

conference papers may be the first place a scholar presents important findings and, as such, are relevant to your own research. Places to look for conference papers:

#### 4.2.3.1 [WorldCat](#)

- use keywords from the conference name (NOT the article title)
- it often helps to leave out terms like: conference, proceedings, transactions, congresses, symposia/symposium, exposition, workshop or meeting
- include the year of the conference
- include the city in which the conference took place

#### 4.2.3.2 [Google Scholar](#)

- Search by keyword and add the word ‘conference’ and the year to your search, for example: ‘conference education 2008’

#### 4.2.3.3 Databases

- For Education: ERIC, limit to ‘Collected Works–Proceedings’ or ‘Speeches/Meeting papers’
- For Nursing: CINAHL, limit to proceedings in the “Publication Type” box
- For Education: Education Full Text, limit to ‘proceeding’ in the “Document Type” box
- PsychInfo: limit to ‘Conference Proceedings’ in the “Record Type” Box
- Web of Science: limit to ‘conference’

#### 4.2.3.4 Professional Societies & Other Sponsoring Organizations

Check the web sites of the organizations that sponsor conferences. Listings of conference proceedings are often under a “Publications” or “Meetings” tab/link. The National Library of Medicine maintains a [conference proceedings subject guide](#) for health-related national and international conferences. Though many papers/proceedings are not available for free, the organization web site will often contain citations of proceedings that you can request through interlibrary loan.

## 4.2.4 FINDING DISSERTATIONS

In addition to journal articles, original research is also published in books, reports, conference proceedings, theses and dissertations. Both theses and dissertations are very detailed and comprehensive accounts of research work. Dissertations and theses are a primary source of original research and include “referencing, both in text and in the reference list, so that, in principle, any *reference to the literature* may be easily traced and followed

up.” ([Wallace & Wray, p. 187](#)). Citation searching of the reference list or bibliography in a dissertation is another method for discovering the relevant literature for your own research area. Like conference papers, they are more difficult to locate and retrieve than books and articles. Some may be available electronically in full-text at no cost. Others may only be available to the affiliates of the university or college where a degree was granted. Others are behind paywalls and can only be accessed after purchasing. Both CINAHL and ERIC index dissertations. Individual universities and institutional repositories often list dissertations held locally. Other places to look for theses and dissertations include:

[Dissertations Express](#) – search for dissertations from around the world. Search by subject or keyword, results include author, title, date, and where the degree was granted. Some are available in full-text at no cost, however most require payment.

[EThOS](#) – the national thesis service for the United Kingdom, managed by the British Library. It is a national aggregated record of all doctoral theses awarded by UK Higher Education institutions, providing free access to the full text of many theses for use by all researchers to further their own study.

[Theses Canada](#) – a collaborative program between Library and Archives Canada (LAC) and nearly 70 accredited Canadian universities. The collection contains both microfiche and electronic theses and dissertations that are for personal or academic research purposes.

## 4.3 ADVANCED SEARCHING

Now that you have an idea of some of the places to look for information on your research topic and the form that information takes (books, ebooks, journals, conference papers, and dissertations), it’s time to consider not only how to use the specialized resources for your discipline but how to get the most out of those resources. To do a graduate-level literature review and find everything published on your topic, advanced search and retrieval skills are needed.

### 4.3.1 SEARCH OPERATORS

Literature review research often necessitates the use of Boolean operators to combine keywords. The operators – AND, OR, and NOT – are powerful tools for searching in a database or search engine. By using a combination of terms and one or more Boolean operator, you can focus your search and narrow your search results to a more specific area than a basic keyword search allows.

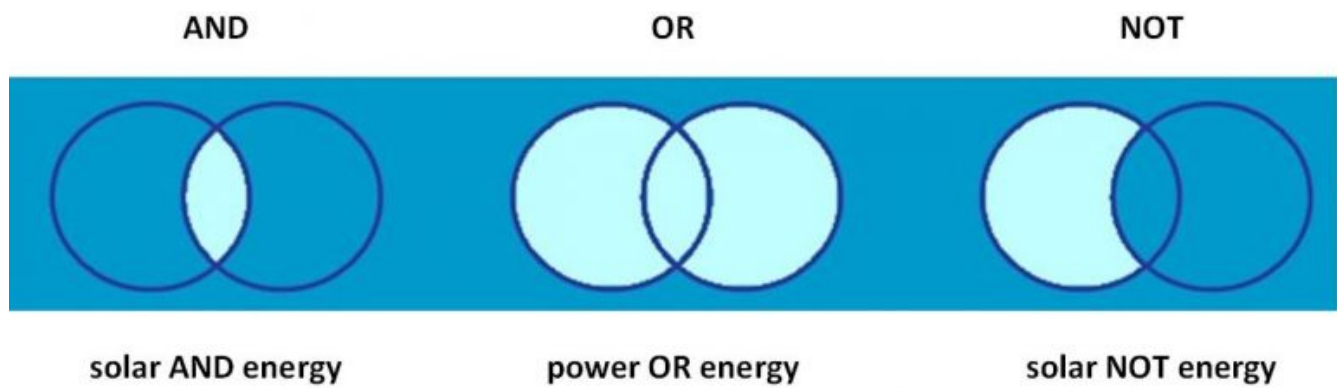


Figure 4.5 Boolean searches

**Boolean operators** – allow you to combine your search terms using the keywords **AND**, **OR** and **NOT**. Look at the diagrams in Figure 4.6 to see how these terms will affect your results.

**Truncation** – If you use **truncation** (or wildcards), your search results will contain documents including variations of that term.

For example: **light\*** will retrieve, of course, **light**, but also terms like: **lighting**, **lightning**, **lighters** and **lights**. Note that the truncation symbol varies depending on where you search. The most common truncation symbols are the asterisk (\*) and question mark (?).

**Phrase searching** – Phrase searching is used to make sure your search retrieves a specific concept. For example “**durable wood products**” will retrieve more relevant documents than the same terms without quotation marks.

For a description of these more advanced search features, watch this [short video tutorial](#) on effective search strategies. (Clark, 2016).

#### 4.3.2 FINDING SOURCES IN YOUR DISCIPLINE OR TOPIC AREA

It’s time to put these tips and your search skills to use. This is the point, if you have not done so already, to talk to a librarian. The librarian will direct you to the resources you need, including research databases to which the library subscribes, for your discipline or subject area. Literature reviews rely heavily on data from online databases, such as CINAHL for Nursing and ERIC for Education. Unfortunately, the costs to subscribe to vendor-provided products is high. Students affiliated with large university libraries that can afford to subscribe to these products will have access to many databases, while those who do not have fewer options.

Students who do not have access to subscription databases such as CINAHL or ERIC through

Ebsco and ProQuest should use PubMed for Nursing at <https://www.ncbi.nlm.nih.gov/pubmed/> and the public version of ERIC at <https://eric.ed.gov/> for literature review research.

Although a librarian is the best resource for learning how to use a specific tool, [an online tutorial on how to search PubMed](#) may be useful and informative for those who do not have access to a librarian or a subscription database: Likewise, this document, titled “[How does the ERIC search work](#),” provided by the Institute of Education Sciences provides some helpful tips for searching the public version ERIC.

#### 4.3.3 SPECIALIZED VOCABULARY

One major source of search terms in a database is a specialized dictionary, or thesaurus, used to index journal articles. Thesauri provide a consistent and standardized way to retrieve information, especially when different terms are used for the same concept. According to Fink (2014), “evidence exists that using thesaurus terms produces more of the available citations than does reliance on key words...Using the appropriate subject heading will enable the reviewer to find all citations regardless of how the author uses the term.” (p. 24).

In Education and Nursing, thesauri are available. In subscription databases, as well as in PubMed and the public version of ERIC, look for the thesaurus to guide you to appropriate and relevant subject terms.

#### 4.3.4 CITATION SEARCHING

Citation searching works best when you already have a relevant work that is on topic. From the document you identified as useful for your own literature review, you can either search citations forward or backward to gather additional resources. Cited reference searching and reference or bibliography mining are advanced search techniques that may also help generate new ideas as well as additional keywords and subject areas.

For cited reference searching, use Google Scholar or library databases such as Web of Science or Scopus. These tools trace citations forward to link to newly published books, journal articles, book chapters, and reports that were written after the document you found. Through cited reference searching, you may also locate works that have been cited numerous times, indicating what may be a seminal work in your field.

With citation mining, you will look at the references or works cited list in the resource you located to identify other relevant works. In this type of search, you will be tracing citations backward to find significant books, journal articles, book chapters, and reports that were written before the document you found. For a brief discussion about [citation searching](#), check out this article by Hammond & Brown (2008).

## Practice

The two most important finding tools you will use are a library catalog and databases. Looking for information in catalogs and databases takes practice.

**Get started** by setting aside some dedicated time to become familiar with the process:

1. Practice by locating one reference book and one ebook in your library catalog or WorldCat
2. Practice searching in freely available databases such as [PubMed](#) or [ERIC](#)
3. Talk to a librarian about using a subject specific subscription database like Ebsco's CINAHL or ProQuest's ERIC. Be sure to explore the various bells and whistles that the database provides to improve the precision of your search
  1. Try some of the limiters to see what each does to your search results
  2. Once you find an article, what do you need to do to get it in full-text?
4. Find out how to use interlibrary loan or document delivery.

**Next, complete this exercise:**

1. Browse through a popular or scientific publication such as the science section of the *New York Times* or *Scientific American*. Find a short article that looks interesting and is easy to understand.
2. Look for the following:
  - an article that reports on a recent study published in a scholarly journal;
  - the title of the journal;
  - the name of the author(s); and
  - an indication of when the original study appeared. Note: sometimes the source will say that the research was published in a latest issue of *Science* or *Nature*.
3. Once you find some of these facts (journal title and the authors should be

sufficient), you can start to search for the primary source in a library catalog or the library's databases.

4. Catalog search: find out if your school subscribes to a particular journal by searching for the journal by title.
5. Best case scenario: the library subscribes to the journal.. The next step is to figure out the available format(s). You might have several options:
  - Electronic subscription—great! It means you can access the journal right away. Once you get to the online (or electronic) version of the journal, you are given a choice of searching within this publication. An author search should be sufficient to locate the article.
  - Print subscription version—good! You can search in databases or a discovery service tool for your article by entering the journal title and the authors. Once you locate a record about the article, which will include volume and issue number, page numbers, the article title, you can go to the shelves where you will find the issue of the journal that includes your article.
  - Microform version—still good! Again, after searching databases and locating the exact information about the article, you should be able to locate the appropriate microfilm reel or microfiche. Before the widespread and easy access to online versions of materials, microforms were used to save space by preserving documents on film. Libraries are equipped with microform readers—if you need help using a reader, ask the library staff. ([Bennard et al, 2014b](#))

## Test Yourself

### *Get an article*

- Access PubMed or ERIC
- Do a subject search, using the thesaurus (for ERIC) or MeSH terms (for PubMed)
- Do a keyword search
- Supplement your subject search with keywords, using advanced search tools like

Boolean operators, truncation, or phrase searching

- Limit your search by language, date of publication or PICO factor
- Access the full text of an article you find.
- If full text is not available, find out how to request the article through interlibrary loan

*In your general topic area, do you know:*

1. The core source materials?
2. The most significant theories?
3. The major issues and debates surrounding your topic area?
4. The key political, social, economic, legal, environmental, and/or technological aspects of your topic?
5. The origins of your topic?
6. The definitions for your topic?
7. How knowledge in your topic area is organized?
8. What problems or solutions have been addressed to date?
9. If you don't know the answers to these questions, do you know how to find the answers?

