

Using the Literature to Research Your Problem

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The greatest part of a writer's time is spent in reading, in order to write; a man will turn over half a library to make one book.

—Samuel Johnson

Now that you have finished selecting and refining your research problem, it is time to determine how important your research problem is to others and what is already known about the problem. The way to do this is to search the literature to identify prior research about the problem.

One of the questions that might occur to you is, “Why do I need to know about what others think of the problem when I already know what I want to do with my study? Isn’t that just going backward?” Keep in mind the goal for your master’s thesis is to do research that yields answers to problems that have not been fully answered. If you can find an answer to your research problem in the literature, then it is not necessary to do all the work that is involved. Through the literature review, you will read what is known about your research problem and also learn who else shares your interest. Later, you may find it helpful to correspond with them as you progress in your research.

Although the literature review can be a time-consuming and arduous process, it is also one of the most important aspects of completing the master’s thesis. Once you become familiar with the tools and strategies available to you in conducting literature reviews, you will be knowledgeable and up-to-date with historical and current studies, learn new ideas, and have a better feeling about how your study fits into the existing research (Fraenkel, Wallen, & Hyun, 2015). How to actually write the literature review will be covered in Chapter 6 of this book.

Benefits of Conducting a Literature Review

There are several benefits of conducting a literature review. One major benefit is learning how important your research problem is and what is already known. This includes being familiar with the historical and seminal theories and research studies as well as the most recent cutting-edge studies. Once you are able to bridge the existing literature with your research topic, you enhance the credibility of your study and yourself as the researcher. The literature review shows that you are knowledgeable of the content related to your topic and can now apply it to new situations (McMillan, 2015). The knowledge base in disciplines such as social sciences and the humanities moves very quickly as researchers develop new theories and confirm or repudiate existing ones. Additionally, new interventions and processes are continually tested and supported through research studies. Thus, it is important for you to keep up with the research by subscribing to and reading professional journals and attending research conferences in your field so that your knowledge is not outdated.

Another benefit of conducting a literature review is to get new perspectives or ideas that you can incorporate into your study. This prevents you from having to reinvent the wheel. By reviewing the existing research related to your problem, you can learn from other researchers’ successes and mistakes (and try not to repeat them). This will make

the task of refining the research questions and methods much easier and should strengthen your study. This may also help you narrow further your research problem and focus or restate your research hypothesis (McMillan, 2015). For example, by examining a previous study's research questions, methodology, and results, you can determine what has worked and not worked with a particular sample group. If a particular intervention or process was successful with a sample group (e.g., adolescents) that is similar to yours, you may want to replicate part of or the entire study. Similarly, if a particular intervention or process was successful with a sample group (e.g., children) that is very different from yours, you may want to study whether or not the same results would be obtained with your sample group (e.g., adults). Sometimes you can find a validated measurement instrument or data analysis process in the *Methods* section that would be relevant to include in your study. A great place to look for the researcher's advice is in the *Limitations* section. In this section, the researcher usually discusses some of the problems that were encountered, mistakes that were made, and suggestions for how to improve the study.

Finally, conducting a literature review allows you to see how your study fits into the existing literature. Remember that one of the goals of your research will be to move the field forward and add to the current knowledge base. This means either adding to, extending, or building on previous research (McMillan, 2015). By reviewing the literature, you will be able to determine whether your study will fill a gap or need in the literature or will extend what is known about a specific topic. A great place to see how your study fits into the existing literature is to read the *Recommendations for Future Research* section in the studies. This section usually offers suggestions for how future studies can extend the current research and indicates the unanswered questions related to the topic. The citation reference section at the end of each article is also a treasure trove to find additional research that is relevant to your topic; you can follow an author's "arc" or line of research studies.

Meeting With a Reference Librarian

Before embarking on your literature review journey, the first thing you should do is make an appointment with a reference librarian at your institution's library. Besides your thesis chairperson, the reference librarian is the other most important person in helping complete your thesis! Plus all reference librarians must have a master's degree in library science, information studies, or library and information science, so they will be empathetic to your needs.

Because we live in the information age, meeting with a reference librarian is even more critical to cull through the vast amount of research that is not relevant to your topic. With easy access to Internet search engines, hundreds of electronic databases, and hundreds of thousands of research articles, it will be easy to become overwhelmed with information overload. The English-American poet Wystan Hugh Auden characterized it best with the following quote (which interestingly was written before the advent of the Internet).

The greatest problem of today is how to teach people to ignore the irrelevant, how to refuse to know things, before they are suffocated. For too many facts are as bad as none at all. —W. H. Auden

Often there are reference librarians assigned to different discipline areas (e.g., business, education, psychology), so it will be important to find out who is the librarian in your area. The reference librarian will be able to customize your search and give you a tutorial on how to use and log in to the library services at your institution, use basic research skills, access and select specific databases, and find research articles and books. Having an individualized research consultation with your reference librarian will save you many, many hours of time and frustration later on. Also remember that it is always better to log in to the university's online library (rather than open access) because the library has already paid the fees to subscribe to different databases; this will ensure that you have access to free resources (put your tuition dollars to work!).

Sources of Data: Primary Versus Secondary

Before you begin your literature review, it is important to distinguish between the different sources of data available in the literature. The two main sources of data are primary and secondary. Each serves a different purpose, but both are important to consider in your literature review. I discuss each type of data source briefly and how you might want to use each in your search.

Primary Sources

Primary sources are the actual or the original results of studies reported by researchers (i.e., firsthand information). These research articles are usually very detailed and include all the information about the study: research questions, sample, methodology and research design, data analysis and results, discussion, and conclusion. Primary sources are typically

published in professional journals in the form of articles or monographs but can also be papers presented at conferences. Basically, to identify a primary source, ask yourself whether the information comes directly from the person(s) who developed and conducted the research, similar to someone writing an autobiography.

Secondary Sources

Secondary sources describe or summarize the work of others (i.e., secondhand information). These sources are typically not as descriptive or comprehensive as primary sources. Secondary sources are typically published in research journals in the form of meta-analyses, literature syntheses, research reviews, or textbooks. You can also find secondary sources in reference materials. **Reference materials** are collections of information such as encyclopedias, handbooks, indexes, and dictionaries. Listed below are sample reference materials found in academic libraries. Make sure to check what reference materials are available through your library (this varies depending on which reference package the library buys).

