Step 2: Build a Literature Review and Identify a Theoretical or Conceptual Framework

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Introduction

Foundations are important. There is a Biblical parable about two builders. One builder builds his house on a solid foundation. When storms come, the house remains standing. The other builder builds his house on the sand. When storms come, the house falls. The truth conveyed here is that those who choose to lead a life in accordance to God's word labor not in vain; whereas, those who choose to a life in disobedience to God's word labor in vain.

Although this parable refers to faith, the principle of this parable applies in developing a research plan. It is important to have a solid foundation within the empirical literature in order to build a successful research plan.

Topical Discussion: The Literature Review

The literature review consists of 2 parts:

- 1) the process, and
- 2) the product.

The **process** is the literature search. A literature search is "a systematic and through search of all types of published literature in order to identify as many items as possible that are relevant to a particular topic" (Gash, 2000, p.1). If you are writing a dissertation or a thesis, then you should expect to review between a 1,000 to 2,000 articles. In the product, you may only include 15 to 20% of what you review.

The **product** is the written document that is a coherent argument that leads to a proposed study written from your perspective. It is a written synthesis of the literature arranged around themes from your critical perspective. One of the most informative definitions of a literature review I have found is one that Ridley (2008) stated. The literature review is …

> "where there is extensive reference to related research and theory in your field; it is where connections are made between source texts you draw on and where you position yourself and your research among other sources. It is the opportunity to engage in a written dialogue with researchers in your area while at the same time showing that you have engaged with, understood and responded to the relevant body of knowledge underpinning your research. The literature review is where you identify theories and previous research which influenced your choice of research topic and the methodology you are choosing to adopt. You can use the literature to support your identification of a problem to research or illustrate that there is a gap in previous research that needs to be filled. The literature review, therefore, serves as the driving force and the jumping off point for your own research investigation." (Ridley, 2008, p.2)

When constructing a literature review, you want to ensure that it does the following:

- Provides context of the study and clarifies the relationship between the proposed research and previous research, both empirical and theoretical
- Show how the proposed study is unique from previous research
- Convince the reader that your study is timely and worthwhile
- Demonstrate your critical ability as a scholar, not your knowledge of others' works (e.g. "Jones says…" "Anderson states…"). Formulate an argument from *your perspective*.
- Make assertions and convince the reader of their legitimacy by providing logical and empirical support. All assertions must be accompanied by empirical support.

Your literature review should logically lead to your research problem, purpose, and questions, which in turn leads to the identification of your research approach and design. As you provide an overview of the literature and call attention to the gap that was identified this begins that logical progression.

Topical Discussion: Types of Literature
(Section written by Amanda Rockinson-Szapkiw and Lucinda Spaulding).

As you conduct a review of the literature, you need to understand that there are different types of literature. Literature reviews, meta-analyses, research articles, and theory pieces.

Literature Reviews and Meta-Analyses

Literature reviews and meta-analyses are both considered "review articles" and are similar in many ways:

- First, they are both conducted for the purpose of integrating and synthesizing the findings from multiple research articles on a specific topic in order to summarize the current "state of the literature" on that topic.
- Both involve conducting thorough and systematic review of the literature to identify all of the studies conducted within a specific time frame addressing the topic of interest.
- Both publications should provide a list of descriptors or key words used in the search for relevant articles, identify the search engines or data bases used, and both should provide the span of dates of the publications included, for example, 1975 to 2010.
- Both should have an extensive reference list of articles reviewed.

Where literature reviews and meta-analyses differ are in the type of articles reviewed and how the findings are presented.
We'll start by discussing meta-analyses. Meta-analyses are characterized by the following:

- Meta-analyses combine statistical results to determine the overall magnitude of findings, therefore, only quantitative research studies are included.
- The APA requires all single quantitative research studies to report the study's effect size, that is, the magnitude or importance of the study's findings, sometimes referred to as the "practical significance of a study." Meta-analyses are conducted by averaging effect sizes from multiple quantitative studies on a single topic to find an overall effect size for a specific intervention or treatment.

- It's important to note that meta-analyses are used to determine either the strength of an intervention or the difference between two groups.
- A well known example is the National Reading Panel's meta-analysis comparing phonics to whole language instruction. Sixty-six effect sizes from 38 primary research studies were combined to produce an overall effect size of 0.41, which is a moderate effect size in favor of phonics instruction over whole language.
- If you are lucky and your topic is a well researched one, you may even come across a mega-analysis, which is a meta-analysis of overall effect sizes produced from other meta-analyses!
- In summary, meta-analyses are your "quantitative" research reviews, and results are commonly reported in tables.

