Conducting Comprehensive Literature Reviews for Evaluation Projects Big and Small

Keshia Martin
Karla Lewis

Juanita Hicks
Beth Thrift

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO
Department of Educational
Research Methodology

NESP
Nonprofit Evaluation Support Program

Agenda

Definitions

Literature Review Process

Activities

Debrief

What is a Literature Review?

"A critical analysis of prior research studies related to a selected area of study. The review is dictated by the research objective, problem, or hypothesis, and involves examining, evaluating, summarizing, and comparing each of the pertinent prior research studies. The literature review should convey to the reader what is known about a research or clinical topic, gaps in the literature and strengths and weakness of the studies in the review." (Cope, 2014)

A Literature Review is not...

An annotated bibliography

A literary review

Purpose of Literature Reviews

Support practices

Build program theory

Standard chapter in thesis or dissertation

Rationale for proposals

Purpose of Literature Reviews

Synthesize research

Identify gaps in literature

Identify seminal works

Inform evidence-based decision making

Types of Literature Review

Critical

Systematic

Voting Counting

Meta-Analysis

Qualitative				Quantitative
	Narrative Review	Descriptive Review	Vote Counting	Meta Analysis
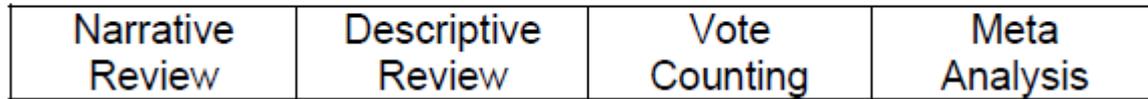
King & He (2005)

Literature Review Process

Literature Review Process

Define Topic and Frame Questions
Identify Literature Through Comprehensive Search
Organize Literature
Summarize Literature
Synthesize Literature
Write Review
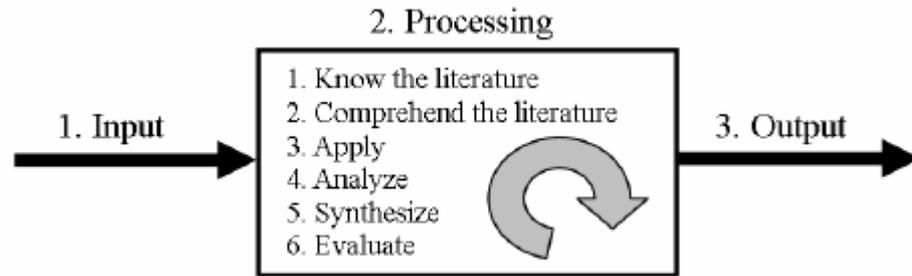
Levy & Ellis (2006)

Decide Topic and Frame Questions

Define topic including key terms

Provide boundaries by clearly stating research question(s)

Identify Literature Through Comprehensive Search

Build Your Protocol:

Do you have a specific publication range?

What are your search terms? Are there other associated words?

Will you include backward and forward search?

What discipline will you search within?

What type of literature will you review? Emperical? Grey literature?

Are there specific databases related to your discipline or area of research?

Are you interested in specific methodologies?

Are there other parameters for inclusion or exclusion?

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO
Department of Educational Research Methodology

NESP
Nonprofit Evaluation Support Program

Soft Systems Method Approach
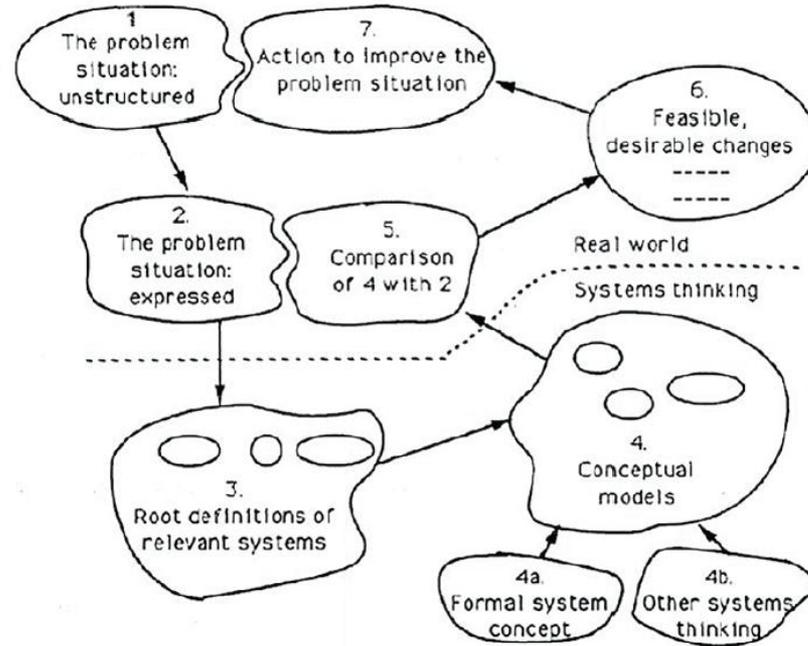
Figure 1: Stages of Soft Systems Methodology
(from the original figure created by Checkland, 1981)