- Multidisciplinary:
 - *Gale Virtual Reference Library*
 - *Oxford Reference*
 - *SAGE Knowledge*
- Business and Management:
 - *Encyclopedia of Business in Today's World*
 - *GMID: Global Market Information Database (Euromonitor)*
- Communications:
 - *Communication Yearbook 40*
 - *Oxford Bibliographies Online Research Guide*
 - *The SAGE Encyclopedia of Intercultural Competence*
- Education:
 - *Encyclopedia of Educational Philosophy and Theory*
 - *Gender and Education: An Encyclopedia*
 - *International Handbook of Survey Methodology*
 - *The SAGE Handbook of Research on Teacher Education*
- Philosophy:
 - *Concise Routledge Encyclopedia of Philosophy*
 - *Internet Encyclopedia of Philosophy*

- Sociology:
 - *The Blackwell Encyclopedia of Sociology*
 - *The Encyclopedia of Criminology and Criminal Justice*
 - *International Encyclopedia of the Social and Behavioral Sciences*
 - *The Oxford Handbook of American Immigration and Ethnicity*

In addition, secondary sources may appear in articles published in newspapers and magazines. When identifying secondary sources, ask yourself whether the information comes from a source other than the work of the original researcher. If it comes from someone who is describing the research of others, then it is a secondary source (like a biography). Secondary sources help you identify primary sources and illustrate the value placed on the primary sources.

There are advantages of reviewing both types of data sources. Secondary sources are probably the best place to start your research because they give you a broad overview of the information related to your topic, and they offer a wide range of materials to explore. Searching through secondary sources may also help you refine your research problem and questions (Fraenkel, Wallen, & Hyun, 2015). Starting with secondary sources is also a good way to immerse yourself in the literature (without drowning) because the articles or summaries are typically short and easy to read, so you will not be bogged down with too much specific information. They will give you leads on some specific research articles related to your topic.

Keep in mind you will still need to locate primary sources to write Chapter Two, Literature Review of the thesis. The primary sources give you a full depiction of the research study, and you can synthesize the data as they relate to your specific research topic and questions. In addition, by making your own analysis, you can avoid the possibility of relying on someone else's erroneous interpretations of the results. Thus, you should use the secondary sources to help you identify critical primary sources or other secondary sources related to the research topic.

Selecting Keywords

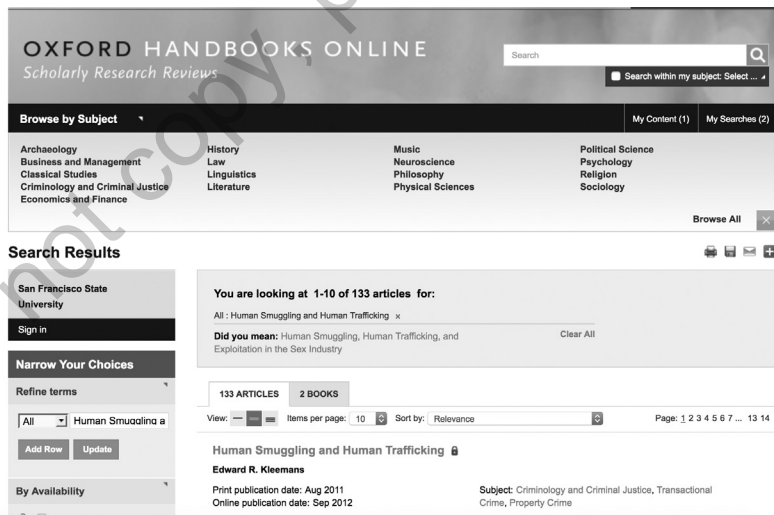
A comprehensive review of secondary sources will also help you find primary sources through the use of keywords. **Keywords** are typically two to three words or short phrases that are fundamental to the research topic, problem, or questions and are used to refine the search process. Selecting appropriate keywords early in the search process will save you a lot of time and frustration later on. A good strategy is to use the words or phrases that

are commonly used in the current literature related to the specific topic (Creswell & Poth, 2018).

For example, my research topic involves immigration and human trafficking, so I start my search in the reference *The Oxford Handbook of American Immigration and Ethnicity* (Bayor, 2016). Some of the listed keywords in *The Oxford Handbook of American Immigration and Ethnicity* are immigration, ethnicity, race, panethnicity, assimilation, transnationalism, and nativism. However, not all these would be good keywords for my research study because they are not all centrally related to the topic. Some keywords related to my topic are “human smuggling and human trafficking,” which I type in the search box (see Figure 3.1 for a quick search for articles).

With this quick search, I retrieve 113 articles and 2 books. If I want to further refine my search for the specific group I am interested in, I can add “refugee minors” as keywords in the search (see Figure 3.2 for refined search). Now I retrieve 17 articles that will give me a general context and gist of my research topic and some background information that I will need to write Chapter One, Introduction of the thesis. These articles will be more closely related to my research topic, and at the end of each article, I have a list of citations for primary sources that I can use for my literature review.

Figure 3.1 Quick search in *The Oxford Handbook of American Immigration and Ethnicity*.



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Figure 3.2 Refined search in *The Oxford Handbook of American Immigration and Ethnicity*.

Search Results

San Francisco State University
Sign In

Narrow Your Choices

Refine terms

All Human Smuggling and Human Trafficking
and or not
All refugee minors

Add Row Update

By Availability

Unlocked
Free
Restricted

Submit

You are looking at 1-10 of 17 articles for:
All: Human Smuggling and Human Trafficking x All: refugee minors x
Clear All

View: Items per page: 10 Sort by: Relevance Page: 1 2

Human Smuggling and Human Trafficking
Edward R. Kleemans
Print publication date: Aug 2011
Online publication date: Sep 2012
Subject: Criminology and Criminal Justice, Transactional Crime, Property Crime
...example on true political refugees, travel conditions, and prices. Law enforcement operations may target the part of the smuggling business that is dominated by criminal groups, large volumes, and bad travel conditions. In contrast, the basic characteristics of human trafficking are exploitation and the violation of human rights. Particularly in human trafficking for sexual exploitation, types of victims and types of traffickers involved differ substantially from those involved in human smuggling, and human rights violations of women, boys, and girls are far more severe...