Literature reviews on the other hand, would be considered your "qualitative" literature reviews. When an intervention has not yet been evaluated quantitatively or the body of literature on the topic is still developing, there may not be enough studies to conduct a rigorous meta-analysis. Further, given the topic, the body of literature may include rigorous qualitative studies that naturally do not generate statistical findings or produce effect sizes. In this case, literature reviews, also sometimes referred to as narrative research syntheses, or integrative reviews, are needed. These research reviews are characterized by the following:

- Findings from various research studies—both quantitative and qualitative—are combined to draw an overall conclusion about findings
- Generally help to identify patterns or consistencies across studies
- Findings are generally described textually and under subheadings. In other words, conclusions about the state of the literature on the topic are presented in narrative form as opposed to tabular form.

So, to broadly summarize, meta-analyses combine statistical findings from strictly quantitative research studies in order to produce an overall effect size, whereas literature reviews combine findings from both qualitative and quantitative studies and the conclusions are discussed in narrative form.

As you search for meta-analyses and literature reviews, be sure that you are identifying an actual meta-analysis or literature review, which means that the findings from multiple studies were systematically and rigorously synthesized. Students often confuse the small Literature Review which is a required section at the beginning of good research studies for an actual research review. Students also frequently mistake a practitioner oriented article where the authors discuss a specific educational approach or intervention which includes some findings from recent studies to support the teaching approach or intervention and identify it as a literature review. However, these are not rigorous systematic reviews of the literature but rather explanatory or informational articles geared toward teachers. Remember to look for the elements discussed earlier, such as a list of key terms, search engines, and date spans. A good place to start your search is with the journal titled "Review of Educational Research."

Research Articles

The vast majority of research reports are published in academic journals. The academic journals are most easily accessed through our university library databases. Academic Search Complete, ERIC, and PsyInfo are some of my favorite databases to search when I am looking for research articles on a particular topic.Google Scholar is another resource that links to articles in our library databases.

Let’s talk about research articles and how you can identify them. In research articles, researchers describe how they identified the problem, made relevant observations to gather data, and analyzed the data they collected. The report usually concludes with a discussion of the results and their implications. Research articles have a specific format, and they usually have 5 primary features:

- The Abstract
- The Introduction and Literature Review
- The Methods
- The Results
- The Discussion and Conclusion

The Abstract

An abstract is a summary of the research report. It is usually between 100 to 250 words. APA journals usually specify 240 words or less. A well written abstract for a research article should include the problem under investigations and purpose of the study; the participants and general methodology; the findings, including statistical significance levels; the conclusions and implication or application of the findings. As you can see, the abstract summaries each of the other key features of a research article. You should be able to simply read the abstract and determine whether or not you are reading a research article.

The Introduction and Literature Review

The introduction and literature review sections of the article provide:

- **An Overview of the Problem(s) or Problem(s) Statement(s)**
    - “A problem might be defined as the issue that exists in the literature, theory, or practice that leads to a need for the study” (Creswell, 1994, p. 50). A problem statement summarizes “ the context for the study” and the main problem the study seeks to address (Wiersma, 1995, p. 404).
- **A relevant review of the literature pertinent to the topic under study**
    - contains a summary of the most relevant literature and provides the historical (e.g. how the problem has evolved over time), social (e.g. contexts), and theoretical (e.g. important variables, the theoretical concepts, and the principles underpinning the research) contexts for the research problem.
- **A Purpose Statement**
    - The purpose statement clearly and succinctly states the focus and intentions of the proposed research. “The purpose statement should provide a specific and accurate synopsis of the overall purpose of the study” (Locke, Spirduso, & Silverman, 1987, p. 5) and begin with the following statement: “The purpose of this study is .

. .” It foreshadows the research question(s) and hypothesis (es), which are usually, presented immediately following. Note a qualitative research article only has questions; hypotheses are not applicable.

The Methods

The methods section describes how the study was conducted with sufficient details that would enable another researcher to replicate the study. The methods section is generally divided into subsections. Although subsections may vary across manuscripts and journals, these subsections usually include a participant section, a settings section, an instrumentation or materials section, and a procedures section.