## [REFERENCES](#)

## [IMAGE ATTRIBUTIONS](#)

## CHAPTER 5: EVALUATING SOURCES

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### Learning Objectives

At the conclusion of this chapter, you will be able to:

- Critically evaluate the sources of the information you have found.
- Evaluate the content of selected material for your purposes.

### 5.1 OVERVIEW OF EVALUATION OF SOURCES

Searching for information is often nonlinear and iterative, requiring the evaluation of a range of information sources and the mental flexibility to pursue alternate avenues as new understanding develops. ([Association of College & Research Libraries, 2016](#)).

You developed a viable research question, compiled a list of subject headings and keywords and spent a great deal of time searching the literature of your discipline or topic for sources. It's now time to evaluate all of the information you found. Not only do you want to be sure of the source and the quality of the information, but you also want to determine whether each item is appropriate fit for your own review. This is also the point at which you make sure that you have searched out publications for all areas of your research question and go back into the literature for another search, if necessary.

In general, when we discuss evaluation of sources we are talking about looking at quality, accuracy, relevance, bias, reputation, currency, and credibility factors in a specific work, whether it's a book, ebook, article, website, or blog posting. Before you include a source in your literature review, you should clearly understand what it is and why you are including it. According to Bennard et al., ([2014](#)), "Using inaccurate, irrelevant, or poorly researched sources can affect the quality of your own work." (para. 4).

When evaluating a work for inclusion in, or exclusion from, your literature review, ask yourself a series of questions about each source.

### 5.1.1 EVALUATING BOOKS

For primary and secondary sources you located in your search, use the ASAP mnemonic to evaluate inclusion in your literature review:

#### 5.1.1.1 Age

Is it outdated? The answer to this question depends on your topic. If you are comparing historical classroom management techniques, something from 1965 might be appropriate. In Nursing, unless you are doing a historical comparison, a textbook from 5 years ago might be too dated for your needs.

A General Rule of Thumb:

5 years, maximum: medicine, health, education, technology, science

10-20 years: history, literature, art

#### 5.1.1.2 Sources

Check reference or bibliography sources as well as those listed in footnotes or endnotes. Skim the list to see what kinds of sources the author used. When were the sources published? If the author is primarily citing works from 10 or 15 years ago, the book may not be what you need.

#### 5.1.1.3 Author

Does the author have the credentials to write on the topic? Does the author have an academic degree or research grant funding? What else has the author published on the topic?

#### 5.1.1.4 Publisher

Look for academic presses, including university presses. Books published under popular press imprints (such as Random House or Macmillan, in the U.S.) will not present scholarly research in the same way as Sage, Oxford, Harvard, or the University of Washington Press.

Other questions to ask about the book you may want to include in your literature review:

- What is the book's purpose? Why was it written? Who is the intended audience?
- What is the conclusion or argument? How well is the main argument or conclusion supported?
- Is it relevant to your research? How is it related to your research question?
- Do you see any evidence of bias or unsubstantiated data?

## 5.1.2 EVALUATING WEBSITES

In your research, it is likely you will discover information on the web that you will want to include in your literature review. For example, if your review is related to the current policy issues in public education in the United States, a potentially relevant information source may be a document located on the National Center for Education Statistics (NCES) website titled [The Condition of Education 2017](#). Likewise, for nursing, an article titled [Discussing Vaccination with Concerned Patients: An Evidence-Based Resource for Healthcare Providers](#) is available through the nursingcenter.com website. How do you evaluate these resources, and others like them?

Use the RADAR mnemonic ([Mandalios, 2013](#)) to evaluate internet sources:

### 5.1.2.1 Relevance

How did you find the website and how is it relevant to your topic?

- Was it recommended by a reliable source?
- Was it cited in a scholarly source, such as a peer-reviewed journal?
- Was it linked from a reputable site?

### 5.1.2.2 Authority

Look for the About page to find information about the purpose of the website . You may make a determination of its credibility based on what you find there. Does the page exhibit a particular point of view or bias? For example, a heart association or charter school may be promoting a particular perspective – how might that impact the objectivity of the information located on their site? Is there advertising or is there a product information attached to the content?

### 5.1.2.3 Date

- When was the page created?
- Is it kept up to date?
- Are the links current and functional?

### 5.1.2.4 Appearance

- Does the information presented appear to be factual?
- Is the language formal or academic?
- How does it compare to other information you have read on the topic?

- Are references or links to cited material included?

#### 5.1.2.5 Reason

What is the web address or URL? This can give you a clue about the purpose of the website, which may be to debate, advocate, advertise or sell, campaign, or present information. Here are some common domains and their origins:

- .org – An advocacy website for an organization
- .com – A private or commercial site
- .net – A network organization or Internet provider/no longer frequently used
- .edu – The site of a higher educational institution
- .gov – A federal government site
- .wa.us – A state government site which may include public schools and community colleges
- .uk, .ca, .jm – A country site

Mike Caulfield (2017), the author of [Web Literacy for Student Fact-Checkers](#), recommends a few simple strategies to evaluate a website (as well as social media):

- **Check for previous work:** Look around to see if someone else has already provided a synthesis of the research described.
- **Go upstream to the source:** Go “upstream” to the source of the claim. Most web content is not original. Get to the original source to understand the credibility and reliability of the information.
- **Read laterally:** Read laterally. Once you get to the source of a claim, read what other people say about the source (publication, author, etc.). The truth is in the network.

#### 5.1.3 EVALUATING JOURNAL ARTICLES

It is likely that most of the resources you locate for your review will be from the scholarly literature of your discipline or in your topic area. As we have already seen, peer-reviewed articles are written by and for experts in a field. They generally describe formal research studies or experiments with the purpose of providing insight on a topic. You may have located these articles through Google, Google Scholar, a subscription or open access database, or citation searching. You now may want to know how to evaluate the usefulness for your research. As with the other resources, you are again looking for authority, accuracy, reliability, relevance, currency, and scope. Looking at each article as a separate and unique artifact, consider these elements in your evaluation:

### 5.1.3.1 Credibility/Authority

ASK: Who is the author? Is this person considered an expert in their field?

- Search the author's name in a general web search engine like Google.
- What are the researcher's academic credentials?
- What else has this author written? Search by author in the databases and see how much they have published on any given subject.
- How often or frequently has this article been cited by other scholars?

**Citation analysis** is the study of the impact and assumed quality of an article, an author, or an institution, based on the number of times works and/or authors have been cited by others. Google Scholar is a good way to get at this information.

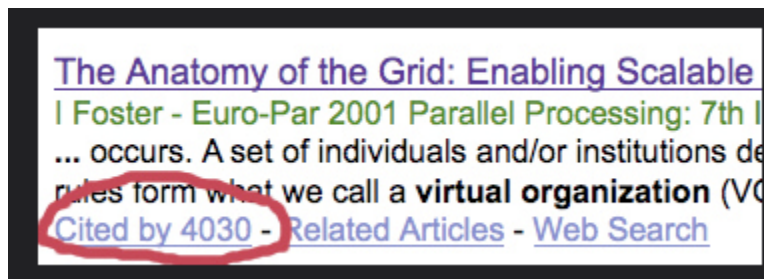


Figure 5.1 Google Scholar

### 5.1.3.2 Accuracy

Check the facts. ASK:

- Can statistics be verified through other sources?
- Does this information seem to fit with what you have read in other sources?

### 5.1.3.3 Reliability/Objectivity

ASK: Is there an obvious bias? That doesn't mean that you can't use the information, it just means you need to take the bias into account.

- Is a particular point of view or bias immediately obvious, or does it seem objective at first glance?
- What point of view does the author represent? Are they clear about their point of view?
- Is the article an editorial that is trying to argue a position?
- Is the article in a publication with a particular editorial position?

#### 5.1.3.4 Relevance

ASK: The hard questions:

- Is the information relevant to your topic/thesis?
- How does the article fit into the scope of the literature on this topic?
- Who is the intended audience for this source?
  - Is the material too technical or too clinical?
  - Is it too elementary or basic?
- Does the information support your thesis or help you answer your question, or is it a challenge to make some kind of connection?
- Does the information present an opposite point of view so you can show that you have addressed all sides of the argument in your paper?

#### 5.1.3.5 Currency

ASK:

- When was the source published?
- How important is current information to your topic, discipline, or paper type?
- Does older material add to the history of the research? Or do you need something more current to support your thesis?

#### 5.1.3.6 Scope and Purpose

To determine and evaluate in this category, ASK:

- Is it a general work that provides an overview of the topic or is it specifically focused on only one aspect of your topic?
- Does the breadth of the work match your expectations?
- Is the article meant to inform, explain, persuade or sell something. Be aware of the purpose as you read the content and take that into consideration when deciding whether to use it or not.

For Nursing and other medical articles ASK:

- What are the research methods used in the article?
- Where does the method fall in the evidence pyramid? Systematic reviews and meta-analyses are the most credible, with articles that are opinions the least credible.