Human Smuggling, Human Trafficking, and Exploitation in the Sex Industry
Edward R. Kleemans and Monika Smit
Print publication date: Oct 2014
Subject: Criminology and Criminal Justice, Organized Crime

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Conducting Searches in Electronic Databases

One of the best places to research the literature is in electronic databases. Electronic databases are storage banks of thousands of books, articles, reports, presentations, and so on. The major benefits of an electronic database are that you can set limits on your search such as dates, language, and type of resource, and search using different descriptors. The database can be multidisciplinary or related to a specific field/discipline.

There are many multidisciplinary databases. A **multidisciplinary database** is an electronic database that covers numerous subjects rather than just one specific field/discipline. These are important databases to search through if your particular field/discipline does not have a specific database or if your research problem is related to several different fields. Some of the common multidisciplinary databases—Google Scholar, JSTOR, Academic OneFile, ProQuest Central, Academic Search Complete, and Academic Search Premier—include articles, citations, and abstracts across subjects. Another multidisciplinary database is the Dissertation Abstracts International database. This will give you access to doctoral dissertations and master's theses across disciplines from various universities and colleges. Although you can view the citations and abstracts for free, there is often a nominal fee to obtain a full copy of a dissertation or thesis.

One advantage of these multidisciplinary databases is they frequently offer the articles in full-text format. **Full-text** is when the entire resource is

available either in a printable webpage format or a PDF format. The **PDF** format is a full-text electronic “picture” of a document and resembles how a research article actually looks in the journal. This often saves you time from searching other databases for the resource or taking a trip to the library to locate the hard copy. Here is an important tip for searching in full-text databases: If you have a choice between selecting the printable webpage format or PDF format, always select the PDF format because with the PDF format, you have the article’s page numbers (e.g., 534–552) from the journal. Thus, you will be able to provide specific page numbers for APA style citations if you are selecting quotations from the article (see Chapter 10 for APA style). There are also many electronic databases available for specific fields or disciplines. Two very popular databases mentioned in Chapter Two were PsycINFO for psychology and ERIC for education. ERIC is one of the largest databases in education and is free to the public through the U.S. Department of Education. If you use the ERIC database through the U.S. Department of Education website (<http://eric.ed.gov>), the interface may be different from the one you will find at your institution’s library because of the different commercial vendors that license databases to libraries.

Listed below are sample subject databases found in academic libraries (make sure you check to see what databases are available through your library).

- Business:
 - *ABI/Inform Collection*
 - *Business Source Complete*
 - *Key Business Ratios*
 - *Mergent Online*
 - *Standard and Poor’s NetAdvantage*
- Communication:
 - *Communication and Mass Media Complete*
 - *GenderWatch*
 - *Linguistics and Language Behavior Abstracts*
 - *Sociological Abstracts*
- Education:
 - *Educational Administration Abstracts*
 - *Education Database*
 - *Education Full Text*
 - *Education Research Complete*
 - *ERIC*
 - *PsycINFO*

- Ethnic Studies:
 - *Bibliography of Native North Americans*
 - *Black Thought and Culture*
 - *Ethnic NewsWatch*
 - *HAPI Online*
 - *Humanities Full Text*
 - *International Index to Black Periodicals Full Text*
- History:
 - *America: History and Life*
 - *Historical Abstracts*
 - *International Medieval Bibliography*
 - *JSTOR*
 - *Middle Eastern and Central Asian Studies*
- Law/Political Science:
 - *CQ Researcher*
 - *Criminal Justice Database*
 - *Nexis Uni*
 - *Westlaw*
 - *Worldwide Political Science Abstracts*
- Nursing and Health Education:
 - *CINAHL Plus With Full Text*
 - *Cochrane Library*
 - *Human Nutrition*
 - *PubMed*
 - *Web of Science*
- Psychology:
 - *JSTOR*
 - *Mental Measurements Yearbook With Tests in Print*
 - *PILOTS: Published International Literature on Traumatic Stress*
 - *PsycARTICLES*
 - *PsycEXTRA*
 - *PsycINFO*
- Sociology:
 - *Family & Society Studies Worldwide*
 - *JSTOR*

- *LGBT Life With Full Text*
- *Social Explorer*
- *Social Services Abstracts*
- *Social Work Abstracts*
- *Sociological Abstracts*
- *Urban Studies Abstracts*
- *Women and Social Movements in the United States*

Although each database's search formats are slightly different, they all share common search tools and features that make it easy to navigate and switch from one database to another. In some cases, your institution's library may subscribe to a discovery service (e.g., OneSearch, EBSCOhost, ProQuest). A discovery service searches within the institution's entire library collection (e.g., books, journal articles, full-text) from a single find field. This makes library searches very fast and easy, because it is similar to using a search engine on the Internet (e.g., Google Scholar). To show you how to conduct a basic and advanced search on an electronic database, I use Academic Search Complete as an example since it is multidisciplinary and has a similar interface with other databases.

Basic Search

Electronic databases such as Academic Search Complete are large and hold thousands of records; the key to success is being able to narrow the search so that you find the resources most relevant to your research problem. With that in mind, it is critical for you to start with at least five to 10 keywords that are related to your research question or problem (other keywords will be generated during your search). For example, for my research topic above, some of the keywords could include refugees, refugee camps, unaccompanied minors, immigrants, immigration, human trafficking, human smuggling, and so on. These are the keywords that you would type into the "find field" box and then click the "search" button (see Figure 3.3 for the basic search screen). The basic search option also allows you to limit or expand your search. I will briefly explain each of these features.

Search Modes

In Academic Search Complete, there are four different ways to conduct your search.

Boolean operators are used in electronic databases and other search engines to define the relationships between keywords or phrases. Besides being a really cool word, Booleans allow you broaden or narrow your search.

Figure 3.3 Basic search screen in Academic Search Complete.

