

Educational Research Literature Reviews: Understanding the Hierarchy of Sources

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February, 2018

Abstract

Purpose: The purpose of this paper is to provide students of educational research with clear guidance on how to choose high quality sources for research papers and theses.

Methods: Using an information-analysis approach, this evidence-based guide draws from social sciences research methodology literature. It addresses a gap in the literature by offering pragmatic guidance on how to engage in an informed decision-making process about what types of literature are appropriate for inclusion in educational research reports.

Results: The primary outcome of this work is a clear, plain-language guide for students to help them build their understanding of the kinds of sources to include in a literature review.

Implications: As a result of better understanding the types of sources that constitute a credible literature review, students may develop both their competence and confidence selecting appropriate sources for their research writing. Although written for an educational research audience, researchers in other disciplines may find it applicable.

Additional Materials: 12 references, 1 figure.

Keywords: educational research, literature reviews, hierarchy, evidence, sources, research methodology, social sciences

Introduction

The purpose of this work is to provide students with a better understanding of the types of literature that are appropriate to include in research writing. The impetus for this guide comes from coaching numerous graduate students in educational research undertaking capstone projects and theses. Students sometimes struggle to understand what kinds of sources will help them develop a highly credible literature review for their research projects. This work provides clear

guidance to students, the form of a hierarchy of sources, with the objective of helping them develop their competence and confidence in selecting high calibre sources.

While some caution against having a focus on a hierarchy of sources (Petticrew & Roberts, 2006), it can be instructive and useful for students to understand how to make wise choices about how to select appropriate literature for their research. Individual professors and supervisors will likely have their own ideas about the types of sources that are best included in (and omitted from) a literature review. Students should receive guidance, mentoring and coaching from their professors, as well as informing themselves through independent reading about how to conduct a literature review.

Purpose of the Literature Review

Though my experience teaching in higher education, I have observed that all too often students see the literature review as obligatory drudgery, rather than an exercise in deep learning that provides a strong foundation for their own research. As Booth, Papaioannou, and Sutton (2012) point out, “Synthesising evidence helps us to find out what we know and don’t know about what works and what doesn’t work,” (p. 3). It is essential for students to understand what research has already been conducted in a particular area to ensure that they are not repeating studies that have already been conducted, and also to understand the strengths and weaknesses of previous studies.

Hierarchy of Sources

It is crucial for students to recognize that not all sources of information are created equal, especially when consulting them for the purposes of research. The Internet provides an overabundance of material for students to consult. The purpose then, is not merely to find sources for a literature review, it is to collect and curate *the most credible works pertaining to the topic*. In the following section I present a hierarchy of sources, with advice on what percentage of the total number of sources in a literature review might be drawn from a particular category. I offer this as general guidance, rather than a prescription. As students become more sophisticated in their decision-making about what kinds of sources are appropriate, their judgements will develop, so they are as informed as they are discretionary. These hierarchies are intended as learning guidelines, rather than rigid requirements.

Tier 1: Most Respected Sources

The most credible and desirable sources to consult and consider include peer-reviewed articles from scholarly and scientific journals. As I have noted elsewhere, there are now numerous predatory journals in existence that lack credibility (Eaton, 2018). It is important for students to be able to discern when an article comes from a credible journal and when it does not. Looks can be deceiving in terms of how an article is presented or formatted. Just because the

format or presentation of an article looks professional, that does not mean that the journal it comes from is credible. Students must learn which journals are the most highly respected in their field. As far as I know, there is no short cut on how to learn this. We learn through experience and dialogue with our professors and mentors, and by reading – lots and lots of reading.

Articles from peer-reviewed conference proceedings are also credible sources to consult, providing that the conference is scholarly and respected in the field. As with journal articles, it is important for students to learn to discern what counts as high quality and credible.

Books have traditionally been another high-quality source of information for researchers. Looking for books from highly reputable publishers such as Sage, Routledge or university presses can be a quick way to determine the trustworthiness of the source. There was a time when a book that was freely available online was indicative of a poor-quality piece of writing that traditional publishers would simply not accept for publication, but that is not the case in the twenty-first century. In today's sharing culture, high quality, open access books are emerging free of charge on the Internet. Peter Suber's book, *Open Access* (2012), is an excellent example of a reputable book that is freely available online. The key is to look for high-quality resources to inform your own work.