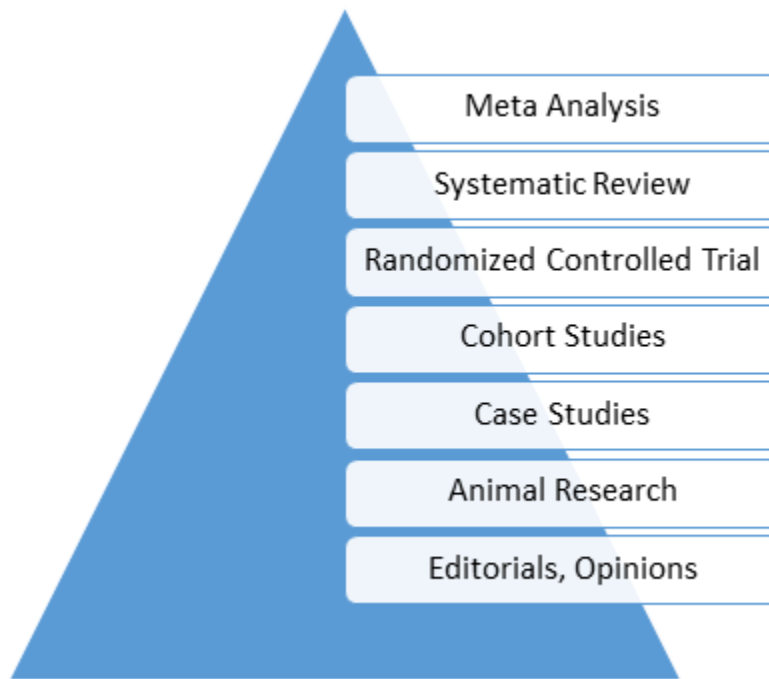


Figure 5.2 Evidence Pyramid

- **Meta Analysis:** A systematic review that uses quantitative methods to summarize the results.
- **Systematic Review:** An article in which the authors have systematically searched for, appraised, and summarized all of the medical literature on a specific topic.
- **Randomized Controlled Trials (RCTs):** RCTs include a randomized group of patients in an experimental group, as well as a control group. These groups are monitored for the variables/outcomes of interest.
- **Cohort Study:** Research identifies two groups (cohorts) of patients, one which did receive the exposure of interest, and one which did not, and follows these cohorts for a specified duration of time, in order to measure the outcome of interest.
- **Case Study:** Involves identifying patients who have the outcome of interest (cases) and control patients without the same outcome, and looks to see if they had the exposure of interest.
- **Animal Research / Lab Studies:** Information creation begins at the bottom of the pyramid: This is where ideas and laboratory research take place. Ideas turn into therapies and diagnostic tools, which are then tested with lab models and animals.
- **Background Information / Expert Opinion:** Handbooks, encyclopedias, and textbooks often provide a good foundation or introduction and often include generalized information about a condition. While background information presents a convenient summary, it typically takes about three years for this type of literature to

be published.

#### 5.1.4 EVALUATING SOCIAL MEDIA

Although social media (for example, Twitter or Facebook) is generally treated as an object under study rather than a source of information on a topic, the prevalence of social media as communication and sharing platforms must be acknowledged. It's important to be skeptical of these sources, especially for inclusion in a literature review. However, as with any other web resource, you can evaluate a social media posting for authenticity by asking the following questions:

- Location of the source – Is the author in the place they are tweeting or posting about?
- Network – Who is in the author's network and who follows the account?
- Content – Can the information be corroborated from other sources?
- Contextual updates – Does the author usually post or tweet on this topic? If so, what did past or updated posts say? Do they fill in more details?
- Reliability – does the author cite sources and are those sources reliable? ([Sheridan Libraries, 2017](#))

#### 5.2 IN SUMMARY

Another way to think about evaluation of sources is to ask the 5W questions:

- What type of document is it?
- Who created it?
- Why was the material published?
- When was it published?
- Where was the resource published?
- How was the information gathered and presented? ([Radom, 2017](#))

Locating sources for your literature review by using discovery layers, library catalogs, databases, search engines, and other search platforms may take a great deal of time and effort. Does everything you found and retrieved have value or worth to you as you write your own literature review? If the resource has not met the criteria above and you can't justify its place in your literature review, it doesn't deserve to be mentioned in your work. Include high-quality materials that are current, accurate, credible, and most importantly relevant to your research question, hypothesis, or topic.

## Practice

### *Evaluate a Website*

Watch this [short video](#):

Using a search engine like Google, do a quick search for a topic that interests you. Select a website from your list of results and evaluate it using the elements of website evaluation listed earlier in this chapter.

- How did you find the website?
- What is the domain name (the URL) of the site?
- What can you learn about the author/s of the site?
- When was the site last updated?
- Is it accurate based on what you know about the topic?
- Are there references?
- Do you notice any bias?
- Is the site functional? (re links working? Or do they lead to non-functional pages?)

### *Evaluate a Book*

Select a subject specific book or ebook that you can access quickly and evaluate it based on the ASAP criteria.

- Author
- Sources
- Age
- Publisher

### *Evaluate an Article*

You can practice evaluation using the attached articles. You don't need to spend a lot of time with the article, but see if you can identify each of the elements of evaluation.

Remember the elements of evaluation for articles are:

- Authority/Credibility or Study Design for Nursing
- Accuracy

- Reliability/Objectivity
- Relevance
- Currency
- Scope and Purpose

For Education: [Quality standards in e-learning: A matrix of analysis \(Frydenberg, 2002\)](#).

For Nursing: [Beliefs and attitudes towards participating in genetic research \(Kerath et al, 2013\)](#).

### Test Yourself

Check the Answer Key

For Nursing students: Your topic is the relationship between autism and vaccinations. Which of the two resources would you include in your literature review? Why?

1. Hviid, Anders, Michael Stellfield, Jan Wohlfart, and Mads Melbye. "Association Between Thimerosal-Containing Vaccine and Autism." *Journal of the American Medical Association* 290, no. 13 (October 1, 2003): 1763–1766.  
<http://jama.jamanetwork.com/article.aspx?articleid=197365>
2. Chepkemai Maina, Lillian, Simon Karanja, and Janeth Kombich. "Immunization Coverage and Its Determinants among Children Aged 12–23 Months in a Peri-Urban Area of Kenya." *Pan-African Medical Journal* 14, no.3 (February 1, 2013).  
<http://www.panafrican-med-journal.com/content/article/14/3/full/>

For Education students: Your topic is music therapy in kindergarten classrooms in the United States. Which of the two resources would you include in your literature review? Why?"

1. Simpson, Kate, and Deb Keen. "Music Interventions for Children with Autism: Review of the Literature." *Journal of Autism and Developmental Disorders* 41, no. 11 (November 2011): 1507-1514.
2. Bowman, Robert. "Approaches for Counseling Children Through Music." *Elementary School Guidance and Counseling* 21, no. 4 (April 1987): 284-91.

[REFERENCES](#)

[IMAGE ATTRIBUTION](#)

## CHAPTER 6: DOCUMENTING SOURCES

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### Learning Objectives

At the conclusion of this chapter, you will be able to:

- Select a citation management system that works for you
- Record and organize relevant material in a citation management system

### 6.1 OVERVIEW OF DOCUMENTING SOURCES

A graduate-level literature review is a significant undertaking and will require some decisions about information organization, record-keeping, and notes management. Make these decisions *before* you begin your intensive review of the literature. Some of the decisions you will need to make include things like document-naming conventions, choosing a citation management tool that fits your needs, and setting up journal alerts.

Once you have identified and located materials for your literature review, you will organize, analyze, and synthesize them as the next step in literature review process. Here are some general guidelines for how you treat the articles at this stage:

1. Skim the articles as you gather them to get an idea of the general purpose and content. Focus on the abstract, introduction, first few paragraphs, and the conclusion.
2. Record notes and impressions on the article directly in the citation management tool you choose. Record specific aspects or significant keywords of the article that are relevant to your review. General remarks, such as ‘good source’ or ‘interesting idea,’ won’t help you later on.
3. Pay special attention to major trends or patterns, possible gaps in the literature, and relationships among studies, especially noting or highlighting landmark studies that led to subsequent ones in the same area.

4. Group the articles into categories or folders, such as topics and subtopics. Also group articles that you have placed within these categories chronologically. You can print out each article and organize the paper copies into categories or you take advantage of technology by using citation management software to store and organize your articles.

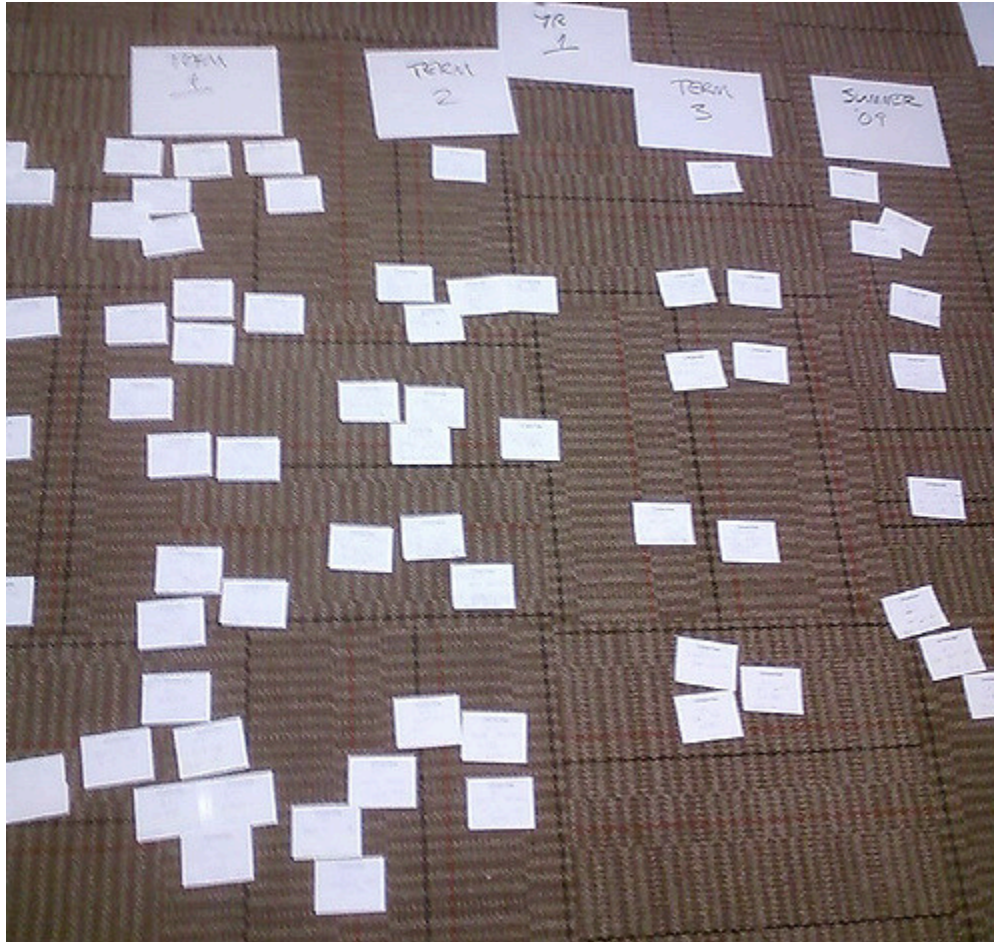


Figure 6.1

Begin to group sources into broad categories and then organize chronologically or alphabetically by author's last name. Broad general categories might include:

- Themes or Concepts
- Theories
- Policies
- Programs
- Populations
- Methodologies

- Questions for further research

Other broad organization schemes might relate to the PICO or SPICE models mentioned in Chapter 3. We will discuss organization and synthesis in more detail in Chapter 7.

5. Develop a standardized naming convention for folders and files. Names should be kept as short as possible whilst also being meaningful, concise, and standardized. For example, PolicyCttee2017 or GuidelinesRegulationsHarrison is more useful than LitReviewArticle1.

Other useful file naming conventions can be found The University of Edinburgh Records Management Office ([2017](#)). Examples include:

- [Avoid unnecessary repetition and redundancy in file names and file paths.](#)
- [Use capital letters to delimit words, not spaces or underscores](#)
- [When including a personal name in a file name give the family name first followed by the initials.](#)
- [Avoid using common words such as 'draft' or 'letter' at the start of file names, unless doing so will make it easier to retrieve the record.](#)
- [Order the elements in a file name in the most appropriate way to retrieve the record.](#)
- [Avoid using non-alphanumeric characters in file names.](#)

Take the time to think about your organizational system before you begin researching and compiling sources in earnest. “Organizing now will save much time and heartache later.” ([Machi & McEvoy, 2012, p. 31](#)).