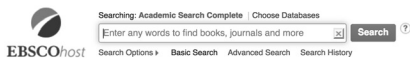
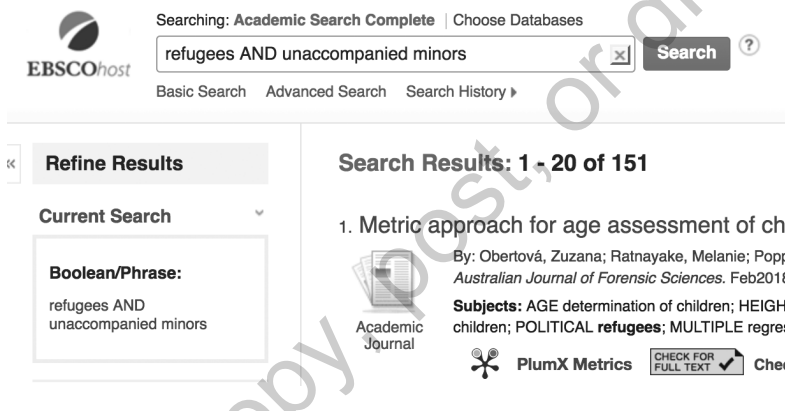


Figure 3.4 Basic search using AND Boolean operator in Academic Search Complete.



Three Boolean operators will be critical for your search: AND, NOT, and OR. The AND Boolean operator combines two or more terms so that each record contains all the terms. For example, I could search for the terms “refugees” AND “unaccompanied minors” (see Figure 3.4 for basic search using AND Boolean operator). This would provide me with records where both “refugees” and “unaccompanied minors” are present. In essence, using AND between keywords or phrases *narrows* my search because it does not include records that have only one or the other. The NOT Boolean operator searches terms so that records with certain terms are excluded from the results. This would be another way to narrow the search. For example, if I search using the terms “family-based immigration” NOT “immigration policy,” my results would contain records where only “family-based immigration” is present but not “immigration policy” (see Figure 3.5 for basic search using NOT Boolean operator). The OR Boolean operator searches

terms so that at least one of the terms is present in the record. For example, if I search using the terms “human smuggling” OR “human trafficking,” my results would contain records where either “human smuggling” or “human trafficking” are present (see Figure 3.6 for basic search using OR Boolean operator). In essence, using OR between keywords or phrases *broadens* my search because it retrieves records containing any of the terms included. If you are using both terms AND and OR in a search, the AND will take precedent over the OR.

Figure 3.5 Basic search using NOT Boolean operator in Academic Search Complete.

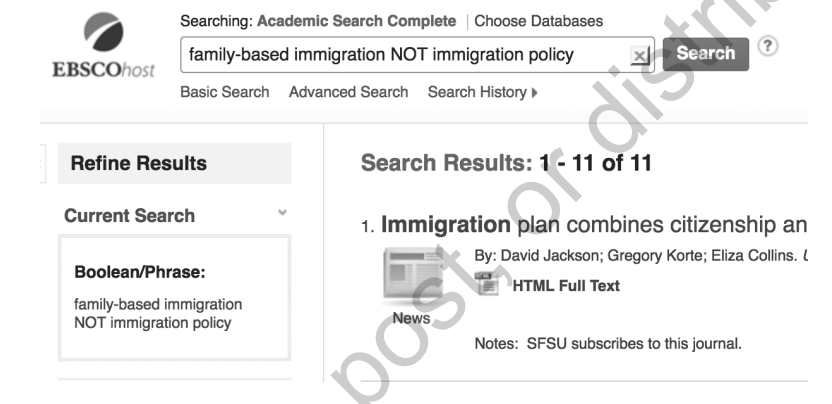
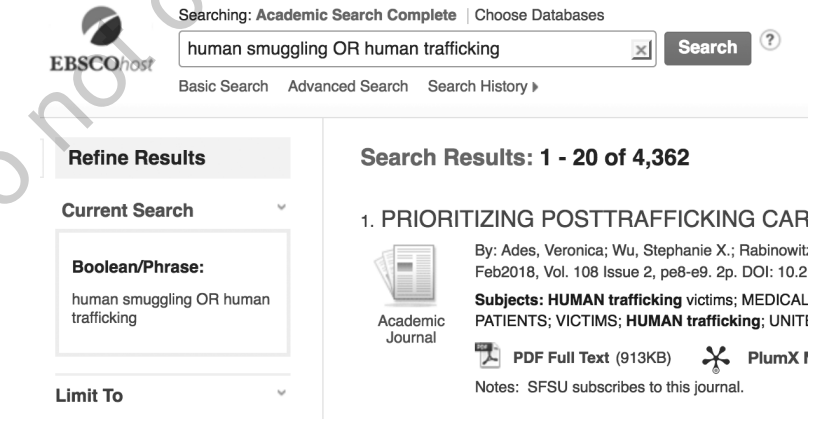


Figure 3.6 Basic search using OR Boolean operator in Academic Search Complete.



When using Boolean operators with a phrase, it is important to enclose the entire phrase within quotation marks; this will ensure the search includes all the terms and in that specific order rather than searching each word individually. In some databases, the Boolean operators have to be in capital letters, so to be on the safe side, make it a habit to type them in capital letters. If you want to be super fancy and have a decent understanding of algebra, you can also combine the Boolean operators using parentheses to nest terms within other terms. For example, you can search ((human smuggling OR human trafficking) AND immigrants) OR unaccompanied minors—in this case, the search engine will search the expression inside the parentheses first and then add on the terms outside of the parentheses and so on. If you did not understand order of operations when learning algebra, now isn't the best time to master it!

The search mode, “Find all of my search terms” is similar to using the AND Boolean, and the “Find any of my search terms” is like using the OR Boolean between the terms.

The fourth search mode in Academic Search Complete is SmartText Searching. In the SmartText searching mode, you can type in any amount of text or cut and paste from another source. The SmartText will magically summarize the text and match it with the most relevant search terms to find the results. I have to admit this one is pretty cool, but it's not available in all databases. You can combine any of these search modes with the limiters and expanders described below.

