Writing a Useful Literature Review for a Quantitative Research Project

WRITING THE REVIEW of literature is a frequent problem discussed by researchers. This problem is exacerbated for new research areas when the researcher is initially unfamiliar with the literature. Knowing the intended audience for the review is key to writing the review and therefore provides the organizing framework for the rest of this commentary. To identify their audience, researchers decide if they need to organize their thinking, need to market their proposed research, or need to communicate about their completed research. The content of the review of literature is based on a careful critique of relevant literature, especially previous research. The critique of existing research and nonresearch opinion-type articles on the topic is critical to the research process. As an entity, the written research critique belongs nowhere but is used throughout the writing of a research project (Brink & Wood, 1994). Critiquing in comprehensive detail usually occurs first in the preproposal stage for quantitative studies. Critiquing also may occur later, especially in response to unexpected findings.

LEVEL OF DETAIL

Preproposal Detail

The most detail is needed when researchers need to organize their thinking. To plan a research project, the methods and findings of published research need a careful evaluation. This work is preproposal development. The literature search results in articles that need to be read, reread, analyzed, and finally synthesized. Several books and articles give expert help with preproposal writing (Brink & Wood, 1994; Burns & Grove, 1997; Gunter, 1981; Locke, Spirduso, & Silverman, 1993; Longman, Verran, Ayoub, Neff, & Noyes, 1990). What is not always made abundantly clear is what is “academic” work and what is essential for the project’s sake. In most researchers’ training, writing the review of literature was a long and arduous task. The skill of writing a review of literature, as many other skills, is time consuming when one is a novice. However, although critiquing the literature is a skill, as one gets better, the speed depends mainly on the number and complexity of articles under review. Comparing, and then thinking about those comparisons, takes time, although the links may become obvious more quickly with experience. Many view the literature review process as “academic” or done only by students; however, when one conducts independent research, the researcher who fails to carefully critique the literature is vulnerable to weak research plans. Why repeat mistakes of others or not purposefully build on previous related work? Meticulous comparisons of methods and findings are key to a tight quantitative design. This preproposal work often results in many comparison tables and several drafts of the key points derived from the literature—lots of detail, but usually more private writing mainly for the researchers themselves.

Proposal Stage Detail

When researchers are writing a proposal for support or writing a petition for entry into a proposed site, they must market their project.
Perhaps in this situation the readers are less interested in the details of the review but instead need a clear understanding of how the proposed work is based on current literature. Researchers must decide the points to be made and present a balanced case for the gaps to be filled and a foundation for the methods proposed. This is the proposal stage where funders, Institutional Review Board (IRB) type groups, and often research site administrators evaluate the request. Readers evaluating the proposal operate from guidelines as to the length and detail wanted. As a general rule, the proposal review of literature is seldom as detailed as the preproposal review of the literature. The difference between the independent researcher's proposal and the academic exercise resides in the need for the students to make visible their thinking to the faculty to receive appropriate guidance. Whereas the student's paper may have more detail including references showing how decisions were made, in nonacademic situations the writing must still make a logical case regarding the need of the proposed study and include all the requested details to secure appropriate approvals. For example, this review is presented with appropriate citations (necessary details when writing for a specific audience) to support the arguments.

Completed Research Report Details

After the study is completed, the findings need to be presented. When the researchers communicate about their completed research and provide background, the literature review needs to be a succinct summary that covers the key points that led to the current research. Literature published since the proposal may also be added to provide a current state of the knowledge to the audience. Here the emphasis is on the key points. Mainly, the findings are emphasized in nursing journal articles. Perhaps more of the method gaps could be shown not as criticism but as critique. Of course, this only makes sense when the current research corrects some of those method gaps with improved measurements, designs, or analysis. Both in print and in oral sharing of completed research, the review of literature is challenging. The audience is most interested in the details of the study being reported. Because a study seldom occurs in isolation, a context is needed—the review of literature. The principal points need to be shown, but details are few in this most broadly shared version of the literature review, the completed research report.