In educational research, as well as other social sciences fields, official government sources, as well as those available from public agencies or school jurisdictions are considered credible. These include policy documents, official reports, and official programs of study or curricula, for example. Finally, documentation from highly credible non-governmental organizations (NGOs) such as the Organisation for Economic Co-operation and Development (OECD), the United Nations Educational, Scientific and Cultural Organization (UNESCO) or Oxfam is suitable for inclusion in a research literature review. Remember to use these in addition to peer reviewed journal articles and books in order to demonstrate knowledge of research and scholarly findings.

In most cases, I recommend to students that at least 80% of the total number of sources in their literature review come from this category.

Tier 2: Sources Permitted in Moderation

There are certain types of sources that are credible, but may not be as scholarly as those in Tier 1. I recommend that these be used in moderation and do not exceed more than 20% of the total number of sources in a literature review.

Highly reputable edited professional journals, edited conference proceedings are among the top choices in this category. In addition, think tanks and research institutes produce papers (often called “white papers” or “position papers”) that are suitable for inclusion in moderation. Sources from this category may be both useful and authoritative, but for research, they are best used in conjunction with sources from Tier 1 whenever possible, rather than as the only evidence to support or explain a point.

Tier 3: Sources to Be Used with Caution

Some information-rich sources can provide useful examples in a literature review, but should be used sparingly. These include stories from highly reputable news agencies or channels such as the BBC or the Washington Post or highly credible websites, such as the Mayo Clinic.

It is not that they lack credibility, but rather that a literature review for an academic project should demonstrate the student's developing appreciation for research and scholarship. In my experience, some students who rely too heavily on sources from this category are keen to prove a point, even when that point may not be supported by the research literature. In cases like this, I insist that they focus more intently on developing their research skills, which includes understanding the scientific or scholarly basis upon which to conduct a study. I recommend that sources from this category constitute not more than 5% of the overall number of items in a literature review to maintain the scholarly rigor of the work.

Tier 4: Sources to Be Avoided

There are some sources that should be avoided entirely in a scholarly literature review. Although there is much debate among educators, researchers and open source advocates about the value of the material that appears on Wikipedia, in my scholarly opinion, articles from Wikipedia (or any Wiki) should not be cited in a research literature review. That does not mean that students should not consult Wikipedia or other Wikis, but rather that they do so with a view to reviewing the sources cited on a particular topic and then turning to those primary sources to determine if they are evidence-based and of high enough quality to be included in a research literature review. In other words, Wikipedia can be used as a starting point for a deeper investigation into a topic, but in and of itself, it should not be regarded to have the same authority as Tier 1 sources, for example.

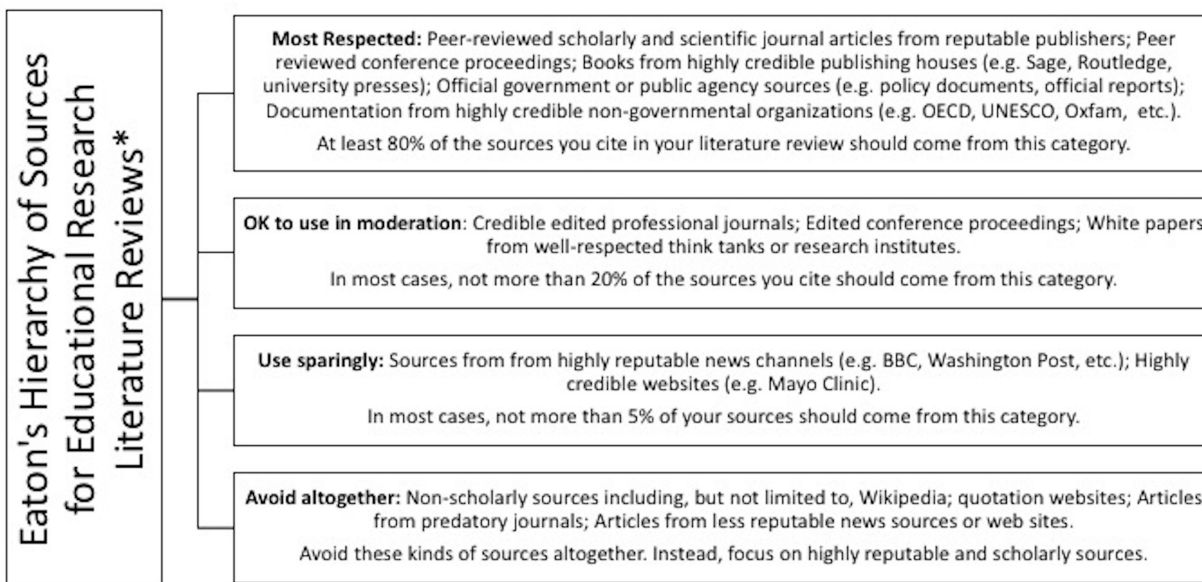
Similarly, websites offering quotations from Plato, Socrates or anyone else should be avoided. Anyone can look up a saying on an Internet quotation site, but that does not make one a researcher. Direct quotations in academic literature reviews come from original source material (or translations) and are referenced as such.