## 6.2 CITATION MANAGEMENT TOOLS

One of your first decisions – after selecting your topic – will be to determine which citation manager will work the best for you. Citation managers are software packages, such as EndNote or Zotero, used to create personalized databases of citations and notes. Citation management tools help users:

- import citations from databases, websites, and library catalogs
- create bibliographies
- format citations in a variety of styles such as APA, MLA, Chicago, and more
- manage, categorize, and organize citations and documents
- attach PDFs, images, and notes to citations in your collection.

While most current citation managers are generally similar, individual workflow may determine which tool to use. For example, if you will be working from multiple computers and locations, a web-based tool such as RefWorks and Mendeley will work better for you than a client-based or centrally hosted website. Other needs to consider when evaluating different citation managers:

- I need to work offline.
- I'll be doing a lot of my research on freely available websites and need to be able to save copies of webpages.
- I'm working on a group project and need to share my references with others.
- I'm not so comfortable with technology and may potentially need a lot of help with my tool.
- I will be working on a mobile device.

### 6.2.1 TIPS FOR CHOOSING THE RIGHT TOOL

There are many tools to choose from and you want to experiment with a few as well as discuss with professional colleagues, fellow students, or faculty before making a final decision on which to use. Choosing a tool ultimately depends on your personal workflow preferences and your needs.

General tips for choosing the right citation management tool:

- Consult Wikipedia's detailed and updated [comparison chart](#) of citation management tools to determine if any tool is clearly the best fit for you.
- Talk to people in your department. Do individuals in your discipline tend to use one tool more often than another? Does your department or university already provide access to a specific tool?
- Talk to your subject librarian; s/he can recommend a tool based on your needs.
- Critically assess your technology skills and interests. Although all the tools advertise ease of use, there is a learning curve. Take a look at the free tutorials, help documents, and instruction manuals and rate your level of understanding and confidence.

Choose your citation management tool carefully. Try some out. Talk to colleagues. Once you've chosen a tool and started using it, changing to a different tool is problematic on several levels. If you save citations in two different products, it can be difficult to keep track of citations. Learning a new product or migrating information from one citation tool to another when you are in the middle of a project can also be difficult, time-consuming, and stressful. Choose carefully, but do choose and then stick with it.

## 6.2.2 ALERTS

Alerts are an excellent way to keep up with the literature of your discipline. Alerts allow you to stay up to date with current research relevant to your topic. Once an alert is set up, you will automatically receive an email when an author's publication, keywords, affiliations, or other search criteria appear in a database. You will be able to connect to the citation, download the citation and full text (when available) from the alert, and (if relevant) save to your citation manager. Alerts are a way to save time AND stay up-to-date in your topic area.

### 6.2.2.1 Why use alerts?

- Do you ever feel overwhelmed by the amount of time it takes to stay aware of the latest research and trends in your discipline?
- Do you have so many articles and journals in your “to read” pile that they end up being irrelevant by the time you get to them?
- Do you have a due date for your literature review, but can't find time to check back for the latest updates on the topic?

If you answered yes to any of these questions, note that a number of database aggregators like ProQuest and EBSCO, as well as individual databases, such as ERIC and CINAHL, offer free alert services informing you of new journal issues, recently published articles related to your interests, and more. Most databases and journals use e-mail alerts to inform users of new content. Many researchers set up alerts through Google Scholar. For tips on how to set up alerts in Google Scholar, see the help page at: <https://scholar.google.com/intl/en/scholar/help.html#alerts>

### 6.2.2.2 Types of alerts

1. Table of Contents (TOC) Alerts – These alerts inform users about new journal issues. Depending on the database and your preferred method of delivery, you will receive a table of contents for the issue or links to the full-text articles. Most TOC alerts are delivered via email, but they can also be subscribed to via RSS. A directory of thousands of current and scholarly TOCs is browsable at <http://www.journaltoocs.hw.ac.uk/>. For a short 2 minute tutorial on how to set up journal alerts through PubMed, see <https://www.nlm.nih.gov/bsd/viewlet/myncbi/jourup/index.html>
2. Saved Searches – A saved search alert will notify you when the database identifies new articles related to a customized search. You can specify how often you would like to receive updates (weekly, monthly, etc.).
3. Citation Alerts – These alerts will inform you when a specified article is cited in a new publication.

Within your citation manager, you can set up custom folders to not only store new articles but also to share both alerts and articles with colleagues or fellow students researching similar topics.

### 6.3 BIBLIOGRAPHIC CITATION FORMAT

Once you begin gathering sources for your literature review, you will need to organize and document them. Citations document the source of an idea, statement, or study. A uniform citation style helps both the reader and the writer. A standardized editorial style removes the distraction and confusion of puzzling over the correct punctuation for every reference or the proper formatting for numbers and other data in text. Those elements are codified in the rules of the format style, allowing the reader to focus energy on the substance of the research, rather than how the paper is constructed.

An author writing for publication must follow the rules established by the publisher to avoid inconsistencies. Without established rules of style, each manuscript might use different spellings, notations, and citations, which would confuse and distract readers. The need for a consistent style becomes more apparent and more visible when complex material is presented, such as tables or statistics. Without standardized rules for presentation of data, the reader would spend too much time and energy looking for meaning among the structure.

Likewise, a systematic and standardized bibliographic citation format helps the writer of the literature review keep track of references as they accumulate and find them more efficiently later in the process. “You will be rewarded for your hard work, if not in heaven, then certainly when you come to write your report. You will be able to locate information easily, to regroup and reclassify evidence and to produce referenced quotations to support your arguments.” ([Bell, 2005, p. 74](#)).

There are numerous different bibliographic citation format styles. APA (American Psychological Association), MLA (Modern Language Association), Chicago, Turabian, ACS (American Chemical Society), AMA (American Medical Association), and IEEE (Institute of Electrical and Electronic Engineers) are some of the more common formats in use, but there are many more. The different styles, and different versions within each style, are a source of stress for generations of students and researchers in all disciplines, including those in the health sciences and education. In the social sciences, APA style is frequently used as the default citation style. Your department or discipline may require another format and, if so, that is the one you should accustom yourself with using to document your sources.

## EXAMPLE: Differences in Citation Styles

The image below shows bibliographic citations in four common styles. Notice that they contain author name, article title, journal title, publication year, and information about volume, issue, and pages. Notice also the small differences in punctuation, order of the elements, and formatting that **do make a difference**.

<b>APA:</b> Rosenhan, D. L. (1973). On Being Sane in Insane Places. <i>Science</i> , 179(4070), 250-258. doi:10.1126/science.179.4070.250
<b>Chicago:</b> Rosenhan, D. L. "On Being Sane in Insane Places." <i>Science</i> 179, no. 4070 (1973): 250-58. doi:10.1126/science.179.4070.250.
<b>MLA:</b> Rosenhan, David L. "On Being Sane in Insane Places." <i>Science</i> 179.4070 (1973): 250-258. Web. 4 May 2016.
<b>AMA:</b> Rosenhan DL. On being sane in insane places. <i>Science</i> . 1973;179(4070):250-258. doi:10.1126/science.179.4070.250

Differences between citation practices occur mainly in formatting.

Figure 6.2 Citation styles

As there are over a dozen different citation styles and different disciplines prefer different styles, always check to see if your instructor requires a particular style. Also because the rules for citation styles can change and can be extensive, it is best to refer to the official handbooks/style guides when you can. ([Teaching & Learning, 2015, p. 6](#)).

Whatever citation style and format you decide to use, now is the time to make that decision. Consistently documenting your sources as you read is another way to plan and organize information as you go along, rather than at the end or in the middle.

In addition to print and online manuals detailing the specifics of each citation style, there are numerous websites and other resources that provide document citation formatting help. The [Online Writing Lab \(OWL\)](#) at Purdue University, for example, can answer most questions about APA, MLA, and Chicago style. University writing labs and subject specialist librarians may also help with correctly documenting sources and formatting style.

A useful open resource for graduate students in the social sciences is [Professional Writing in the Health Disciplines](#) by Sandra Collins (2016). In addition to discussing how to structure a graduate-level paper, a chapter on APA citation and reference formatting provides extensive detail on how to document sources. Additionally, [Choosing & Using Sources: A Guide to](#)

[Academic Research \(Teaching & Learning, 2015\)](#) provides examples and advice for documenting sources using APA style formatting.

### Practice

1. Review a short introductory tutorial or brochure from each of these 4 citation management tools:
  1. [EndNote](#)
  2. [Mendeley](#)
  3. [RefWorks](#)
  4. [Zotero](#)
2. Decide which citation management tool you are going to use and request a free trial or download/install a free version to test.
3. Using the [JournalTOCs](#) website ([www.journaltocs.hw.ac.uk](http://www.journaltocs.hw.ac.uk)), create an account, locate a journal in your topic area, and set up an email alert.

### Test Yourself

See the Answer Key for the correct response.

*QUESTION 1 - Choose a good folder and file naming convention:*

1. MyLitReview/Miscellaneous1
2. RandomTheories/Supporting
3. Guidelines/State
4. Regulations/OtherStuff

*QUESTION 2 - The advantage of choosing and using a citation management program is:*

1. import citations from databases, websites and library catalogs with a few clicks
2. create bibliographies in APA style
3. format citations in APA style

4. manage, categorize and organize citations
5. attach PDFs, images and other files to citations
6. add notes, highlight text, share with colleagues
7. all of the above

QUESTION 3 – In APA style documentation, what is the correct in-text, parenthetical format for a direct quotation?

1. (Barrett, 1991, p. 17)
2. (Barrett, p. 17, 1991)
3. (Barrett : 17)
4. (M.P. Barrett [1991]: 17)

QUESTION 4 – For journal articles included in the References list, does citation 1 or citation 2 use the correct APA format style:

1. Poortman, Ann-Rigt. “How Work Affects Divorce: The Mediating Role of Financial and Time Pressures.” *Journal of Family Issues* 26.2 (2005): 168-180.
2. Poortman, A. (2005). How work affects divorce: The mediating role of financial and time pressures. *Journal of Family Issues* 26(2), 168-180.

QUESTION 5 – Select the answer that best describes the function of the reference page

1. Sources cited in the paper must appear on the reference page in alphabetical order.
2. Books and articles read, but not cited in the paper, should be included on the reference page.
3. Videos and blogs should be cited in the paper, but not included on the reference page.
4. Sources listed on the reference page do not need to be cited within the paper.

For more practice deciphering APA citations, see the [self-test exercises](#) in Choosing & Using Sources.

## [REFERENCES](#)

## [IMAGE ATTRIBUTIONS](#)

## CHAPTER 7: SYNTHESIZING SOURCES

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### Learning Objectives

At the conclusion of this chapter, you will be able to:

- synthesize key sources connecting them with the research question and topic area.