- In the **participant subsection**, the researcher describes the characteristics of the sample and the sampling procedures or process by which the participants were included in the study.
- In the **setting subsection**, the research describes the setting off the study (i.e. school system, the course, etc.).
- In the **instrumentation subsection**, the tests, surveys, questionnaires, observational protocols, or other materials needed to conduct the study are identified and discussed. When discussing an instrument for a quantitative study, this includes a description of the measurement and a discussion about the reliability, validity, origin, and appropriateness of the measurement. In addition, sample questions, or a copy of the instrument itself should be provided.
- In the **procedures subsection**, the researcher summarizes each step he or she took to execute the research, including instructions given to the participants, experimental manipulations, and specific control features of the design.

The Results

In the results section, the researcher identifies the data collected and the type of analysis used. The results of the analysis are reported following APA style guidelines.

In a quantitative research article, the researcher, at minimum, should include results of assumption tests for chosen statistical procedure, informationally adequate descriptive statistics, the statistic (e.g. t test, ANOVA, MANOVA), the effect size, the power, and the decision to reject or fail to reject the null hypothesis.

The Discussion and Conclusion

In the results section, only facts are reported; interpretation of results is reserved for the discussion section.

The last part of the research article, the discussion and conclusion, the results are summarized, evaluated, and interpreted. This section usually includes:

- a discussion of the findings and the implications in light of the relevant literature,
- an outline of the study strengths and limitations,
- and recommendations for future research that are a logical extension of the findings and limitations of the present study.
- Implications for practice are often included as well.

As a student preparing to write a dissertation, you want to pay special attention to the discussion of limitations and recommendations for future research as this often identifies gaps in the literature that you could potentially research for dissertation.

The research article usually ends with the conclusion. The conclusion succinctly summarizes the primary findings and concludes the manuscript.
Speaking of conclusion, this concludes our discussion of how to identify a research article. As you identify research articles, ensure that they are scholarly and professional in nature. That is, ensure that the article:

- is written for academics or experts in the field,
- the purpose of the article is to inform and contribute to the body of knowledge in the discipline,
- the discussion is sophisticated and specific,
- a reference list and in text citations are included,
- and that the article has been peer reviewed or refereed by scholar in the field.

Be sure that you distinguish between popular and sensational articles and professional, scholarly articles.

Theory Pieces

Another type of literature you need to be familiar with is theoretical literature. In simple terms, a theory piece presents a specific theory. Theory pieces synthesize existing research, and often existing concepts and theories, and propose a new framework or theory for understanding a phenomenon. There are many examples of theory pieces, including Garrison and colleagues' . (2001) article that introduced the Community of Inquiry framework, Knowles' (1980) article on androgogy, and Horney's (1967) on feminist psychology. Generally, you will use one or two theories as a framework to "the structure, the scaffolding, the frame of your" dissertation (Merriam, 2001, p. 45).

As you read the literature it is helpful to critique it.

Topical Discussion: Theoretical or Conceptual Framework
Also, guiding your study is you theoretical or conceptual framework. According to Maxwell (2005), "the point is not to *summarize* what has already been done in the field. Instead, it is to ground your proposed study in the relevant previous work, and to give the reader a clear sense of your theoretical approach to the phenomena that you propose to study" (p. 123) Maxwell (2005) says that your conceptual or theoretical framework should serve two purposes:

1. Shows how your research fits into what is already known (relationship to existing theory and research)
2. Shows how your research makes a contribution on the topic to the field (its intellectual goals)

It also informs your research questions and methodology and helps you justify your research problem (shows why your research is important). "In quantitative studies, one uses theory deductively and places it toward the beginning of the plan for a study. The objective is to test or verify theory. One thus begins the study advancing a theory, collects data to test it, and reflects on whether the theory was confirmed or disconfirmed by the results in the study. The theory becomes a framework for the entire study, an organizing model for the research questions or hypotheses for the data collection procedure" (Creswell, 1994, pp. 87-88). And, Kerlinger (1979) reminds us that a theory is "a set of interrelated constructs (variables), definitions, and propositions that present a systematic view of phenomena by specifying relations among variables, with the purpose of explaining or predicting the phenomena." (p.64). Every theory has 3 elements (Anfara & Mertz , 2006):

- Concepts
  - words we assign events or sensations (e.g. age- amount of time; intelligence- amount of knowledge)
- Constructs
  - cluster of concepts that form a higher unit of thought (e.g. IQ)
- Propositions
  - expression of the relationship among constructs

Let's consider an example on how a theory is used to frame a study. Dr. Zeidler, in her handout, *What is a Theoretical Framework?*, provides a great example of a doctoral student using a theoretical framework to guide her study. Let's take a look at the example she provides to help you better understand the role a theoretical framework should play in your study.