Leitch & Warren (2008)

Soft Systems Method Approach

Table 1. Comparisons of assumptions between traditional and SSM versions of a literature review.

| Assumptions of a traditional literature review	Assumptions of an SSM literature review	Comparison based on Cooper's (1988) taxonomy
A literature review presents a rational summary of the current state of knowledge about an external reality	A literature review represents selected data to which meaning is applied in a context	Perspective that the researcher presenting a literature review makes neutral and rational selections versus acknowledging that the coverage of papers included in a literature review is necessarily limited and selective
Academic research occurs in a neutral context	Academic research occurs in a social and political context. Academic studies have 'owners' who may advocate for the study for reasons of promotion or reputation, and may be engaged with other actors from the academic research community	Perspective of neutral representation of previous knowledge versus perspective of espousal of multiple, competing, and possibly self-interested positions
Reviews of academic literature are used to build a cumulative research tradition	Reviews of academic research are subjective and used to serve the purposes of individuals, and of the wider academic and practitioner communities (including political purposes)	Goal of integration of previous studies versus goal of criticism and elucidation of the multiple perspectives presented in previous studies
Academic research should be conceptualised as a summary of findings independent of the social and political context of the researchers themselves	Academic research can be conceptualised using SSM and CATWOE analysis and presented as a rich picture	Organisation is conceptual versus organisation is historical and structured around CATWOE elements

Sylvester et al. (2013)
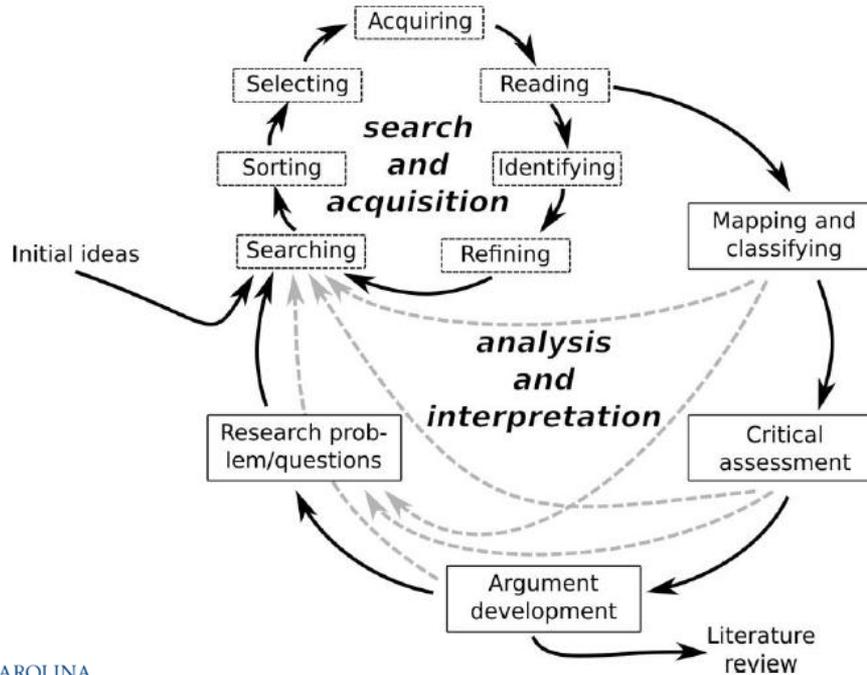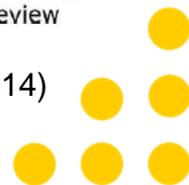
Hermeneutic Approach

Boell & Cecez-Kecmanovic (2014)