### 7.1 OVERVIEW OF SYNTHESIZING

#### 7.1.1 PUTTING THE PIECES TOGETHER

Combining separate elements into a whole is the dictionary definition of synthesis. It is a way to make connections among and between numerous and varied source materials. A literature review is not an annotated bibliography, organized by title, author, or date of publication. Rather, it is grouped by topic to create a whole view of the literature relevant to your research question.



Figure 7.1

Your synthesis must demonstrate a critical analysis of the papers you collected as well as your ability to integrate the results of your analysis into your own literature review. Each paper collected should be critically evaluated and weighed for “adequacy, appropriateness,

and thoroughness” ([Garrard, 2017](#)) before inclusion in your own review. Papers that do not meet this criteria likely should not be included in your literature review.

Begin the synthesis process by creating a grid, table, or an outline where you will summarize, using common themes you have identified and the sources you have found. The summary grid or outline will help you compare and contrast the themes so you can see the relationships among them as well as areas where you may need to do more searching. Whichever method you choose, this type of organization will help you to both understand the information you find and structure the writing of your review. Remember, although “the means of summarizing can vary, the key at this point is to make sure you understand what you’ve found and how it relates to your topic and research question” ([Bennard et al., 2014](#)).

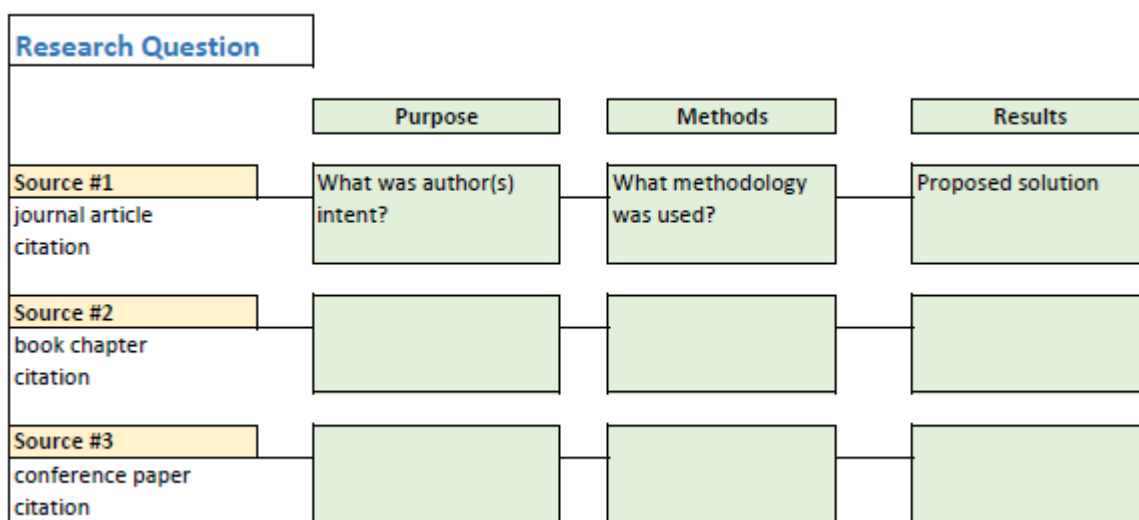


Figure 7.2 Summary table

As you read through the material you gather, look for common themes as they may provide the structure for your literature review. And, remember, research is an iterative process: it is not unusual to go back and search information sources for more material.

At one extreme, if you are claiming, “There are no prior publications on this topic,” it is more likely that you have not found them yet and may need to broaden your search. At another extreme, writing a complete literature review can be difficult with a well-trod topic. Do not cite it all; instead cite what is most relevant. If that still leaves too much to include, be sure to reference influential sources...as well as high-quality work that clearly connects to the points you make. ([Klingner, Scanlon, & Pressley, 2005](#)).

## 7.2 CREATING A SUMMARY TABLE

Literature reviews can be organized sequentially or by topic, theme, method, results, theory, or argument. It’s important to develop categories that are meaningful and relevant to your

research question. Take detailed notes on each article and use a consistent format for capturing all the information each article provides. These notes and the summary table can be done manually, using note cards. However, given the amount of information you will be recording, an electronic file created in a word processing or spreadsheet is more manageable. Examples of fields you may want to capture in your notes include:

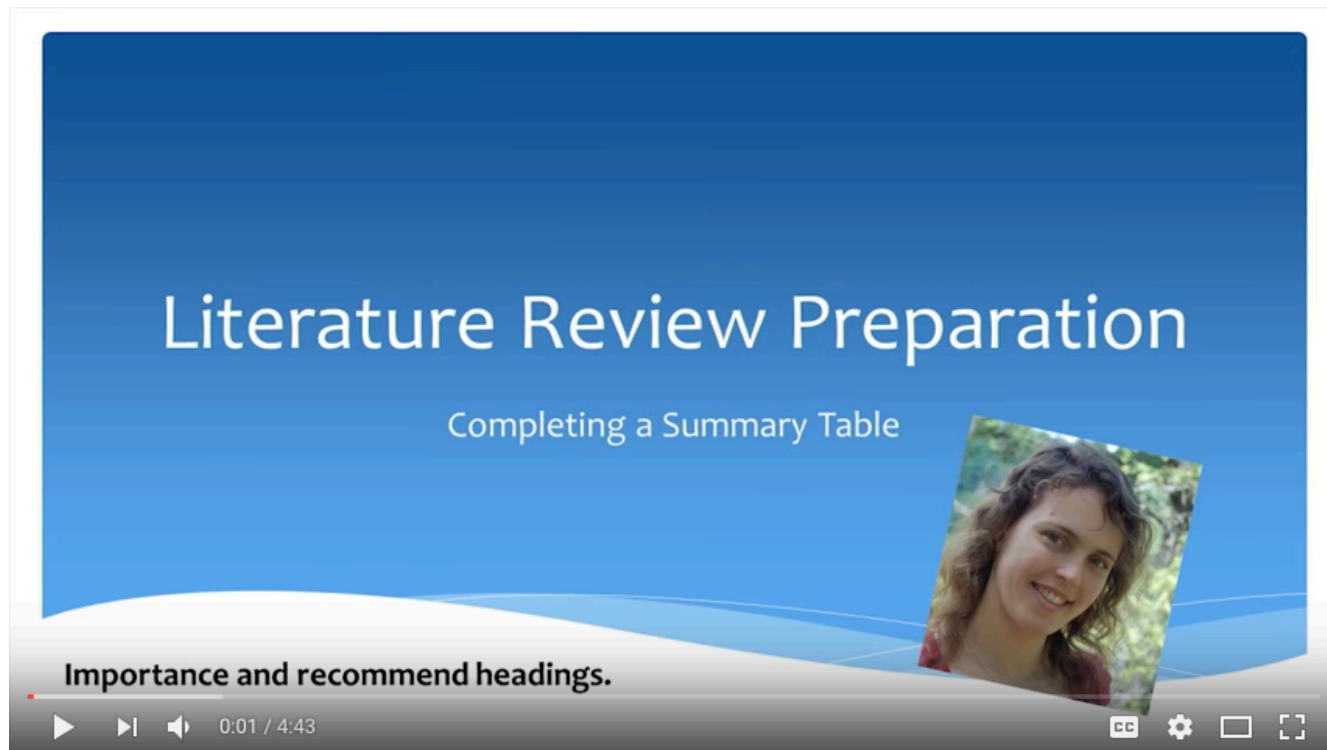
- Authors' names
- Article title
- Publication year
- Main purpose of the article
- Methodology or research design
- Participants
- Variables
- Measurement
- Results
- Conclusions

Other fields that will be useful when you begin to synthesize the sum total of your research:

- Specific details of the article or research that are especially relevant to your study
- Key terms and definitions
- Statistics
- Strengths or weaknesses in research design
- Relationships to other studies
- Possible gaps in the research or literature (for example, many research articles conclude with the statement “more research is needed in this area”)
- Finally, note how closely each article relates to your topic. You may want to rank these as high, medium, or low relevance. For papers that you decide not to include, you may want to note your reasoning for exclusion, such as ‘small sample size,’ ‘local case study,’ or ‘lacks evidence to support assertion.’

This short video demonstrates how a nursing researcher might create a summary table.

## 7.2.1 Creating a Summary Table



Killam, Laura (2013). Literature review preparation: Creating a summary table. Includes transcript. <https://www.youtube.com/watch?v=nX2R9FzYhTO>

Summary tables can be organized by author or by theme, for example:

Author/ Year	Research Design	Participants or Population Studied	Comparison	Outcome
Smith/ 2010	Mixed methods	Undergraduates	Graduates	Improved access
King/2016	Survey	Females	Males	Increased representation
Miller/ 2011	Content analysis	Nurses	Doctors	New procedure

For a summary table template, see <http://blogs.monm.edu/writingatmc/files/2013/04/Synthesis-Matrix-Template.pdf>

## 7.3 CREATING A SUMMARY OUTLINE

An alternate way to organize your articles for synthesis is to create an outline. After you have collected the articles you intend to use (and have put aside the ones you won't be using), it's time to identify the conclusions that can be drawn from the articles as a group.

Based on your review of the collected articles, group them by categories. You may wish to further organize them by topic and then chronologically or alphabetically by author. For each topic or subtopic you identified during your critical analysis of the paper, determine what those papers have in common. Likewise, determine which ones in the group differ. If there are contradictory findings, you may be able to identify methodological or theoretical differences that could account for the contradiction (for example, differences in population demographics). Determine what general conclusions you can report about the topic or subtopic as the entire group of studies relate to it. For example, you may have several studies that agree on outcome, such as ‘hands on learning is best for science in elementary school’ or that ‘continuing education is the best method for updating nursing certification.’ In that case, you may want to organize by methodology used in the studies rather than by outcome.

Organize your outline in a logical order and prepare to write the first draft of your literature review. That order might be from broad to more specific, or it may be sequential or chronological, going from foundational literature to more current. Remember, “an effective literature review need not denote the entire historical record, but rather establish the *raison d’être* for the current study and in doing so cite that literature distinctly pertinent for theoretical, methodological, or empirical reasons.” ([Milardo, 2015, p. 22](#)).

As you organize the summarized documents into a logical structure, you are also appraising and synthesizing complex information from multiple sources. Your literature review is the result of your research that synthesizes new and old information and creates new knowledge.

#### 7.4 ADDITIONAL RESOURCES:

[Literature Reviews: Using a Matrix to Organize Research](#) / Saint Mary’s University of Minnesota

[Literature Review: Synthesizing Multiple Sources](#) / Indiana University

[Writing a Literature Review and Using a Synthesis Matrix](#) / Florida International University

[Sample Literature Reviews Grid](#) / Compiled by Lindsay Roberts

#### Practice

Select three or four articles on a single topic of interest to you. Then enter them into an outline or table in the categories you feel are important to a research question. Try both the grid and the outline if you can to see which suits you better. The attached grid contains the fields suggested in the [video](#).

