3. Planning Your Research: Reviewing the Literature and Developing Questions

**ESSENTIAL QUESTIONS**

- What is relevant literature? What are the best ways to find it?
- What are the best ways to organize your relevant literature?
- What are the intended outcomes of reviewing your relevant literature?

Nearly all research begins with a review of literature that is relevant to the topic of research, even if it is only a casual review. Reviewing the available literature on your topic is a vital step in the research process. The literature review process provides an anchor for your inquiry. O’Leary (2004, p. 66) states, the “production of new knowledge is fundamentally dependent on past knowledge” because “it is virtually impossible for researchers to add to a body of literature if they are not conversant with it.” By reviewing the literature in the initial stages of the inquiry process, researchers are better able to:

- Understand their topic;
- Develop and focus a topic;
• Provide a clear rationale for, or better situate, their topic;
• Fine-tune their research questions.

In terms of thinking about methodology and the actual research process, reviewing the literature can help researchers:

• Identify well-vetted data collection and analysis methods on their topic;
• Determine whether to replicate a previous study, or develop a completely new study;
• Add rigor and validity to the research by validating the topic, methods, and significance.

Lastly, reviewing the literature also helps the researcher make sense of their findings, in both their field of study and in their educational context, by:

• Assessing whether the findings correlate with findings from another study;
• Determining which of the findings are different than previous studies;
• Determining which of the findings are unique to the researcher's educational context.  

As you may see, the literature review is the backbone, anchor, or foundation of your research study. Overall the review of literature helps you answer three important questions that are the result of the bullet points outlined above. The literature review helps you answer the following:

1. We will talk about this aspect of literature reviews further in Chapters 6 and 7.
• What do we know about your topic?
• What do we not know about your topic?
• How does your research address the gap between what we know and what we don’t about your topic?

After reviewing the literature, if you are able to answer those three questions, you will have a very clear and well-rationalized justification for your inquiry. If you cannot answer those questions, then you should probably keep reviewing the literature by looking for related topics or synonyms of major concepts.

While an extensive review of the literature about your topic of study is expected, you should also be realistic as to what you are able to manage. For topics that have a lot of research literature available, make sure you establish parameters for your research, such as:

• **Temporal** (e.g., only articles in the last 5 or 10 years)
• **Content Area** (e.g., only in science and math classrooms)
• **Age or grade** (e.g., only middle school classrooms)
• **Research Subject** (e.g., girls only, teachers, struggling readers)

These categories provide only a few examples, but parameters like
these can make your review of literature much more manageable and your study much more focused.

**What Types of Literature Should You Consider in Your Review?**

It is helpful to consider the characteristics, purposes, and outcomes of different types of literature. Below are four broad categories I identify within educational research literature. I want to emphasize that my categories are in no way definitive, and only represent my own understanding.

**Policy-Based Literature**

Policy-based literature includes official documents that outline education policy with which the practitioner needs to be familiar. For example, the Common Core Standards or Content Standards are often referenced in articles to situate the need for research in relation to the standards; if my topic was on place-based education with middle school social studies students, I might have to look at national social studies standards. There also may be initiatives launched by organizations or researchers that become accepted practice. The documents that launch these initiatives (e.g., reports, articles, speeches) would also be useful to review. An example would be the *Report of the National Reading Panel: Teaching Children to Read* report from the National Reading Panel. These documents may provide rationale, based on the theories and concepts they utilize, and they may provide new ways of thinking about your topic. Similarly, if your topic is based on the local context, recent newspaper articles could also provide policy-type insights. All of these policy-based insights will be useful in providing the landscape or background for your work.

**Theoretical Literature**

Once you have identified your theoretical perspective, it is also important to locate your research within the appropriate theoretical literature. Many of you may be engaged in highly practice-based or small-scale research and wonder if you need a theoretical basis in your literature
review. Regardless of the extent of your project, theoretical literature will help with the rigor and validity of your study and will help identify any theoretical views that underlie your topic. For example, if your study focuses on the place-based education in enhancing social studies students’ learning, it is highly probable that you would cite Kolb’s (1984/2014) work on Experiential Learning. By using Kolb’s work, you situate your research theoretically in the area of experiential learning.