Finally, sources of generally questionable quality, such as non-reputable news agencies, organizations interested in disseminating hyperbolic or biased literature, or websites of individuals with fanatic or militant views should generally be avoided, as they will not contribute to the overall accuracy or calibre of the literature review.

Summary

Some types of sources are more desirable than others in a research literature review. The figure below offers a synopsis of the hierarchy of sources I have outlined in this paper.

Figure 1: Eaton's Hierarchy of Sources for Educational Research Literature Reviews.



*This hierarchy is a general guideline, not a prescription. Every literature review will be different because every project is unique. Your professor may have their own ideas about the kinds of sources to include in your literature review. Consult with your professor. Sarah Elaine Eaton, Ph.D. is a faculty member at the Werklund School of Education, University of Calgary. The views expressed here are my own and do not necessarily reflect the views of the School of Education or the University of Calgary.

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This is not intended as an exhaustive or all-encompassing explanation of the kinds of sources to include in a literature review. For example, the topic of grey literature deserves more attention than I have given it in this paper. What I have endeavoured to provide is a straight forward guide to help students learn how to become discerning consumers of scientific and scholarly literature.

I often share an analogy with my students that as academics we endeavour to become *connoisseurs of research*. Just as an oenophile is a connoisseur of wine or food aficionado appreciates an exquisite meal, our work involves developing discerning tastes about what does – and does not – merit our time and attention in terms of research. In doing so, we develop a taste for quality and an appreciation for the highest quality of contributions to our field of study.

Works Consulted

- Booth, A., Papaioannou, D., & Sutton, A. (2012). *Systematic approaches to a successful literature review*. Thousand Oaks: Sage.
- Burns, T., & Schuller, T. (2007). The evidence agenda. In OECD staff (Ed.), *Evidence in education: Linking research and policy* (pp. 15-32). Paris: OECD Centre for Educational Research and Innovation. Retrieved from <http://www.oecd.org/education/ceri/47435459.pdf>.
- Cronin, P., Ryan, F., & Coughlan, M. (2008). Undertaking a literature review: A step-by-step approach. *British Journal of Nursing*, 17(1), 38-43.
- Eaton, S. E. (2018). *Avoiding Predatory Journals and Questionable Conferences: A Resource Guide*. Calgary, Canada: University of Calgary. Retrieved from <http://hdl.handle.net/1880/106227> doi: <http://dx.doi.org/10.5072/PRISM/20>
- Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: writing a literature review. *Management Information Systems Quarterly*, 26(2), xiii-xxiii.
- Hart, C. (1998). *Doing a literature review: Releasing the social science research imagination*. Thousand Oaks, CA: Sage.
- Massey, L. (n.d.). Massey Hierarchy of Sources. Retrieved from <https://apps.spokane.edu/InternetContent/AutoWebs/larrym/101%20Webpages/Hierarchy%20of%20sources.htm>
- Onwuegbuzie, A. J., Leech, N. L., & Collins, K. M. T. (2012). Qualitative analysis techniques for the review of the literature. *The Qualitative Report*, 17, 1-28. Retrieved from <http://nsuworks.nova.edu/tqr/vol17/iss28/2/>
- Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: a practical guide*. Malden, MA: Blackwell Publishing.
- Suber, P. (2012). *Open Access*. Retrieved from https://mitpress.mit.edu/sites/default/files/titles/content/9780262517638_Open_Access_PDF_Version.pdf
- U.S. Department of Health and Human Services: National Centre for Complementary and Integrative Health. (n.d.). Finding and Evaluating Online Resources. Retrieved from <https://nccih.nih.gov/health/webresources>
- Winona State University. (n.d.). Evidence based practice toolkit (lib guide). Retrieved from <http://libguides.winona.edu/c.php?g=11614&p=61584>