### *Literature Review Table*

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Author Date	Topic/Focus Purpose	Conceptual Theoretical Framework	Paradigm Methods	Context Setting Sample	Findings	Gaps
----------------	------------------------	-------------------------------------	---------------------	------------------------------	----------	------

---

### Test Yourself

1. Select two articles from your own summary table or outline and write a paragraph explaining how and why the sources relate to each other and your review of the literature.
2. In your literature review, under what topic or subtopic will you place the paragraph you just wrote?

### [REFERENCES](#)

### [IMAGE ATTRIBUTION](#)

## CHAPTER 8: WRITING THE LITERATURE REVIEW

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### Learning Objectives

At the conclusion of this chapter, you will be able to:

- Begin to write your literature review
- Understand and be able to use the appropriate publication guidelines

### 8.1 WRITING THE LITERATURE REVIEW

You have discovered, retrieved, evaluated, synthesized, and organized the information you need for your literature review. It's time to turn that stack of articles and papers and notes into a literature review. It's time to start writing.

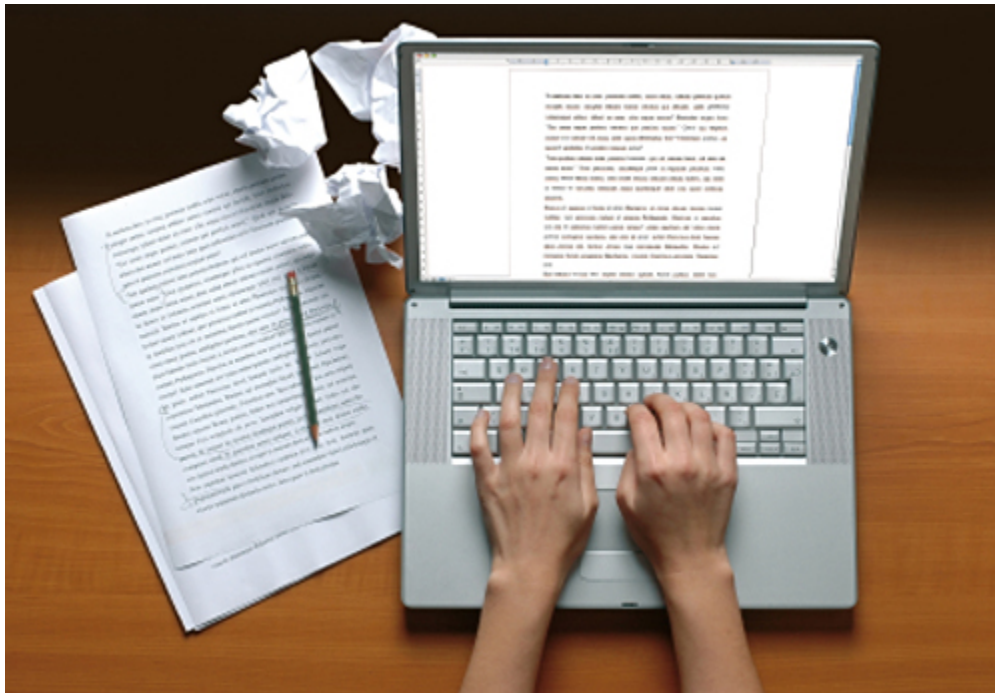


Figure 8.1

The graduate-level literature review is about both content and form. In terms of content, keep in mind that your literature review is intended to:

- Set up a theoretical framework for your own research
- Show a clear understanding of the key concepts/ideas/studies/models related to your topic
- Demonstrate knowledge about the history of your research area and any related controversies
- Illustrate that you are able to evaluate and synthesize the work of others
- Clarify significant definitions and terminology
- Develop a space in your discipline for your research

In other words, literature reviews

...clearly describe the questions that are being asked. They also locate the research within the ongoing scholarly dialogue. This is done by summarizing current understandings and by discussing why what we already know leads to the need for the present research. Literature reviews also define the primary concepts. While this information can appear in any order, these are the elements in all literature reviews. ([Loseke, 2017, p.67](#))

Some questions to ask yourself when you begin to write your first draft include:

- How will my literature review be organized: Chronologically, thematically,

conceptually, methodologically or a combination?

- What section headings will I be using?
- How do the various studies relate to each other?
- What contributions do they make to the field?
- What are the limitations of a study/where are the gaps in the research?
- And finally but most importantly, how does my own research fit into what has already been done?

Some questions to ask after the first draft:

- Is there a logical flow from section to section, paragraph to paragraph, sentence to sentence?
- Does the content proceed from topic to topic?
- Does your conclusion match your introduction?
- Were you consistent in documenting and using the correct citation style?

## 8.2 MAIN FEATURES

No matter how you decide to organize your literature review (chronologically, thematically, etc.), it follows a format you will immediately recognize: **Introduction, Body, Conclusion**. We will look at each section individually.

### 8.2.1 INTRODUCTION

The introduction to the literature review contains a statement or statements about the overall topic of your dissertation or theses. This might be an paragraph or section that lets your reader know what your literature review is going to address. You will describe how the literature review will be organized (for example, what are the main points you are going to address and in what order will they appear?). You may choose to briefly describe search criteria (keywords, databases, journals) in this section, or you may do it in different parts of the review. It is suggested that this introductory section be no longer than two pages in length. The purpose is to lead your reader further into the body of the literature review.

In the introduction, you will:

- Define or identify the general topic, issue, or area of concern thereby providing an appropriate context for the remainder of the review
- Point out overall trends in what has been previously published on the topic; or conflicts in theory, methodology, evidence, conclusions, or gaps in research and

scholarship

- Establish your reason for reviewing this research (**point of view**); explain the criteria used to search the literature; the organization of the review (**sequence**); and – if necessary – why certain literature either is or is not included (**scope**)
- Demonstrate how your research either closes a gap in the literature, extends earlier work, or replicates an important study thereby contributing new knowledge to your discipline.

More tips for the Introduction:

1. Consider presenting a historical frame of reference
2. Point out a landmark or seminal study
3. Provide definitions for important terms
4. Describe how your literature review was conducted
5. Describe any inclusion or exclusion criteria used

## 8.2.2 BODY



*Figure 8.2*

Some general tips for writing the body of your literature review:

- Start broad and then narrow to show how past research relates to your project.
- Make it clear to your reader where you're going, follow a logical progression of ideas
- When appropriate, cite two or more sources for a single point but avoid long strings of references for a single point.
- Use quotes sparingly.
- Keep your own formal academic voice throughout and keep the review focused and objective, following a logical structure.
- Point out consistent findings AND emphasize stronger studies over weaker ones. Point out important strengths and weaknesses of research studies OR contradictions and inconsistent findings.
- Implications and suggestions for further research, or where there are gaps in the current literature, should be specific.

### 8.2.3 CONCLUSION

Summarize your literature review, discuss implications, and create a space for future or further research needed in this area. Like the introduction, this section should be around 3-5 pages in length. How do you know when you're done? Can you answer these 11 questions:

1. Have you clearly defined your topic and audience?
2. Did you search and re-search the literature?
3. Took notes while reading?
4. Chosen the type of review you want to write?
5. Have you kept the review focused throughout?
6. Were you critical and consistent in your evaluation and synthesis?
7. Is the structure of your review logical?
8. Did you make use of feedback?
9. Were you able to stay relevant and objective throughout?
10. Did you maintain an objective voice?
11. Did you cite current and older studies? ([Pautasso, 2013](#)).

### 8.2.4 LIST OF REFERENCES

The reference list of publications used in your literature review serves two purposes. First, it provides your reader with a means to evaluate the quality of your research. Second, accurately and correctly citing all the sources used in your work protects you from possible

accusations of plagiarism. Using the words or ideas of others without referencing your source is a very serious academic offense.

The reference list is a reflection of the thoroughness of your review. It also allows others to retrieve the publications you cite. Errors made in authors' names, journal or article titles, page numbers and dates may present barriers to retrieval of articles and may prevent giving credit to authors for their work. Each reference should be checked carefully for errors. Every in-text citation must have a listing in the references and every title in the reference list should connect to an in-text citation.

### **8.3 TIPS FOR STRUCTURE**

The literature reviews generally move from general to more specific, taking in all the elements mentioned previously.



Figure 8.3

Build your story by identifying areas of consensus and areas of divergence. For example

- It seems there is agreement among researchers...
- Much debate exists on the issue of...

Possible structures:

Distant to close – the most distantly related to your work leading to the most closely related to your work.

Chronological – earliest related work to most recent related work.

Compare and contrast valid approaches, features, characteristics, theories – that is, one approach, then a 2nd approach, followed by a 3rd approach.

Finally, consider the use of summary paragraphs throughout the body of the review. For example:

- In summary, the evidence presented demonstrates that...
- Rather, this literature supports the theory that...
- Consequently, the population studied may experience...
- However, alternative ideas and findings suggest...

## 8.4 AN EXAMPLE AND A CHECKLIST

An example of the possible structure for a literature review:

Introduction

Establish the importance of the topic

Number and type of people affected

Seriousness of the impact

Physical, psychological, economic, social aspects

Definitions of key terms

Literature review strategies

Description of the extent and nature of the literature

Overview of the organization of the rest of the review

Body of the review

Topic 1

Supporting evidence

Topic 2

## Supporting evidence

### Topic 3

Supporting evidence

Summary of the review

Discussion

Conclusions

Implications

Suggestions for future research

List of references

After you have written your first draft, use this checklist to review your progress:

1. Fill in the topic outline with brief notes.
2. Do not write a string of annotations.
3. Cite two or more sources for a single point, but avoid long strings of references for a single point. Consider using e.g. when there are a large number of sources for a single point.
4. Use quotations sparingly.
5. Emphasize stronger studies over weaker ones.
6. Point out strengths and weaknesses of the research cited.
7. Point out consistent findings in a body of literature.
8. Point out contradictions or inconsistent findings as well.
9. Identify gaps.
10. Indicate when previous literature reviews are cited.
11. Implications and suggestions for future research should be specific, not just 'more research is needed.'

### 8.5 IN SUMMARY

Like any effective argument, the literature review must have some kind of structure. For example, it might begin by describing a phenomenon in a general way along with several studies that demonstrate it, then describing two or more competing theories of the phenomenon, and finally presenting a hypothesis to test one or more of the theories. Or it might describe one phenomenon, then describe another phenomenon that seems inconsistent with the first one, then propose a theory that resolves the inconsistency, and finally present a hypothesis to test that theory. In applied research, it might describe a

phenomenon or theory, then describe how that phenomenon or theory applies to some important real-world situation, and finally suggest a way to test whether it does, in fact, apply to that situation.

