept with another main concept, so we are using the Boolean operator AND, and then we are going to do prison with truncation, so that asterisk mark. So we are going to get the phrase “mental illness” and prison* or prisoners or prisons. Right? And if you hit search you will get some returns here that are a book. Remember with books; keep your search rather broad, you don’t want to get too narrow. Books tend to have more broad focus.

All right, let’s see what a library database search would look like. We’ll search for an article. I would suggest, when searching for an article, now that you have these tools in place, go ahead and use your advanced search. You’ll notice that those Boolean operators are just dropped in for you, they are defaulted at AND, so what I do with an advanced search is I think about the search boxes as my table columns. So we have mental illness as a phrase, and prison with an asterisk, so prison truncated, and safe, with asterisk, so that will get safe and safety as well. So we have three main concepts, we are linking them with the AND. You’ll notice if you look down with search modes, I’ve changed this to Boolean Phrase. We have these advanced

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<td>techniques now; let’s make sure that the database is searching in the way that we are writing our requests. So we are going to change it to Boolean phrase, and you will also notice that I have full-text marked, uh, checked, which is important. Alright, so let’s go to the web and see what a web search would look like. So, many but not all of these concepts translate to Google. Things that do translate: phrase search works, ah, but truncation doesn’t work. Google does, uh, essentially searches for related words for you, so you don’t have to drop that in. So I’m going to look for mental health services as a phrase, and Google does not recognize the Boolean operator AND, so we’re not going to drop that in. So we will have “mental health services” and prisons without the Boolean operator, and then I’m going to do something else with Google; I’m going to do a top level domain search. So I’m going to say site colon dot gov (site:.gov). I am just going to look for .gov top-level domains, which means only government resources. I am interested in knowing what the United States government is doing, so why don’t I search just directly the United States government resources? So that is a way of limiting your search, and this can be translated, if you go to just educational sites, .edu, so if you just want to go to nonprofit sites, .org. .org doesn’t necessarily insure that you will get nonprofit sites, but it is a pretty good chance, OK? So you can really pretty much use your website to your advantage. For more information on searching books, articles, or for searching the web, we are working on this series and there will be videos forthcoming on all of those subjects. Just remember if you need help with research feel free to reach out to your librarian. You can call us, you can email us, you can chat with us on the library website, you can text us so always feel free to ask questions. We are happy to help you. Good luck on your research, happy searching!</td>
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