Hermeneutic Approach
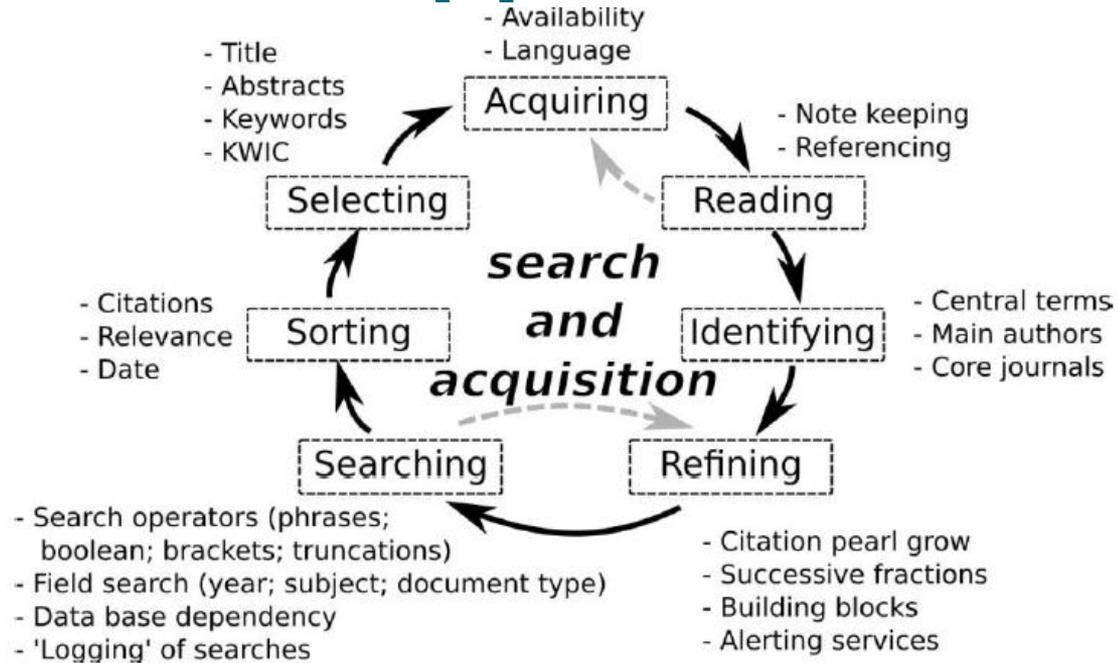
Boell & Cecez-Kecmanovic (2014)

PRISMA Flow Chart

Identification

Records identified through database searching (n =   )

Additional records identified through other sources (n =   )

Records after duplicates removed (n =   )

Screening

Records screened (n =   )

Records excluded (n =   )

Eligibility

Full-text articles assessed for eligibility (n =   )

Full-text articles excluded, with reasons (n =   )

Studies included in qualitative synthesis (n =   )

Included

Studies included in quantitative synthesis (meta-analysis) (n =   )

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009)

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO
Department of Educational Research Methodology

∴NESP
Nonprofit Evaluation Support Program

How do you know when you are done?

- Articles begin to introduce familiar arguments, methodologies, findings, concepts, etc.

- No new citations

- Articles cited in new literature has already been reviewed

Organize Literature

Topic: _____

	Source #1	Source #2	Source #3	Source #4
Main Idea A				
Main Idea B				

Label the columns across the top of your chart with the author's last name or with a few keywords from the title of the work. Then label the sides of the chart with the main ideas that your sources discuss about your topic. As you read each source, make notes in the appropriate column about the information discussed in the work, as shown in the following chart.

NC State University Writing and Speaking Tutorial Service Tutors (2006)

Organize Literature

Manafo & Wong (2012)