**Applicable Literature**

Applicable literature will account for the bulk of your literature review. The previous two types of literature provide indication as to where your research is rationalized professionally and situated theoretically. Applicable literature will mainly come from journals related to your specific field of study. If I was doing a study in a social studies classroom, I would look at the journals *The Social Studies*, *Social Education*, and *Social Studies Research and Practice*. Use Google Scholar or your university library databases to examine literature in your specific area. When using these search engines and databases, start as specific as possible with your topic and related concepts. Using the example of place-based learning from above, I would search for “place-based learning” and “social studies” and “middle school” and “historic sites”. If I did not find many articles with this first search, then I would remove “historic sites” and search again. Books or handbooks on research may also have some useful studies to support your literature review section.

**Methodological Literature**

When sharing or reporting your work, you will want to review and cite research methodology literature to justify the methods you chose. When reading other research articles, pay attention to the research methods used by researchers. It is especially important to find articles that use and cite action research methodology. This type of
literature will provide further support of your data gathering and analysis methods. Again, your methods should fit within your theoretical and epistemological stances. In addition, you’ll want to review data collection methods and potentially borrow or adapt rubrics or surveys from other studies.

**Sources of Relevant Literature**

When searching for these four types of literature, there are two ways to think about possible sources:

- **primary sources** include government publications, policy documents, research papers, dissertations, conference presentations and institutional occasional papers with accounts of research;

- **secondary sources** use primary sources as references, such as papers written for professional conferences and journals, books written for practicing professionals and book reviews. This is often called “reference mining” as you look through the reference lists of other studies and then return to the primary source that was cited.

Secondary sources are often just as valuable as primary sources, or potentially more valuable. When beginning your search, secondary sources can provide links to a wealth of primary sources that the secondary source author has already vetted for you, and likely with similar intentions. This is especially true of research handbooks. You will come across both types of literature wherever you search, and they both provide a landscape for your topic and add value to your literature review.

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Regardless of being a primary or secondary source, you want to make sure the literature you review is peer-reviewed. Peer-reviewed simply means that the article was reviewed by two to three scholars in the field before it was published. Books, or edited books, would have also gone through a peer-review process. We often recommend teachers to look at professional books from reputable publishing companies and professional organizations, such as ASCD, NCTE, NCTM, or NCSS. This is a way for scholars to objectively review each other’s work to maintain a high level of quality and ethics in the publication of research. Most databases have mostly peer-reviewed journals, and often provide a filter to sort out the non-peer-reviewed journals.

Using the Internet

The internet is a valuable research tool and is becoming increasingly efficient and reliable in providing peer-reviewed literature. Sites like Google Scholar are especially useful. Often, and depending on the topic, the downside of internet-based searches is that it will generate thousands or millions of sources. This can be overwhelming, especially for new researchers, and you will have to develop ways to narrow down the results.

Professional organization websites will also have resources or links to sources that have typically been vetted. With all internet sources, you should evaluate the information for credibility and authority.

Evaluating sources from the Internet

Evaluating internet sources is a whole field of study and research within itself, and an in-depth discussion would take away from the focus of this book. However, O’Dochartaigh (2007) provides a chapter to help guide the internet source evaluation process. Here is a brief summary, based on O’Dochartaigh’s book, to give you a general idea of the task of evaluating sources:

- Examine if the material belongs to an advocacy group. Many times, these sources are fine, however, they
require extra examination for bias or funding interests.

- As mentioned above, many academic papers are published in refereed journals which are subject to peer-review. Papers found on academic or university websites are typically refereed in some manner; however, some papers are posted by academics on their personal sites and have not been reviewed by other academics. Papers published solely by academics or other experts require further scrutiny before citing.

- When you are reviewing newspaper and magazine articles from the internet be weary of potential conflicts of interest based on the political stance of that periodical.

Therefore, it is wise to consider the objectivity of any source you find on the internet before you accept the literature.