Looking at the literature review in this way emphasizes a few things. First, it is extremely important to start with an outline of the main points that you want to make, organized in the order that you want to make them. The basic structure of your argument then should be apparent from the outline itself. Second, it is important to emphasize the structure of your argument in your writing. One way to do this is to begin the literature review by summarizing your argument even before you begin to make it, “In this article, I will describe two apparently contradictory phenomena, present a new theory that has the potential to resolve the apparent contradiction, and finally present a novel hypothesis to test the theory.” Another way is to open each paragraph with a sentence that summarizes the main point of the paragraph and links it to the preceding points. These opening sentences provide the “transitions” that many beginning researchers have difficulty with. Instead of beginning a paragraph by launching into a description of a previous study, such as “Williams (2004) found that...,” it is better to start by indicating something about why you are describing this particular study. Here are some simple examples:

Another example of this phenomenon comes from the work of Williams (2004).

Williams (2004) offers one explanation of this phenomenon.

An alternative perspective has been provided by Williams (2004).

We used a method based on the one used by Williams (2004).

Finally, remember that your goal is to construct an argument for why your research question is interesting and worth addressing—not necessarily why your favorite answer to it is correct. In other words, your literature review must be balanced. If you want to emphasize the generality of a phenomenon, then of course you should discuss various studies that have demonstrated it. However, if there are other studies that have failed to demonstrate it, you should discuss them too. Or if you are proposing a new theory, then of course you should discuss findings that are consistent with that theory. However, if there are other findings that are inconsistent with it, again, you should discuss them too. It is acceptable to argue that the balance of the research supports the existence of a phenomenon or is consistent with a theory (and that is usually the best that researchers in psychology can hope for), but it is not acceptable to ignore contradictory evidence. Besides, a large part of what makes a research question interesting is uncertainty about its answer. ([University of Minnesota, 2016](#)).

## 8.6 ADDITIONAL RESOURCES

[Doing a literature review](#) / University of Leicester

[Get Lit: The Literature Review](#) / Texas A&M Writing Centre

### Practice

1. What writing problems do you see in the following introductory paragraph?  
See the Answer Key for the correct response.

In the opening chapter I have attempted to outline and motivate my study of graduate student writing in a school of nursing [or education]. The purpose of this chapter is to relate my study to previous scholarly attempts to describe, analyze and explain academic writing and the processes of its acquisition. One purpose here is to establish what has been revealed in other academic contexts as a basis for the findings of my study. Another purpose is to attempt a critical evaluation of the research so far.

2. Write a 3-sentence statement when this is all that is known:
  - There are 5 studies
  - 3 describe online programs
  - 1 study looks at outcomes; one is positive and one is negative
  - No studies compare outcomes with in-class teaching

### Test Yourself

Read through this summary webpage on literature and make sure you have answered or are able to answer all the questions posed:

[Structuring your assignment](#) / Queensland University of Technology Australia

[Writing a Literature Review](#) / RMIT University Australia

## REFERENCES

## IMAGE ATTRIBUTION

## CONCLUSION

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When you began looking through this book, you may have already been an accomplished researcher and writer. As a student, you may have had both research and writing experiences as an undergraduate that prepared you for your first graduate-level literature review. For most graduate students, however, many of the concepts and skills needed to successfully complete this high-stakes document will be new. And, while developing these skills is not always a linear process, the effort put into acquiring them will serve you throughout both your academic and professional life.

Here is a quick review of the main points from each of the chapters in this book:

1. The purpose of a literature review is to survey the current state of knowledge in the area of inquiry; to identify key authors, articles, theories, and findings in that area; and to identify gaps in knowledge in that research area. (Chapter 1)
2. Some common errors in many first-time literature reviews include:
  1. Accepts another researcher's finding as valid without evaluating methodology and data
  2. Neglects to consider or mention contrary findings and alternative interpretations
  3. Findings are not clearly related to one's own study or findings are too general.
  4. Allows insufficient time to define best search strategies and writing
  5. Simply reports individual studies rather than synthesizing the results
  6. Problems with selecting and using most relevant keywords and descriptors are evident.
  7. Relies too heavily on secondary sources
  8. Does not record or report search procedures
  9. Summarizes rather than synthesizes (Chapter 1)
3. By understanding what the literature in your field is, as well as how and when it is

- generated, you begin to know what is available and where to look for it. (Chapter 2)
4. Most graduate-level literature reviews begin with choosing a relevant, appropriate, interesting topic and then changing it. (Chapter 3)
  5. Search and discovery of the literature is an iterative process. There are many places to look and many tools and techniques to use to find resources. Advanced researchers master this skill early on and refine it with each project. (Chapter 4)
  6. You searched the literature and found lots of relevant resources. How do you now determine whether each item is an appropriate fit for your own review? (Chapter 5)
  7. How will your resources be organized (alphabetically or chronologically)? By broad general theme or theory? Based on a type of methodology or population? What citation management program or software are you going to use to keep track of all your references? (Chapter 6)
  8. Your literature review is not a summary of all the articles you read but rather a synthesis that demonstrates a critical analysis of the papers you collected as well as your ability to integrate the results of your analysis into your own literature review. (Chapter 7)
  9. Like any effective argument, the literature review is about both content and form. It should have logical and smooth flow, a clear introduction and conclusion, and use a consistent citation style throughout. (Chapter 8)

Remember: Writing a good literature review takes time. Start early. Begin thinking about your topic and collect references even while you work on other tasks. Write a first draft and then revise. Go over the language, style, and form. Focus, sharpen, clarify, and search again. When you are satisfied with the result, you're done.

## **HOW IS THE LITERATURE REVIEW EVALUATED?**

It is usually judged in three main areas:

1. Selection of the literature
  1. Have you clearly indicated the scope and purpose of the review?
  2. Have you included a balanced coverage of what is available?
  3. Have you included the most recent and relevant studies?
  4. Have you included enough material to show the development and limitations in this area?
  5. Have you indicated the source of the literature by referencing accurately?
  6. Have you used mostly primary sources or appropriate secondary sources?

## 2. Critique of the literature

1. Have you clearly (and logically) ordered and sorted the research, focusing on themes or ideas rather than the authors?
2. Does the review move from broader concepts to a more specific focus?
3. Is there adequate critique of research limitations, including design and methodology?
4. How do the studies compare or contrast with debates or controversies highlighted?
5. Is the relevance to your problem clear?

## 3. Summary and interpretation of the literature

1. Have you made an overall interpretation of what is available?
2. Do the implications provide theoretical or empirical justification for your own research questions/hypothesis?
3. Do the implications provide a rationale for your research design? (RMIT University)

Many instructors use rubrics to evaluate literature reviews. For a sample of a literature review rubric that may also serve as a checklist for evaluating your own review before submitting, see [Holmlund \(2019\)](#) also listed in the Additional Resources section for this chapter.

We hope that this discussion about literature reviews is useful. After reading this guide, and reviewing the additional resources and activities in each chapter, we hope you have a better understanding of the research and writing process. What conclusions have you reached regarding the content and structure of a literature review that can answer the question, “How do I write a graduate-level literature review?”

## ADDITIONAL RESOURCES

Bell, J. (2005). *Doing Your Research Project: A Guide for First-Time Researchers in Education, Health and Social Science* (4th ed.). New York: Open University Press.

Booth, A., Sutton, Anthea, & Papaioannou, Diana. (2016). *Systematic Approaches to a Successful Literature Review* (2nd ed.). Los Angeles: Sage Publications.

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## APPENDIX

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### ANSWER KEY

#### CHAPTER 1: PRACTICE

Abstract 1: Integrative. Frequently the type of literature review will be clearly given in either the article title or in the abstract. In this case, the authors describe their work as “An integrative literature review between 2004 and 2015...” Additionally, the methodology section of the article may further describe the research methodology and why the integrative approach was chosen.

Abstract 2: Meta-analysis. The authors describe their methodology in this way: “The research design of this study is meta-analysis. Instead of students or schools, we use prior studies as our unit of analysis. Meta-analysis allows researchers to gather information about prior studies and then estimate effect sizes of various components of the combined research studies.”

#### CHAPTER 1: TEST YOURSELF

1. False. A graduate-level literature review is a compilation of the most significant previously published research on your topic
2. True
3. Narrative. “During the preparation of this narrative review, the literature on e-cigarettes available within the network PubMed was retrieved and examined.”
4. Focused. “She wishes to construct a narrowly-focused and succinct literature review of thinkers who have donned a feminist lens to analyze Dewey’s approaches to education...”

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#### CHAPTER 2: PRACTICE

1. Good places to find basic information on any topic are textbooks, and encyclopedia. You may also find a book chapter that will be able to give you the basics. If you were

looking for a quick answer or definition, the Web can give you some ideas though you would need to be more critical of the source.

2. Often these radio broadcasts, or news items in newspapers or magazines will give you enough information to find a study. They may state where a study was published, the names of the researchers, where the study was conducted, etc. Using these clues you can do a web search for more details and find a citation for a journal article or conference proceeding. Another way to find the study is to go to a subject specific database that indexes articles from scholars in that discipline and use your clues and search terms about the study and see what you find.
3. Trade publications are a good place to find practical information about how professionals are applying research to everyday practice. For some issues you might find monographs that cover practical application, too. Always be aware of who is writing these articles and books. Are qualified to speak on the topic?
4. Grant applications will require you to show what is being published on the research topic you want to explore. They will require you to cite studies from journals that are scholarly and peer reviewed. It is also possible to cite conference proceedings and professional websites but journal articles will likely be the bulk of your evidence that the topic is of interest and that you have checked to see if anyone else has done this study before.
5. Remember that primary sources are those that came first. You could look for newspaper articles or advertisements from the time period you are studying. Diaries might also be a source of information as well as medical books published during that time. Historical societies and museums also have artifacts and old print material. There are some encyclopedias and monographs that contain historical documents and there are many that are digitized and can be found on the Web.
6. To be sure there are no other theses like the one you want to write you can look in dissertation and theses databases, such as *ProQuest's Dissertation Express* or search the web to see if any are available.
7. Check any Facebook hyperlinks to determine the quality and authenticity of the source. You can also look at fact-checking sites such as [Snopes.com](http://Snopes.com), [FactCheck.org](http://FactCheck.org) or [PolitiFact.com](http://PolitiFact.com) to determine the veracity or accuracy of a posting.

## CHAPTER 2: TEST YOURSELF

1. Match the type of periodical to its content:
  - Magazine – contains articles about a variety of topics of popular interest and contains advertising.

- Trade publication – has information about industry trends and practical information for professionals in a field.
  - Scholarly journal – written by scholars in an academic field and reviewed by experts in that field.
2. Put the following information sources in order from the least accurate and reliable to the most accurate and reliable. (1 least accurate/4 most accurate)
    - News broadcasts and social media directly following an event.
    - Analysis of an event in the news media or popular magazine weeks after an event.
    - Articles written by scholars and published in a journal.
    - Books and encyclopedias
  3. What is the information called that is either a diary, a speech, original research, data, artwork, or a religious book?

Primary

4. To find the best information in databases you need to use keywords that are used by the scholars. Where do you find out what keywords to try?