Authors	Research design, activities	Tool, program and/or intervention characteristics	Author key findings
Functional health literacy			
Broering et al., 2006 [32]	Design: non-experimental, single group post-test design ($N = 3500$ participating in speech presentations, demonstrations and exhibits; 350 people attending class sessions) Activities: provide computer training workshops on electronic information resources; provide consumer health information support for senior citizens; teach access to full-text databases and extend document delivery or loan document services to project partners	Goal: enable local senior residents to improve their health and health care by accessing authoritative information using the latest technologies Type: functional Health Literacy Location (setting): San Diego, USA (local community settings) Components: single workshops (duration not described) Target population (focus): seniors aged >65 years (alternative health therapies) Delivery: librarian; health professionals Outcome measures: participant Internet utilization to access relevant health information; participant satisfaction	Process of developing functional health literacy tool is promising in promoting health literacy in seniors
Gross et al., 2007 [33]	Design: non-experimental, single group pre- and post-test design ($N = 25$ sites) Activities: finding trusted stroke information on the Internet	Goal: educational program to meet information needs, improve seniors' access to trusted stroke information and enhance health literacy Type: functional health literacy Location (setting): North-Eastern Pennsylvania, USA (Senior centers and public libraries) Components: one hour workshop plus online resources Target audience (focus): seniors aged >65 years (stroke) Delivery: librarians with focus on health literature Outcome measures: content knowledge as it relates to health condition; Participant satisfaction	Improved knowledge on post-test scores over pre-test scores Notable improvements occurring in the areas related to knowledge of Internet resources. Participants gained knowledge on stroke information Provided easy-to-understand stroke information to community of seniors
Nitri and Stewart, 2009 [35]	Design: non-experimental, single group pre- and post-test design ($N = 20$) Activities: increase knowledge in how to search an improve self-management for diabetes	Goal: to provide a transformative learning intervention on functional health literacy; Type: functional health literacy Location (setting): Detroit, USA (senior community centers)	Positive influence of transformative learning intervention on functional health literacy and diabetes knowledge; Includes significant increase functional health literacy test for seniors (s-TOFHLA); Literacy assessment for

THE UNIVERSITY of NORTH CAROLINA
GREENSBORO
Department of Educational Research Methodology

NESP
Nonprofit Evaluation Support Program

Resources for Organizing

EndNote

Microsoft Excel

Microsoft OneNote

Nvivo, Atlas.ti, MAXQDA

Summarize Literature

Narrative

Tables

Summary Maps

Synthesize Literature

Identify the commonalities and/or differences of the sources to identify how the literature addresses the research question(s)

Write Review – PRISMA Checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known.	
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009)

Write Review – PRISMA Checklist

Section/topic	#	Checklist item	Reported on page #
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	

Activity

- Take 10 minutes to skim each article.
- As you read, answer the following questions:
  - What is the purpose of the review?
  - What is the search strategy? Are the parameters identified? Is the author clear about why certain types of literature were included or excluded?
  - What type of approach does the author use?
  - What stands out in this review?
  - What are the publications' strengths and weaknesses?

Debrief

Resources

Boell, S. K., & Cecez-Kecmanovic, D. (2014). A hermeneutic approach for conducting literature reviews and literature searches. *Communications of the Association for Information Systems, 34(12*), 257-286.

Campbell Collaboration (2014). *What is a sytematic review?* Downloaded October 14, 2015. http://www.campbellcollaboration.org/what_is_a_systematic_review/categoryPrinterPage.shtml

Cope, D. G. (2014). Analysis and use of different research review approaches in nursing. *Oncology Nursing Forum, 41*(2), 207-208. doi:10.1188/14.ONE.207-208

Jesson, J., & Lacey, F. (2006). How to do (or not to do) a critical literature review. *Pharmacy Education, 6*(2), 139-148.

King, W.R., & He, J., (2005). Understanding the role and methods of meta-analysis in IS research. *Communications of the Association for Information Systems, 16*(1), 665-686.

Leitch, S. & Warren, M. J. (2008). Analysing online teaching and learning systems using MEAD. *Interdisciplinary Journal of E-Learning and Learning Objects, 4*, 259-267.

Levy, Y. & Ellis, T. J. (2006). A systems approach to conduct an effective literature review in support of information systems research. *Informing Science Journal, 9*, 181-212.

Manafo, E., & Wong, S. (2012). Health literacy programs for older adults: A systematic literature review. *Health Education Research, 27*(6), 947-960.

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

NC State University Writing and Speaking Tutorial Service Tutors (2006). Writing A Literature Review and Using a Synthesis Matrix.

Staffordshire Univeristy (October 16, 2006). Critical literature review techniques. Downloaded from www.staffs.ac.uk/schools/.../crit**review**.doc

Sylvester, A., Tate, M., Johnstone, D. (2013). Beyond synthesis: Re-presenting heterogeneous research literature. *Behaviour & Information Technology, 32*(12), 1199-1215. doi:10.1080/0144929X.2011.624633

Zurynski, Y. (June 2014). *Writing a systematic literature review: Resources for students and trainees.* Australian Pediatric Survellance Unit. Downloaded from http://www.apsu.org.au/assets/Resources/Writing-a-Systematic-Literature-Review.pdf