We always recommend that students consider a few questions in their evaluation of sources, which are similar to the formal questions outlined by O’Dochartaigh (2007):

- Is it clear who is responsible for the document?
- Is there any information about the person or organization responsible for the page?
- Is there a copyright statement?
- Does it have other publications that reinforce its authority?
- Are the sources clearly listed so they can be verified?
- Is there an editorial involvement?
- Are the spelling and grammar correct?
- Are biases and affiliations clearly stated?
- Are there dates for when the document was last updated or revised?
**Organizing your Literature**

When you begin, here are some things to think about as you read the literature. Again, these are not definitive, but merely provided for guidance. These questions are especially focused on other action research literature:

**Questions to Think about as You Examine the Literature**

- What was the context of their research?
- Who was involved? Was it a collaborative project?
- Was the choice of using action research as a method justified? Are any models discussed?
- What 'actions' actually took place?
- How was data gathered?
- How was data analyzed?
- Were ethical considerations addressed? How?
- What were the conclusions? Were they justified using appropriate evidence?
- Was the report accessible? Useful?
- Is it possible to replicate the study?

Regardless of the amount of literature you review, your challenge will be to organize the literature in a way that is manageable and easy to reference. It is important to keep a record of what you read and how it relates conceptually to your topic. Some researchers even use the questions above to organize their literature. It is easy to read and think about the content of an article by making brief notes, however, this is often not enough to initially begin to develop your study or write about your findings. I will state the obvious here: organizing your literature search efficiently from the start is vital!
No matter how you choose to record or document the articles you read (e.g., paper, computer, photo), I would suggest thinking about the format in terms of index cards. Index cards are a very practical and simple model because the space limits you to be precise in recording vital information about each article. I typically create a document on my computer, allow each article the space of an index card, and focus on recording the following information:

- Author
- Title
- Date
- Journal/Book Chapter Title
- Main Arguments/Key findings
- Pertinent Quote(s)
- Implications
- Connective Points (how does it relate to my work and/or other articles)

I find that these aspects provide the information I need to be refreshed on the article and to be able to use it upon review.

There are also a lot of computer applications that are very useful and efficient in managing your literature. For example, Mendeley© provides comprehensive support for reviewing literature, even allowing you to store the article itself and make comments or highlights in text. There are also many citation apps that are helpful if you continue this research agenda and use roughly the same literature for each project.

**Using the Literature**

Think ahead to when you have collected and read a good amount of literature on your topic. You are now ready to use the literature to think about your topic, your research question, and the methods you plan to use. It might be helpful to peek ahead to Chapter 7 where I discuss writing the literature review for a report to give you an idea of the end goal. The primary purpose of engaging in a literature review is to provide knowledge to construct a framework
for understanding the landscape of your topic. I often suggest for students to think of it as constructing an argument for your research decisions, or as if you are telling a story of how we got to this point in researching your topic. Either way you are situating your research in what we know and don’t know about your topic.

Naturally we tend to think about, and potentially write about, the literature in relation to the article’s author (e.g. Clark and Porath (2016) found that...). However, more commonly today in educational research you will find that literature reviews are organized by themes. It can be a little more organic to think about literature in terms of themes because they emerge or become more defined as you read. Also thinking thematically allows the articles to naturally connect and build on each other, whereas thinking in terms of authors can fragment thinking about the topic. In terms of thinking thematically, here are some guidelines:

- Identify the significant themes that have emerged organically from the literature review. These themes would be concepts or ideas that you typed or wrote down in your note-taking or management system.
- Introduce the common concepts or ideas by themes, instead of by authors’ disjointed viewpoints. Paragraphs in a thematic literature review begin like: The research on teacher self-efficacy has identified several key factors that contribute to strong self-efficacy....
- Lastly, once you have introduced each theme and explained it, then present evidence from your readings to demonstrate the parameters of the knowledge on the theme, including areas of
agreement and disagreement among researchers. Using the evidence, explain what the evidence for the theme means to your topic and any of your own relational or critical commentary.

Another way to think about structuring a literature review is a funnel model. A funnel model goes from broad topic, to sub-topics, to link to the study being undertaken. You can think of a literature review as a broad argument using mini-arguments. To use the funnel model, list your topic and the related subtopics, then design questions to answer with the literature. For example if our topic was discussion-based online learning, we might ask the following questions before reading the literature:

- Why is discussion important in learning?
- How does discussion support the development of social, cognitive, and teacher presence in an online course?
- What does research say about the use of traditional discussion boards?
- What does the research say about asynchronous, video-based discussion?
- How have other researchers compared written and video responses?
- How does this literature review link to my study?

O’Leary (2004) provides an interesting representation and model of the purpose for the literature review in the research process, in Figure 3.1. We will leave this for you to think about before moving on to Chapter 4.
Figure 3.1 Reviewing the Literature