Conducting a Literature Review - Sciences

Cindy Logan
Academic Services Librarian
clogan@k-state.edu
A literature review is...

• a way to provide **context** for your paper
• a summary and evaluation of the significant research and/or theory published on a topic
• organized in a way that analyzes, integrates, and shows the relationship between research studies, as well as the way each has contributed to an understanding of the topic
The purpose of a literature review is to...

- provide an overview of relevant literature, research, and methodology in an area of study by:
  - exploring *relationships* among the prior research
  - *evaluating* the prior research
  - identifying *gaps and discrepancies* in the literature with the ultimate goal of:
  - making an argument for why further study of your research question is important to the field
Benefits to the researcher (you!) include...

- establishing the context and significance of the problem
- discovering appropriate subject vocabulary
- identifying methodologies
- identifying what has been researched and where gaps may be found – underused methodologies, designs, populations
- focusing the research topic
Evaluation questions:

• What is the methodology?
• What is the quality of the findings or conclusions?
• What are the article’s major strengths and weaknesses?
• What beliefs are expressed/is there an ideological stance?
• Can the results be generalized?
• How does it compare to other work in this field?
Searching for Articles

• Select appropriate databases-usually you will need to search more than one
• Search strategies
• Cited reference searching

Example topic: Increase of obesity in children due to the availability of pop in schools
Writing the review

• The literature review should deal with relationships – how do the articles relate to each other? How do the articles relate to your research?
Ways to organize

• By theoretical approaches

For many years, the attitude literature has been fragmented, both theoretically and empirically, so that analyses of attitude formation and change (e.g., via persuasion) were developed independently of models focusing on the impact of attitudes on behavior (Ajzen and Fishbein 2005; Fazi and Towles-Schwen 1999). Although two process models have dominated this discussion (Bassili and Brown 2005; Fabrigar, MacDonald, and Wegener [2005]; and Wyer and Albarracín [2005] for related analyses), neither attempts to integrate attitude formation, retrieval, and reliance (in guiding behavior). One is based on attitude accessibility and its precursors (typically frequency and recency of exposure to the issue or object, such as through direct experience, and amount of processing of the information; see, e.g., Petty, Haugtvedt, and Smith 1995), and one is based on action context–induced attitude construction. The latter is represented by two substantially different orientations: (1) a pure constructivist orientation in which evaluative judgments are assembled from cued cognitions and feelings; and (2) a program of research identifying conditions when attitudes are likely to be stable over time so that the same attitude that was formed and stored also guides behavior.

Ways to organize

• By concept or issue

“The existing literature divides barriers to employment into two main categories, spatial (or contextual) barriers and individual barriers.”

Ways to organize

• By methodologies employed

The predominant use of quantitative research methods in prehospital studies is indicative of the need to provide objective data in a field constantly being tested—the influence of prehospital care is often questioned and some authors call for the development of appropriate indicators for the accurate assessment of its effectiveness (MacFarlane, 2003; McLean, Maio, Spaite, & Garrison, 2002). The apparent bias for quantitative research in the prehospital field has been challenged through the increased acceptance of qualitative research methods in health sciences research (Molina Azorín & Cameron, 2010). There is certainly a growing recognition of the extended understanding available to researchers by combining qualitative and quantitative data sets in the same study in the emergency health field (Cooper, Porter, & Endacott, 2011).

Ways to organize

• By chronology, **only if** linear changes in thought have taken place

“**Since the pioneering paper** of Srednicki [1] there has been increasing interest in understanding and quantifying entanglement in quantum field theories... **Subsequently** this ‘area law’ was shown to be generic in space dimensions $d \geq 2$ [2], ... **However in 1993** Holzhey et al [3] showed that in a conformal field theory ... **Subsequently** this logarithmic behaviour was observed ... A more complete analysis of entanglement in 1 + 1-dimensional CFTs was given in [6]... **More recently** [7] these methods...”

In the literature review

• Explain the reason for reviewing the literature; explain why particular literature was included or excluded (particularly in articles that are solely literature reviews)

**Articles were included if** the study design was a clinical trial, observational study, survey, or qualitative study; patient satisfaction with overall physical therapy care was evaluated as a main outcome; and participants were adults aged 18 years or older who had received a course of musculoskeletal physical therapy care in an outpatient or private clinic setting. Qualitative studies were included to provide an understanding of the dimensions of physical therapy care that contribute to patient satisfaction. **Articles were excluded if:** (1) the study had an inappropriate design (ie, not a clinical trial, observational study, survey, or qualitative study); (2) the study was related to delivery of services other than outpatient physical therapy care for musculoskeletal conditions; (3) patient satisfaction was not measured; (4) they described a clinical study in which participants were individuals recruited from the community rather than patients seeking physical therapy treatment; or (5) they primarily described clinimetric properties or the development of a patient satisfaction instrument.

In the literature review

• Summarize the major contributions of the significant articles

“Studies have considered a number of variables influencing the practice of breast-feeding, including perceived constraints (Li, Fridinger, & Grummer-Strawn, 2002), mother's age or race (Brownell, Hutton, Hartman, & Dabrow, 2002; Fooladi, 2001; Khoury, Mitra, Hinton, Carothers, & Sheil, 2002; Libbus & Kolostov, 1994; Wiemann, DuBois, & Berenson, 1998), the father's influence on infant feeding practices (Schmidt & Sigman-Grant, 2000; Sharma & Petosa, 1997), and other demographic factors such as geographic location, educational level, and occupation (Shelton & Wang, 1997).”

In the literature review

• Evaluate and compare the articles

“Although Bernard's team unquestionably improved McVay's original survey by probing student self-efficacy with technology, the authors of this article posit that there is still room to query individuals more fully about their engagement with information and communications technology (ICT) including their attitudes about engaging with ICT.”

In the literature review

• Evaluate the current state of the research -- explain inconsistencies in theory or conclusions, gaps in research, trends in what has been published, and opportunities for further research

“The articles reviewed lacked specific workforce-related recommendations regarding CBPR.”

“Few studies examined organizational factors influencing dissemination or implementation.”

Tips

- You may use more than one organizational strategy
- Use subheadings to clarify the structure
- Use original sources -- do not cite works you have not read
- Minimize direct quotations by summarizing in your own words (with citations)
- Use appropriate quotation and citation methods to avoid plagiarism

(See the Citations and Bibliographies research guide created by K-State Libraries http://guides.lib.k-state.edu/citations)
QUESTIONS?

My contact information is clogan@ksu.edu.