CONTENT OF LITERATURE REVIEWS

In organizing the researchers' thinking, multiple readings of the articles are required (Burns & Grove, 1997). Bibliography cards have long been a standard method for abstracting articles, predating photocopying now readily available, and the use of highlighting markers. Tables are very helpful especially for the research literature (Longman et al., 1990). The usefulness of tables has been enhanced by the mainstream use of word processing that makes changes and additions quick and easy. Tables comparing methods and tables comparing findings are particularly helpful in analyzing the literature. Obviously, tables become more necessary with an increase in the number of articles under review. Tables facilitate review conducted by more than one member of the research team. Attention to detail is tedious, but detailed work contributes to stronger designs for proposed studies. Although the detailing chore may well be the forte of some members of the research team, all investigators need to review the literature on the concepts being investigated and come to a good understanding of the relevant points gleaned from the literature.

Table 1 provides an example of a generic table that could be used for all three types of literature review. The actual headings (row top) should be tailored to the examination of the details in the articles that build ideas regarding themes in methods and findings. If one is looking at stressors and resources of parenting, two tables would be in order, one for each concept. Details in the cells within the matrix need comparable data or notes of data absence. When key points are noted in one study, the rest of the research on that topic is examined for support or conflict. Sometimes samples warrant their own table. For example, findings regarding infants would need to have sample information on age detailed as days or weeks. Disease conditions may warrant scrutiny for stage of the disease. This is the thinking, preproposal stage; however, this stage is the foundation for the more public writing in the proposal and the research report.

Researchers summarize the literature to market

| Table 1. Preproposal Type Table to Facilitate Thinking (Analysis and Synthesis) |
|-------------------------------|---------|--------------|-------------|----------------|
| Author & Date                  | Sample  | Measurement  | Intervention| Analysis & Findings |
|                                |         |              |             |                |


their project in proposals and petitions. The conclusions about the literature are the focus of the verbiage but these conclusions must be supported by summary information. Key points that are evident in several articles lend themselves to tables (see Table 2). A table can be used to summarize more clearly the information to support the conclusions. Often the review of literature tables in proposals are gleaned from the tables built for the researchers’ own thinking. The tables for proposals should be “mean and lean” showing only the details important to the purpose of the literature review section of the proposal. When the audience will use the statistical detail and the statistics supports the point being made, the statistic, the degrees of freedom, and the probability are given. Often a table can help illustrate the logic for the methods proposed. Locke and associates (1993) and Brink and Wood (1994) give detailed guidelines for how to organize the literature reviewed in proposals.

USING LITERATURE IN DISCUSSION SECTIONS OF REPORTS

In research report writing, a discussion section provides an opportunity for tying new findings to the literature. Usually, repeating the introductory review of literature is undesirable. Linking new findings to the literature is very important to the research process and often receives much attention from the audience. Because of these two facts, some details from proposals can be saved in research reporting until the link to study findings can be made. Holding some literature until the discussion section keeps the introductory literature review more concise.

WRITING TIPS

A few simple tips collected by this writer are offered as suggestions for the researcher’s public writing. First, avoid using “there” as a subject in any sentence as rewording always makes a stronger, more clear sentence. For example, the sentence “there were only small samples in the studies reviewed” becomes “the studies reviewed had small samples.” Second, include author names only as citations unless the author’s identity makes a very important point. Focus on the point from the article that perhaps is confirmed in other articles and is important to the review of literature. Outlining key points and then building succinct paragraphs to express those points makes for good reading. Last, avoid most pronouns (e.g., they, it, this) and use nouns instead. Combine these tips for writing with having colleagues review your written work. Ask them to summarize what they thought were the key points. If the colleague’s points were not your intended key points, then some rewriting is needed.

CONCLUSION

When researchers need to organize their thinking, the most detail is needed. The literature review must show the gaps in what is known, the unanswered questions, and the conflicting findings (Gunter, 1981). This preproposal writing is for private use but is foundational to the research proposed and future writing of proposals and research reports.

In writings where researchers need to market their project, logical concise paragraphs are in order. The amount of detail should match the amount needed by the audience. Use the guidelines (e.g., proposal guidelines, publisher guidelines for authors) to write a literature review as a backdrop to the proposed research. Previous findings are usually needed and frequently previous methods are also important.

In reporting completed research, the literature review provides both context to the inquiry and helps in understanding the findings. Research never occurs in isolation and the review of literature makes this integration most apparent. Readers are interested in the current study, but the researcher writing the report has an obligation to point out the existence of the bigger picture.

In all types of review of literature consider how to help the reader assimilate the information necessary to see the logic between the literature and the new study. Use carefully crafted sentences and, when appropriate, simple tables to illustrate key points. For most, writing the review of literature is laborious, but the outcome is a work of art.

REFERENCES


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