Limiters

If I want to narrow my search, I would use the limiters features. The **limiters feature** narrows an electronic search by allowing the user to set specific limits, so the search results will only contain research with the chosen specific criteria. For example, in Academic Search Complete, you can set the following limits:

- full-text: only retrieves records that have a link to the full-text copy of the article or document (be careful with this limit because you may miss important references that are not available through one database)
- scholarly (peer-reviewed) journals: only retrieve articles from journals that have a peer-review selection process
- publication: can specify the name of the publication (e.g., title of a book)
- number of pages: limits to the number of specified pages
- references available: only retrieves records that have a list of references from the publication

- published date: can specify the time period with beginning month and/or year to ending month and/or year
- publication type: can specify the type of publication (e.g., article, book chapter, report)
- image quick view or image quick view type: contains results with specific types of image quick view (e.g., chart, color photograph, graph map)

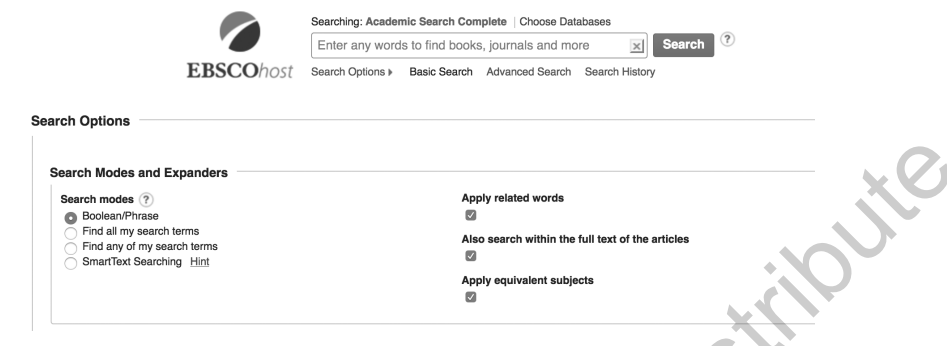
Because of the huge quantity of records, setting limits is a very critical step in narrowing your search. However, you have to be careful not to set too many limits at the beginning of the search because you may not get enough records or you may miss some critical records. A good strategy is to start with a few critical limits and then set more limits as needed. For example, in my search, I am going to set the limits for full-text, scholarly journal, references available, published dates from 2013 to 2018, and only periodicals (see 3.7 for limiters feature in basic search).

Expanders

If I wanted to expand or broaden my search, I would use the expanders feature. The **expanders feature** is the opposite of the limiters feature and broadens an electronic search by allowing the user to search using words related to the key words (see Figure 3.8 for expanders feature in basic search). Two common expanders are “apply related words” and “also search

Figure 3.7 Limiters feature in basic search for Academic Search Complete.

Figure 3.8 Expanders feature in basic search for Academic Search Complete.



within the full text of the articles.” For “apply related words,” the results expand to include true synonyms and plurals of your keywords. For “also search within the full text of the articles,” the results expand to include keywords that are found in the full text, abstract, and citations of the article.”

Another expander feature in this database is “apply equivalent subjects.” This is not to be confused with subjects (e.g., sample group) within a particular study. Instead, “apply equivalent subjects” refers to mapped vocabulary terms that are used to identify concepts used in subject indexing. Think about how subject indexes are organized at the back of most textbooks. By using this feature, it will increase the precision and relevance ranking of your keyword search. For example, let’s say the user searches using keywords “workplace injury” because that’s a popular term that is used in the industry. These keywords are related to the concept of “work-related injuries.” However, as the user, you would not know how the concept of “work-related injuries” is mapped to subject-indexed concepts in different vocabularies. Different databases could map “work-related injuries” with “occupational injuries,” or “occupational-related injuries.” If you did not use the expander feature here, you would miss those records subject-indexed with this concept from other databases. Basically, when you turn this expander on, when your keywords match a known concept, the search will be expanded to include the exact terms for that concept in the mapped vocabularies. If I have only added to your confusion, my suggestion is that if your results seem too narrow or a bit “off” from the gist of what you are looking for, turn on this expander feature (it won’t hurt and it may help!).

Advanced Search

Although a basic search is a good starting point, conducting an advanced search offers several features for a more refined and precise search. This is really helpful when you want to focus and narrow in on your specific research topic. For example, in the advanced search, you can set the following additional limits:

- document type: can specify the type of document (e.g., abstract, article, book chapter, report)
- language: can specify the written language (e.g., English, Chinese, Spanish)
- cover story: contains only articles that were featured as a cover story
- PDF full text: contains only articles that are available in full text

The advanced search also gives you the option to refine the search with the “select a field” from a drop-down menu. Some of the options are by “all text, author, title, subject terms” and so forth. By selecting the “subject terms” option, this will make my search more accurate than an “all text” search because the subject terms are assigned by the database and are included in its thesaurus (see below for a detailed explanation).

Using Subject Terms (Thesaurus)

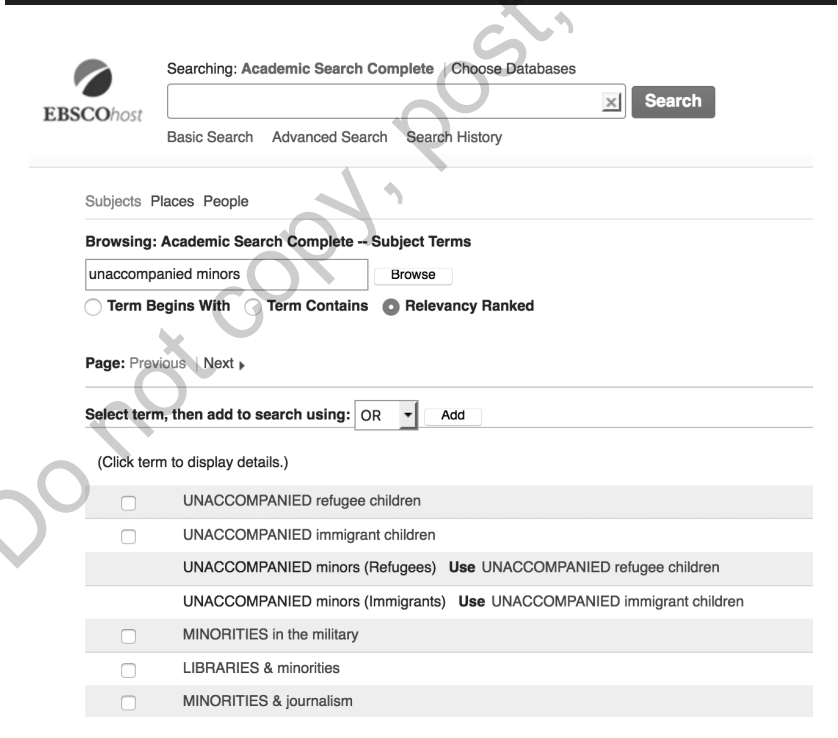
Unfortunately, you can search electronic databases for hours typing in keywords and phrases that you think are most appropriate to your research question and come up with “no results were found” or hundreds of irrelevant records. That is when you want to pull out your hair or change your research topic! The problem is we tend to use our everyday language when conducting searches while the database uses its own language to catalog the resources. However, there is still hope by browsing through the database’s thesaurus. The **thesaurus** contains alphabetized **descriptors** (i.e., subject terms) that are used in the electronic database to give every record a subject indexing term (i.e., controlled vocabulary). By finding out the exact two to three words used by the database to tag records for different concepts, you make your searches more efficient by taking out the guesswork of which keywords to use. The most well-known use of controlled vocabulary is the Library of Congress Subject Headings. A simpler example is how subjects were listed in the phone book yellow pages (you may be using one as a footrest right now). If I need to fix my car, should I look up car repair, auto repair, mechanic, automotive repair auto service, automobile restoration, motor rehabilitation . . . ; wouldn’t it be nice to know the one term that

the yellow pages used when they created the listings? That is exactly how the database thesaurus works! By using the correct subject term from the thesaurus, I increase the chance of retrieving relevant articles for my search.