All of the above

5. Which of the following is NOT true about scholarly journals?

They are of interest to the general public

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## CHAPTER 3: PRACTICE

2. Which of the following questions seems the most viable for further study and why?
  - Defines and describes a population (rural adult learners) and sets up a comparison with another population (adult learners in general). Potential to broaden or narrow scope and depth as needed.

Questions b) and c) are more descriptive and lack specifics.
3. Can you spot the research question? What are the PICO factors for each?
  - What types of workplace hazards do nursing assistants face? Population (nursing assistants in the US); Outcome (prevention, improved training)
  - What are the family needs of children affected by parental mental health problems?

Population (families affected by mental health issues); Comparison (needs of parents/needs of children)

- What are the contributions of music to peacebuilding? Intervention (music); Comparison (peacekeeping/violence)
- What health literacy programs are available for older adults? Population (older adults); Intervention (health literacy programs)
- Are reading instruction programs effective for English language learners? Population (English language learners); Intervention (reading instruction programs)
- Are cultural interventions effective in treating addictions? Population (indigenous people with addictions); Intervention (culture-based programs); Outcomes (dimension of wellness)

### CHAPTER 3: TEST YOURSELF

1. False
2. B
3. A
4. D
5. No
6. 2

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### CHAPTER 4: PRACTICE

Self-guided study

### CHAPTER 4: TEST YOURSELF

Self-guided study

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### CHAPTER 5: PRACTICE

Self-guided study

### CHAPTER 5: TEST YOURSELF

For Nursing students: #1 is the correct answer. Although article #2 concerns vaccinations, it does not appear to link to autism.

For Education students: #2 is the correct answer. Although #1 concerns music intervention, your topic is about therapy, not vaccinations.

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## CHAPTER 6: PRACTICE

Self-guided study

## CHAPTER 6: TEST YOURSELF

1. Guidelines/State
  2. All of the above
  3. (Barrett, 1991, p. 17)
  4. Poortman, A. (2005). How work affects divorce: The mediating role of financial and time pressures. *Journal of Family Issues* 26(2), 168-180.
  5. Sources cited in the paper must appear on the reference page in alphabetical order
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## CHAPTER 7: PRACTICE

Self-guided study

## CHAPTER 7: TEST YOURSELF

Self-guided study

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## CHAPTER 8: PRACTICE

1. For example: This introductory paragraph does state an overall topic (graduate student writing among nursing or education students) however:
  - The tone and style of a literature review is formal, generally written in the third person
  - In the first sentence, 'motivate' may not be the correct term. Perhaps 'inform' would be more appropriate here
  - Although 'purpose' of the chapter is mentioned several times, it is unclear if the literature review has one purpose or several purposes. If the only purpose of this review is to critically evaluate previous research, that should be stated more clearly
  - Later sentences and paragraphs must also:
    - Establish your reason for undertaking this research and your point of view.

The reader doesn't know from this paragraph what 'my study' means

- Define the general topic and thereby provide an appropriate context for the remainder of the review
  - Point out gaps in the existing literature that your research will fill
  - Describe how the lit review will be organized
- Review this module for more ideas on how to prepare an introduction to your own literature review.
2. For example: The search strategy yielded five different studies. Three described online programs in general; 1 looked specifically at positive outcomes of online programs, the other described negative aspects. No studies that assessed outcomes for in-class compared to online teaching were found.

## CHAPTER 8: TEST YOURSELF

Self-guided study

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### LITERATURE REVIEW EXAMPLE FOR EDUCATION

Kose, L. K. (2013). Challenges of charter schools with special education: Issues of concern for charter school authorizers and services providers. *Mid-Atlantic Education Review* 1(1), 36-45. <http://maereview.org/index.php/MAER/article/view/7/7>

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### LITERATURE REVIEW EXAMPLE FOR NURSING

Balzer, K., Bremer, M., Schramm, S., Luhmann, D., & Raspe, H. (2012). Falls prevention for the elderly. *GMS Health Technology Assessment* 8, 1-18. <http://www.egms.de/static/en/journals/hta/2012-8/hta000099.shtml>

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Figure 1.2 Magnifying glass (2007). Public domain. <https://commons.wikimedia.org/wiki/File:Lupa.na.encyklopedii.jpg>

Figure 1.3 Rolfe, V. (n.d.). Systematic approach to desk-top research. CC BY SA. <http://vivrolfe.com/blog/methods-for-conducting-effective-desk-top-research/>

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### CHAPTER 2

Figure 2.1 geralt (n.d.). Knowledge CC0. <https://pixabay.com/en/board-learn-note-skills-career-597190/>

Figure 2.2 University of Winnipeg Libraries. *Scholarly Communication: The Scientific Publication Cycle*. <https://library.uwinnipeg.ca/scholarly-communication/index.html>

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### CHAPTER 3

Figure 3.1 Thompson, S. (2013). “Doodling your search words.” CC BY-SA 2.0 <https://www.flickr.com/photos/epist/8488603839/>

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Figure 5.2 Frederiksen, L. (2017). Evidence pyramid. Public domain.

## CHAPTER 6

Figure 6.1 Christmas w/a K (2008). "External Memory-Analog Saved Me" CC BY-SA 2.0 <https://www.flickr.com/photos/christmaswithak/2739204549/>

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Figure 7.1 Rawdonfox (2012). Odd One Out. CC BY 2.0 <https://www.flickr.com/photos/34739556@N04/6802867364/in/photostream/>

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## ABOUT THE AUTHORS

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**Linda Frederiksen** is the Head of Access Services at Washington State University Vancouver. She has a Master of Library Science degree from Emporia State University in Kansas. Linda is active in local, regional and national organizations, projects and initiatives advancing open educational resources and equitable access to information.

**Sue F. Phelps** is the Health Sciences and Outreach Services Librarian at Washington State University Vancouver. Her research interests include information literacy, accessibility of learning materials for students who use adaptive technology, diversity and equity in higher education, and evidence based practice in the health sciences

## ACCESSIBILITY ASSESSMENT

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### A NOTE FROM THE REBUS COMMUNITY

We are working to create a new, collaborative model for publishing open textbooks. Critical to our success in reaching this goal is to ensure that all books produced using that model meet the needs of all students who will one day use them. To us, open means inclusive, so for a book to be open, it must also be accessible.

As a result, we are working with accessibility experts and others in the OER community to develop best practices for creating accessible open textbooks, and are building those practices into the Rebus model of publishing. By doing this, we hope to ensure that all books produced using the Rebus Community are accessible by default, and require an absolute minimum of remediation or adaptation to meet any individual student's needs.

While we work on developing guidelines and implementing support for authoring accessible content, we are making a good faith effort to ensure that books produced with our support meet accessibility standards wherever possible, and to highlight areas where we know there is work to do. It is our hope that by being transparent on our current books, we can begin the process of making sure accessibility is top of mind for all authors, adopters, students and contributors of all kinds on all our open textbook projects.

Below is a short assessment of eight key areas that have been assessed during the production process. The [checklist](#) has been drawn from the [BCcampus Accessibility Toolkit](#). While a checklist such as this is just one part of a holistic approach to accessibility, it is one way to begin our work on embedded good accessibility practices in the books we support.

Wherever possible, we have identified ways in which anyone may contribute their expertise to improve the accessibility of this text.

We also welcome any feedback from students, instructors or others who encounter the book and identify an issue that needs resolving. This book is an ongoing project and will be updated as needed. If you would like to submit a correction or suggestion, please do so using the [Rebus Community Accessibility Suggestions](#) form.

## WEBBOOK CHECKLIST

Area of focus	Requirements	Pass?
Organizing Content	Contents is organized under headings and subheadings	Yes
	Headings and subheadings are used sequentially (e.g. Heading 1, heading 2, etc.)	Yes
Images	Images that convey information include Alternative Text (alt-text) descriptions of the image's content or function	Yes
	Graphs, Charts, and Maps also include contextual or supporting details in the text surrounding the image	Yes
	Images do not rely on colour to convey information	No
	Images that are purely decorative contain empty alternative text descriptions. (Descriptive text is unnecessary if the image doesn't convey contextual content information)	Yes
Tables	Tables include row and column headers	No
	Table includes title or caption	No
	Table does not have merged or split cells	Yes
	Table has adequate cell padding	Yes
Weblinks	The weblink is meaningful in context, does not use generic text such as "click here" or "read more"	Yes
	Weblinks do not open new windows or tabs	Yes
	If weblink must open in a new window, a textual reference is included in the link information	n/a
Embedded Multimedia	A transcript has been made available for a multimedia resource that includes audio narration or instruction*	n/a
	Captions of all speech content and relevant non-speech content are included in the multimedia resource that includes audio synchronized with a video presentation	n/a
	Audio descriptions of contextual visuals (graphs, charts, etc) are included in the multimedia resource	n/a
Formulas	Formulas have been created using MathML	n/a
	Formulas are images with alternative text descriptions, if MathML is not an option	n/a
Font Size	Font size is 12 point or higher for body text	Yes
	Font size is 9 point for footnotes or endnotes	Yes
	Font size can be zoomed to 200%	Yes

\*Transcript includes:

- Speaker's name
- All speech content
- Relevant descriptions of speech
- Descriptions of relevant non-speech audio
- Headings and subheadings

## REVIEW STATEMENT

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*Literature Reviews for Education and Nursing Graduate Students* was produced with support from the [Rebus Community](#), a non-profit organisation building a new, collaborative model for publishing open textbooks. Critical to the success of this model is including mechanisms to ensure that open textbooks produced with the Community are high quality, and meet the needs of all students who will one day use them.

As a result, this book has undergone peer review by subject experts from seven institutions, each reviewing one to two chapters of the book. The reviewers were largely librarians at research institutions, with specialized experience in either Education or Nursing. Reviews were structured around considerations of the intended audience of the book, and examined the comprehensiveness, accuracy, and relevance of content. See the [Rebus Community Review Guide](#) for more details.

Linda, Sue, and the team at Rebus would like to thank the review team for the time, care and commitment they contributed to the project. We recognize that volunteering to review the book without compensation is a generous act of service on their part. This book would not be the robust, valuable resource that it is were it not for their feedback and input.

Reviewers included:

- Stephanie Roth, Temple University
- Jackie Sipes, Temple University
- Elizabeth Yates, Brock University
- Agnieszka Gorgon, Seneca College
- Manisha Khetarpal, Maskwacis Cultural College
- Megan Lowe, University of Louisiana Monroe
- Lindsay Roberts, University of Colorado

## VERSION HISTORY

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This page provides a record of edits and changes made to this book since its initial publication. Whenever edits or updates are made in the text, we provide a record and description of those changes here. If the change is minor, the version number increases by 0.1. If the edits involve substantial updates, the version number increases to the next full number.

The files posted alongside this book always reflect the most recent version. If you find an error in this book, please let us know in the [Rebus Community forum](#).

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Version	Date	Change	Affected Web Page
1.1	Feb 18, 2019	added sample rubric	Conclusions
1.2	May 11, 2020	Updated broken link: “A Young Researcher’s Guide to a Systematic Review” article.	Chapter 1

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