

Book Review

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So, You Have to Write a Literature Review: A Guided Workbook for Engineers

—Reviewed by

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One of IEEE Press's newest additions to its Professional Engineering Communication Series is a workbook on writing the dreaded literature review portion of articles, proposals, theses, and dissertations. Berdanier and Lenart's collaboration began in the way many such partnerships do: Commiserating at a conference about student writing. The result is a valuable guidebook in guiding novice researchers from blank pages to concise analyses of relevant literature.

The Introduction, titled "How to Use This Book," offers a range of plans including a 32-week plan to craft chapter-length literature reviews for a dissertation, a 16-week plan for those more time-crunched or experienced, an 8-week plan for the "highly motivated" or those with shorter literature review requirements such as for a conference paper, and finally two-week and one-week plans for the truly desperate. Activities in each chapter take the writer step-by-step through the process of preparing the review for evaluation by an advisor.

The book is further divided into 12 chapters, the last of which is geared more toward advisors and writing instructors.

In Chapter 1, "Why is Writing So Hard?," the authors break writing down into cognitive, social, and emotional elements in their explanation of why writing can be so challenging. Writing is an inherently creative endeavor, with social

implications based on the reception of our work and emotional implications from the feedback we receive. (Remember the first time you received a bad review on a paper? Gut-wrenching!) One way to avoid such traps is to shift perspective from writer-centered composing to reader-centered: putting the readers' needs first by considering what they need to get out of this literature review to accept your work as a legitimate next step in the scientific journey. They also address writer's block in this chapter, suggesting "shut up and write" sessions in which the writer tunes out distractions and gets words onto the page without self-critique, a challenge for those who edit as they write (guilty of that one myself) (p. 5).

Writing literature reviews can feel like a slow slog through deep mud intellectually when the writer does not have a clear purpose. In Chapter 2, "What is the Point of a Literature Review?," the authors concisely explain how such reviews function in the scientific community and how they are used by industry professionals. Their use of Kenneth Burke's unending conversation analogy is effective in helping the uninitiated understand their role in this conversation (p. 14). Writing instructors will also recognize their use of the inverted triangle to describe the general structure of literature reviews: Articulate overarching motivations, situate the writer's work in the conversation, and synthesize closely related studies (p. 12).

Chapter 3, "Gathering and Storing Literature," takes the mystery out of journal rankings, explaining what they are, why they matter, and what they mean for career growth. This chapter also addresses the rather new issue of predatory journals as well as what not to cite in literature reviews (pp. 21–22). They discuss the importance of having a system for storing articles and keeping

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track of citations, something that may seem time-consuming at first but will save innumerable hours of frustration later in the process.

Before one can begin writing the review, the writer has to read dozens of articles. The authors use Chapter 4, “Reading Strategies and Remember What You Read,” to highlight strategies for skimming and reading, depending on the relevance of the article. They have included a handy flowchart for the visual learner to discern whether an article should be included in the annotated bibliography, in which the writer summarizes key points from each article (p. 35).

Chapter 5, “Finding Connections Between Literature,” provides techniques for identifying the themes, connections, and main players in the conversation from an annotated bibliography. The authors also provide a list of signal words to begin linking these important aspects (p. 46).

Chapter 6 provides techniques for organizing bibliographic information into macro- and microstructures to develop either topical or temporal (chronological) literature reviews, depending on the nature of the research.

In Chapter 7, “Writing the ‘Ugly Draft,’” the authors tackle the hard part of actually composing the draft with a 12-step process. The purpose here is to get words on the page in a logical order while avoiding the temptation to self-edit until later and push back against negative self-talk. In this chapter, they borrow from John Swales in using move-step analysis to improve the flow of ideas (pp. 69–70).

Chapter 8, “Using Citations to Connect Ideas,” is perhaps the most valuable chapter in the book for even experienced research writers. In this one, the authors describe four types of citations: string, topic, end-of-sentence, and direct, showing how they function differently depending on the reason for citing the work.

The remaining chapters—Chapter 9, “Revising the ‘BIG Four’ Literature Review Faux Pas”; Chapter 10, “Am I Done Yet?”; and Chapter 11, “Interpreting Feedback”—focus on revision. Chapter 11 includes a table that translates common comments from advisors into actionable tasks. Chapter 12, “Theory Behind the Practice,” focuses on the theoretical background that the authors use in their work, which those who teach writing will find useful.

This book fills a long-standing gap in resources for novice research writers. Too often, graduate students receive feedback on only grammar and punctuation issues—surface concerns—rather than the structure and clarity of their narratives. Berdanier and Lenart provide a step-by-step guide for graduate students, postdoctoral researchers, and new graduate advisors in writing effective, impactful literature reviews, the backbone of journal articles that get cited and grant proposals that get funded. Not to be overlooked, though, are writing center coaches, who often see engineering students and faculty in their sessions but may not have the background to feel comfortable providing guidance on such projects. At a minimum, this book is a must-have for engineering graduate students seeking a path through one of the more challenging writing tasks early in their careers.