For example, I use the phrase “unaccompanied minors” but when I searched the subject terms, the database uses “unaccompanied immigrant children” or “unaccompanied refugee children” to refer to the same population. By using the **relevancy ranked** option, the subject terms are displayed in hierarchical order from most to least relevant, which helps prioritize my search process (see Figure 3.9 for search subject term using relevancy ranked). Now I can use these subject terms for my searches that will give me more accurate records; I can spend those hours I would have spent pulling out my hair actually reading the articles!

Once I have a reasonable number of records, I usually do a cursory review of the titles and authors and either add them to my folder for a more detailed review later or click on the title to get more information about the record. The detailed record screen gives me very critical information

Figure 3.9 Subject term search using relevancy ranked in Academic Search Complete.



about the record: the title, authors, source (journal, volume, issue, and page numbers), subject terms, and abstract (see Figure 3.10 for sample record screen for a journal article). In addition, the record tells me whether or not the full-text article (PDF) is available. With the PDF full-text choice, I can download, view and/or print the article, save it to Google Drive, or e-mail it to another account. When doing searches, it is very easy to get lost in the process. Most library search interfaces allow you to keep a record of your search, save records to your computer, or e-mail searches and records to another computer; this keeps you from researching with the same keywords or losing precious findings. I highly recommend that you add relevant results to your folder as you find them. This way, you can have a record of your results and will be able to print, e-mail, or retrieve them later.

You can also get a full citation in the style that you need (e.g., APA, MLA) and export it to a citation management software. Citation management software is a tool that allows you to collect citations from various sources, organizes them, and then compiles them into a list of cited works or bibliography. Instead of going back at the end of your thesis to track down all the sources, the citation management software will help you manage this bibliographical information while you are researching and writing. This is such a gift to students and will save you hours and hours of trying to put together a reference lists (by hand!) like we old-timers had to do when we wrote our master's thesis. There are many different software programs available (e.g. CITAVI, Easybib, EndNote, Mendeley, ReadCube, RefWorks, Reference Manager, Zotero) and you can select the style guide that is needed

Figure 3.10 Sample record screen for journal article in Academic Search Complete.

The screenshot displays the EBSCO Academic Search Complete interface. At the top, the search criteria are shown: "unaccompanied immigrant children" and "unaccompanied refugee children" connected by an OR operator. The search results list shows one result with the title "Providing culturally safe care in the best interests of unaccompanied humanitarian minors." The authors listed are Miller, Keith¹, Hitzing, Carol², and Bowden, Margaret³. The source is identified as "Journal of Family Studies, Dec2013, Vol. 19 Issue 3, p276-294, 9p." The interface includes various tool options on the right side such as Google Drive, Add to folder, Print, Email, Save, Cite, Export, Create Note, Permalink, and Share. The abstract at the bottom reads: "Background: The increasing number of unaccompanied humanitarian minors in Australia demands research into their best interests of the child." The keywords listed are "carers", "culturally safe care", and "unaccompanied humanitarian minors".

(e.g., APA, MLA, Chicago). I list a website at the end of this chapter to help you decide which would be the most appropriate for your use, but four popular ones used by graduate students are EndNote, Mendeley, RefWorks, and Zotero. Check with your institution's library because they often have a license to citation management software, which would allow you to use the service for free.

As you are researching, it might also be a good idea to keep a notebook handy to note authors who have written a few articles related to your research problem (in case you want to contact them for more information) or articles that you may need to search for in other databases, on the Internet, in the library's catalog, or order through interlibrary loan. **Interlibrary loan** is a service provided by libraries whereby a user of one library can borrow books or acquire photocopies of articles in journals that are owned by another library (sometimes there is a fee involved).

Conducting Searches on the Internet

Conducting searches on the Internet offers advantages and disadvantages over conducting searches on electronic databases. The search process is similar to the electronic database in that once you type in a keyword the search engine will find websites and webpages that are related to your keyword. Some advantages of the Internet search are that it is fast, easy, and accessible anytime. In addition, the information is relatively current, and you will get a wide variety of resources. One disadvantage of the Internet search is that since you have so much information and it is not well organized, it may be more time-consuming and difficult to find relevant information. To be both effective and efficient in searching the Internet, you must develop rather sophisticated search techniques. An additional disadvantage is that the information may not be of high quality or reliable (Creswell & Poth, 2018; Fraenkel, Wallen, & Hyun, 2015; Mertler & Charles, 2010). For example, often there is no author listed on the website, so it is unclear whether or not the article was written by an expert in the field. Additionally, there is no way to check whether or not the article was externally reviewed. However, sometimes the Internet is the easiest or the only way to retrieve citations that are available through the library. Again, Google Scholar will probably be the most useful search engine to use for research. Typically, I use the Internet search engines only when I am looking for a specific reference. If you do retrieve information or documents from the Internet, keep a record of the website or webpage address and the date that you retrieved the information. You will need these for APA style citations and references (see Chapter 10 for APA style).

There are also several free websites that are easy to use, have a large collection of research documents (some charge a fee to access the articles), and are organized by subject areas. Some popular websites for research are IngentaConnect (<http://www.ingentaconnect.com>) and Directory of Open Access Journals (<https://doaj.org/>). These would be particularly helpful at the beginning of a search or if you do not have access to electronic databases. There is more information about open access databases in the *Resources* section. You may also find LibGuides on the Internet to help you with your research. LibGuides are compilations of recommended resources (e.g., databases, journals, webpages) in a particular area of study. To find a relevant LibGuide, type in “keyword + LibGuide” in the search engine’s find field. These subject guides are created by librarians, so you know they will be amazing!