- **Topic of Interest:** A doctoral student is interested in the importance of questioning in the secondary classroom.
- **Review of the Literature Results:** Through a review of the literature, the student finds that the research on the effectiveness of questioning strategies is ambiguous.
- **No Clear Pattern/ Contradictory results:** Some researchers purport that questioning at higher cognitive levels has led to higher achievement than frequent questioning at the lower cognitive levels. However, researchers have shown no differences between the achievement of students based on type of questioning.
- **Speculation:** The doctoral student begins to speculate about the mixed results. Upon further research, she comes across the work of Piaget, who discusses levels of cognitive development.
  - Could it be that a student's cognitive level influences learning via the type of questions asked?
- **New search on Theory:** The doctoral student thus methodically searches the literature on cognitive development and its relationship to achievement. She looks for research that uses Piaget as a theoretical foundation.
- Two distinct lines of educational research emerge.
  - The research on the effectiveness of questioning has established that there is a problem. That is, does questioning have any effect on achievement and does the cognitive level of questions make a difference?
  - The research on the cognitive development of students provides a basis for potentially understanding the phenomenon the student seeks to examine. That is, could it be possible that students of different cognitive levels are affected differently by questions of different cognitive levels?

- The student writes down the following research hypotheses:
    - 1. Both high and low cognitive level students will benefit from both high and low cognitive level questions as opposed to no questions at all
    - 2. Only students categorized at the high cognitive level will benefit more from the high cognitive level questions than from the low level questions.

Once you theory identify the theory you plan to examine in your study, it is helpful to explain it and discuss it's adaption to your study. Name the theory. Discuss the origins of the theory, who developed it, and how it has been tested and applied. Identify your research question and hypothesis based on the theory. Using the theory, explain how you expect your variables to relate or effect one another. Explain why.

Here is an example from my (Amanda's dissertation) of how media richness theory and media naturalness theory can be applied to distance education.

"Media richness is defined as the "ability of a communication channel to handle information or convey the meaning contained in a message" (O'Hair, Friedrich, & Shaver, 2005). A medium's level of media richness is determined by four criteria: (a) the accessibility of instant feedback, (b) the capacity to convey cues such as body language and tone of voice, (c) the use of natural language, and (d) the level of personal focus (Trevino, Lengel & Daft, 1987). Media Richness Theory (MRT) is based on the assumption that the use of rich media as compared with lean media results in more effective communication (Daft & Lengel, 1984). Theorists argue that the richer the communication medium, the more the ambiguity and uncertainty are reduced and the better tasks are performed (Daft & Lengel, 1984; Dennis & Kinney, 1998).

Considering the media richness criteria, e-conferencing is more media rich than the asynchronous telecommunication media, such as discussion boards and e-mails. This implies that e-conferencing when compared with asynchronous telecommunication media may result in more effective communication in discussing complex, ambiguous learning topics and assignments.

Validation studies for MRT have been inconclusive and contradictory. Studies that compare F2F communication, letters, and memos have supported the theory (Russ, Daft, & Lengel, 1990); however, some researchers have found that lean media, such as e-mail, may also support complex, highly ambiguous communication when the social context is considered (Dennis & Kinney, 1998; Kock, 2005; Robert & Dennis, 2005). To account for the mixed results and to consider social aspects of a situation, additional theories have been proposed. These theories also recognize the unique characteristics of both synchronous and asynchronous CMC systems and support the adoption of synchronous CMC systems to enhance asynchronous communication. Although many exist, only one theory and its implications for e-learning will be reviewed here.