Different Types of Articles

As you continue your search in electronic databases or through the Internet, you will encounter different types of articles. This includes theoretical articles, empirical research studies, position papers, literature syntheses, and meta-analyses. A **literature synthesis** (also referred to as a research synthesis) is a type of article in which the results of several related studies are compared and summarized. A **meta-analysis** research study is one in which the results of several related studies are analyzed and reported with statistical measures (e.g., effect sizes). Each of the different types of articles serves a different purpose. For example, if I were looking for a theoretical rationale or basis for my research study, then I would want to search for articles that discuss an existing theory or suggest a new theory. If I want to review research that is based on systematic observation, I would search for empirical research studies (very critical for writing Chapter Two of your thesis). If I want an article that gives a broad overview or synthesis in a particular area such as “reading strategies,” I would search for a meta-analysis or literature synthesis on that specific subject. Finally, if I want support for a particular position or to quote an expert’s opinion on a particular topic, I would search for position and/or opinion papers.

Refereed Versus Non-Refereed

As a consumer (in this case of research), you always want to make sure that you get the best quality. Thus, when deciding on which research articles to include in your thesis and particularly the literature review, it is important to keep in mind that like most consumer products there is a hierarchy of quality involved. A natural tendency is to assume that

if something has been printed in a journal or published on a website, the article is of high quality. Unfortunately, this is not always the case. In research, the main stamp of quality is refereed. A **refereed** (also referred to as peer-reviewed) article has been submitted for external review by a panel of reviewers before being accepted for publication. This means that when author(s) send in their manuscripts, the manuscripts are reviewed by the journal's editor as well as other experts in the field. Often, the reviewers are blind to the identity of the author(s) of the manuscript, which reduces the chance of bias. This panel then decides whether the manuscript should be accepted, accepted with revisions, or rejected for publication in the journal (Creswell & Poht, 2018; McMillan, 2015). Because the acceptance rate for most refereed journals is typically below 50%, this process ensures that only the most rigorous and high-quality research is accepted for publication. A **non-refereed** article is one that did not go through an external review process before being published. With that in mind, it is best for you to search in research journals that use a refereed review process (most databases will allow you to set this as a limit). Be wary of online journals where the author has to pay a publishing fee to have their article published on the site! These predatory journals typically do not have a rigorous peer-review process. This can be a real danger when searching for articles through the Internet because there are over 10,000 of these "pay to publish" online journals (they may also show up in Google Scholar results).

Staying Organized

One of the most important strategies during the literature search process is to stay organized. After all, you may end up with 40 or 50 articles, books, and documents by the time you are done searching. This means keeping track of your search records, saving, printing, or e-mailing relevant records, and also creating an organizational system. Some of you may want to have a physical organizational system while others will subscribe to a citation management software program. It really is a personal preference—as long as you have a system to keep you organized! If you file alphabetically by the author's last name, this will be an easy way to retrieve the articles (as long as you can remember who wrote which article). You can also file the articles by date of publication if you are interested in a chronological or historical analysis. Finally, you can group the articles by themes and/or conceptual categories based on specific common attributes (e.g., topic, sample, intervention, methods). I prefer this method because it helps me conceptually organize the body of literature and will help facilitate the writing process later on. Remember that if the article or information comes from an electronic source (i.e., website), you need to record the website address and in

some cases the date that you retrieved the information from the Internet (keep a log).

After you have selected your method for physical organization, it is time to organize the information within the articles. Rarely will you find an article that is completely relevant to your research problem or study. More often, you will use specific parts from different articles to support your ideas. Pulling together the studies in a literature review is very much like putting together a complex puzzle (with some missing pieces). Thus, how you organize the information within the studies is very important. You need to have a system that is not only efficient in terms of recording critical information but also easy to access for retrieval purposes. One method that I find helpful is using different color highlighters (old school, I know) as I read to code different types of information (e.g., yellow = problems, green = possible solutions, orange = background information, pink = definitions). There are also computer software and applications that have this capability if you are more comfortable reading documents and editing on a computer screen.

One method of organizing the information within the articles is abstracting. **Abstracting** is a method of organizing information about an article that includes a brief summary and selected critical information about the study (Creswell & Creswell, 2018). This is different from copying and pasting the author's abstract, which does not always include the most critical information about the study (from your perspective). The summary should be brief and does not have to be in complete narrative form. However, the abstract should contain the following components: the problem, the purpose of the study, the sample, and key results. Once you have abstracted the studies in your collection, it will be much easier to see the *relationships* between them. This is a critical step in the organization process because ultimately, in writing the literature review, you will need to make the explicit connections between the studies that you select and how they relate to your proposed study.

To help you find the relationships and connections between the studies, you can also create a literature review matrix. A **literature review matrix** is an organizational tool such as a table, chart, or flow chart to display the relationship or common attributes among multiple studies. The purpose is to show the relationships between the studies, so use the format that is best for you. For example, for a study dealing with "reading instruction," I may want to group all the studies related to reading instruction for bilingual learners together. Then, another group would be the studies of reading instruction for students with learning disabilities. Next, a third group would be studies of reading instruction for students who are bilingual learners and have learning difficulties, and so on. By grouping the studies together into subgroups, this will allow you to see if you have overlaps or gaps in your pool of studies (which may require you to conduct another search).

I realize that this may seem like a lot of hard work (and it is), but believe me, it will save you time later. This process will also make it easier for you to organize your thoughts about the research problem, conceptualize your research questions and study, and write the literature review in the thesis. There are websites with samples of a literature review matrix in the *Resources* section.