Media Naturalness Hypothesis (MNH) is a theory that considers the social aspect of communication and addresses the limitation of MRT (Kock, 2005). The level of media naturalness is defined in terms of its similarity to F2F communication (Kock). Media naturalness is comprised of five elements: (a) the degree of co-location, (b) the degree of synchronicity, (c) the ability to see and convey facial expressions, (d) the ability to see and convey body language, and (e) the ability to listen and convey speech (Kock). MNH is based on the assumption that a

decrease in the naturalness of a communication medium results in (a) increased ambiguity, (b) increased cognitive effort, and (c) decreased psychological arousal. Unlike MRT and consistent with social theories, MNH argues that individuals can overcome the impediments of media with low levels of naturalness and achieve the same or better results than individuals or groups using media with higher levels of naturalness.
Considering the MNH criteria for media naturalness, e-conferencing is more natural than the asynchronous media such as discussion boards and e-mails. Although the theory suggests that individuals using asynchronous media may be motivated and able to obtain the same or better results than individuals or groups using e-conferencing, asynchronous communication in discussion forums and e-mail is likely to require more cognitive effort, contain more ambiguity, and stimulate less psychological arousal. The use of e-conferencing would decrease cognitive efforts and ambiguity, and thus enhance the asynchronous e-learning environment. This has implications for higher education institutions engaged in the competitive online education marketplace.

The implications of the MNH that Kock (2005) discussed for businesses are relevant to higher education institutions:

In business-to-consumer interactions conducted online, increased cognitive effort and communication ambiguity and (possibly) decreased physiological arousal (especially in entertainment-related interactions) may lead to lower perceived quality and dissatisfaction from customers. Since the internet makes it much easier for customers to change suppliers, who are literally a few clicks away, the use of e-communication media of lower naturalness than those provided by the competition can have negative consequences for companies that rely heavily on online interaction with their customers to increase or maintain their revenues. (p. 126).
Similarly, in online education, increased cognitive effort, increased ambiguity, and decreased psychological arousal may result in low levels of engagement, poor participation, dissatisfaction, and perceived ineffectiveness of the online program from students (Hrastinski, 2008; Kock, 2005; Woerner, Orlikowski, & Yates, 2004). Just as Kock (2005) explained about consumers, dissatisfied students may also make a few clicks, find another competitive university or college that provides learning opportunities that use CMC with higher levels of naturalness, and then transfer, which will result in negative economic consequences for the higher education institution. This further supports the need to investigate the use of synchronous audio and video applications for online programs and their ability to support and to enhance (or to possibly detract from) sound pedagogical instruction before higher education institutions make decisions about and investments in CMC systems for their online programs." (p. 65-67)

Research Tip: Dissertations often provide good examples of how theory should guide studies. Crutchfiled (1986) provides a good example of the use of social learning theory to study the influence of locus of control and interpersonal trust on level of publication. See JOYCE ELAINE P CRUTCHFIELD, "LOCUS-OF-CONTROL, INTERPERSONAL TRUST, AND SCHOLARLY PRODUCTIVITY (NURSE FACULTY)" (January 1, 1986). *ETD collection for University of Nebraska - Lincoln.* Paper AAI8706226.
http://digitalcommons.unl.edu/dissertations/AAI8706226

The literature review and theoretical framework are the foundation for your research plan and needs to be conducted prior to proposing a research plan. How to conduct and write a literature review is not within the scope of this book as this book focuses on the methodology of a research plan. There are however numerous resources that can be helpful, including Gash's (2000) Effective Literature Searching for Research and Hart's (1998) Doing a Literature Review: Releasing the Social Science Research Imagination. Conducting a thorough literature review and identifying a theoretical framework takes time; thus, it is usually a good idea to define goals. For example:

- Within one week, I will schedule an orientation session to my university library.
- I will spend 45 minutes a day reviewing articles.
- I will enter 3 research article summaries in my research chart each day.

The Case of Charlie

Charlie used the university databases to search for the literature to write his literature review. He established time each week to read the literature and to begin writing his literature review. He spent 45 minutes a day reviewing articles and 7 hours on the weekend reading and writing.

> Research Tip: When using the library databases to search for articles, consider the search terms used. The Liberty University Research Librarian Randy Miller (2012) once gave an example indicating a student came in looking for articles published within the last five years on the topic of "home economics" and could find nothing. After investigating this problem Mr. Miller discovered that "home economics" is now referred to as "family and consumer sciences." Once she changed her search terms she was able to find many articles. So, if you are struggling to find articles using specified search terms remember to use synonyms and remember to use an asterix at the end of the word when appropriate to account for multiple endings. For example, Charlie may search for terms such as college student, university learner, adult student, and other synonyms.

Application: Developing My Research Plan

Answer the following questions:

What are my process goals for conducting my review of the literature and identifying my theoretical framework?

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