SUMMARY

Researching the literature related to your research problem is a giant step in the thesis process. As you immerse yourself in the literature, you will be inundated with resources, so be very critical and selective, keeping only those directly related to your research problem. In the next chapter, I discuss the ethics of conducting research and how to prepare a research study application for review by the Institutional Review Board (IRB). Here is a summary of the most critical points from Chapter 3:

- The major benefits of conducting a literature review are to know the research that has already been done that relates to your proposed study, learn from other researchers' successes and mistakes, and determine whether or not your study will fill a gap or need in the literature or extend what is known about a specific topic.
- Primary sources are the actual or the original results of studies reported by the researcher(s) (i.e., firsthand information).
- Secondary sources describe or summarize the work of others (i.e., secondhand information).
- Keywords are typically two to three words or short phrases that are fundamental to the research topic, problem, or questions.
- The major benefits of an electronic database are that you can search using multiple keywords and set limits on your search such as full-text, dates, peer-reviewed, and so on.
- Electronic databases and other search engines often use Boolean operators AND, NOT, and OR to define the relationships between words or groups of words.
- The thesaurus contains alphabetized descriptors (i.e., subject terms) that are used in the electronic database to give every record a subject indexing term (i.e., controlled vocabulary).

- Disadvantages of an Internet search include that it may be more time-consuming and difficult to find relevant information or the information may not be of high quality or reliable.
- The term *refereed* refers to a quality-control process that includes an external review of the research manuscript.
- One popular method of organizing the information within the articles is abstracting, that is, writing a brief summary about the article (usually a research study) that includes selected critical information.

RESOURCES

Common Obstacles and Practical Solutions

1. Since we live in a world of information overload, a common problem that students face at this stage is feeling overwhelmed and not knowing where to start looking for research. Words that come to mind are “Lost in cyberspace.” If you have a general sense of your topic and are familiar with the Internet, Google Scholar would be a good place to start. If you have a focused sense of your research topic, I recommend searching within electronic databases that are multidisciplinary or specific to your field/discipline. If you feel completely lost in cyberspace, I recommend setting up an appointment with the reference librarian at your institution to help you get started. Remember that the search for research articles is like a treasure hunt; it is time-consuming and continual (finding one source usually leads to another).
2. Once you find the research articles, a common obstacle that students face is organizing them all. Words that come to mind are “My room is covered in research articles!” From the very beginning, it is really important to set up an organization system and stick to it (everything should have a home). Set up a filing system or subscribe to a citation management software program that you are comfortable with (not piles on the floor) and start categorizing your research articles either with hard copies or electronically (keep a backup). This will cut down the time later when you need to refer to a specific article or need to find missing references.

Reflection/Discussion Questions

As you begin to find research articles, it is important to consider how and why you are conducting the literature review and the types of sources that you will rely on. For example, the research literature can help identify existing gaps and weaknesses around a specific topic. In other cases, the research literature can be used to rationalize or justify using different components in an intervention.

The following reflection/discussion questions will help you determine how you want to approach the literature review and the advantages and disadvantages of different types of sources.

1. What is a literature review, and why is it an important part of the research process?
2. What are the major benefits of conducting a literature review before planning and implementing the study?
3. What are the differences between primary and secondary sources? What are the advantages and disadvantages of using each type of source? Brainstorm and list critical primary and secondary sources in your field or discipline.

Try It Exercises

The intent of the following exercises is to help you get started with your literature search. In Activity One, you will identify potential databases and websites where you can find research or information related to your field or discipline area. In Activity Two, you will use keywords and an advanced search to find empirically based research articles. In Activity Three, you will write a short abstract based on one of the research articles.

1. Activity One: For this activity, focus on the resources specific to your field or discipline area.
 - Through your institution's library, locate at least five electronic databases that have information related to your field or discipline area.
 - Through an Internet search engine, locate at least five organization-sponsored or open sources websites that have information related to your field or discipline area.
 - Through an Internet search engine, locate at least three national or state-sponsored (e.g., U.S. Department of Education) websites that have information related to your field or discipline area.
2. Activity Two: For this activity, focus on your chosen research problem as you conduct a literature search.
 - List 10 keywords that can be used for your literature search. You should use the thesaurus to help you find the subject terms.
 - Conduct an advanced search (using limits, expanders, and Boolean operators) in one of the electronic databases from

Activity One. Remember to keep track of the keywords and your search record.

- Select five empirically based research articles related to your research problem (make sure they come from refereed journals).
3. Activity Three: For this activity, focus on one of the selected research articles in Activity Two.
- Write an abstract for one of the research articles that includes the following information about the study: (a) research problem/question, (b) research design, (c) methods (e.g., sample group, intervention, measurement instruments, data collection, data analysis), and (d) results and/or findings.

Key Terms

abstracting 69	multidisciplinary database 54
AND (Boolean operator) 58	non-refereed 68
Boolean operators 57	NOT (Boolean operator) 58
descriptors 63	OR (Boolean operator) 58
expanders feature 61	PDF 55
full-text 54	primary sources 50
interlibrary loan 66	refereed 68
keywords 52	reference materials 51
limiters feature 60	relevancy ranked 64
literature review matrix 69	secondary sources 51
literature synthesis 67	thesaurus 63
meta-analysis 67	

Suggested Readings

Kolata, G. (2017, March). A scholarly sting operation shines a light on “predatory” journals. *New York Times* online. <https://www.nytimes.com/2017/03/22/science/open-access-journals.html?action=click&contentCollection=Science&module=RelatedCoverage®ion=Marginalia&pgtype=article>

Kolata, G. (2017, October). Many academics are eager to publish in worthless journals. *New York Times* online. <https://www.nytimes.com/2017/10/30/science/predatory-journals-academics.html>

Lomand, T. C. (2017). *Social science research: A cross section of journal articles for discussion and evaluation* (7th ed.). New York, NY: Routledge.

Subramanyam, R. (2013). Art of reading a journal article: Methodically and effectively. *Journal of Oral and Maxillofacial Pathology: JOMFP*, 17(1), 65–70. <http://doi.org/10.4103/0973-029X.110733>

Web Links

Duquesne University: Matrix Method for Literature Review

<http://guides.library.duq.edu/matrix>

EBSCO Free Databases

<https://www.ebsco.com/who-we-serve/academic-libraries/subjects/free-databases>

Education Resources Information Center (ERIC)

<http://www.eric.ed.gov/>

Google Scholar

<http://scholar.google.com/>

How to Choose a Citation Manager

<http://guides.lib.uchicago.edu/c.php?g=297307&xp=1984557>

Ingenta Connect

<https://www.ingentaconnect.com>

UC Santa Barbara Library Free Publically Accessed Databases

<https://www.library.ucsb.edu/search-research/free-databases>

Walden University: Literature Review Matrix Template

<https://academicguides.waldenu.edu/writingcenter/assignments/literaturereview/organization>