Conducting Comprehensive Literature Reviews for Evaluation Projects Big and Small

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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 weaknesses 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

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? Empirical? 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?
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.

<table>
<thead>
<tr>
<th>Assumptions of a traditional literature review</th>
<th>Assumptions of an SSM literature review</th>
<th>Comparison based on Cooper's (1988) taxonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A literature review presents a rational summary of the current state of knowledge about an external reality</td>
<td>A literature review represents selected data to which meaning is applied in a context</td>
<td>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</td>
</tr>
<tr>
<td>Academic research occurs in a neutral context</td>
<td>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</td>
<td>Perspective of neutral representation of previous knowledge versus perspective of exposal of multiple, competing, and possibly self-interested positions</td>
</tr>
<tr>
<td>Reviews of academic literature are used to build a cumulative research tradition</td>
<td>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)</td>
<td>Goal of integration of previous studies versus goal of criticism and elucidation of the multiple perspectives presented in previous studies</td>
</tr>
<tr>
<td>Academic research should be conceptualised as a summary of findings independent of the social and political context of the researchers themselves</td>
<td>Academic research can be conceptualised using SSM and CATWOE analysis and presented as a rich picture</td>
<td>Organisation is conceptual versus organisation is historical and structured around CATWOE elements</td>
</tr>
</tbody>
</table>

Sylvester et al. (2013)
Hermeneutic Approach

Boell & Cecez-Kecmanovic (2014)
Hermeneutic Approach

Boell & Cecez-Kecmanovic (2014)
PRISMA Flow Chart

Records identified through database searching
\( (n = \ ) \)

Additional records identified through other sources
\( (n = \ ) \)

Records after duplicates removed
\( (n = \ ) \)

Records screened
\( (n = \ ) \)

Records excluded
\( (n = \ ) \)

Full-text articles assessed for eligibility
\( (n = \ ) \)

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

Studies included in qualitative synthesis
\( (n = \ ) \)

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

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

<table>
<thead>
<tr>
<th>Main Idea</th>
<th>Source #1</th>
<th>Source #2</th>
<th>Source #3</th>
<th>Source #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
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<tr>
<td>B</td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Authors</th>
<th>Research design, activities</th>
<th>Tool, program and/or intervention characteristics</th>
<th>Author key findings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Activities: increase knowledge in how to search for an improve self-management for diabetes.</td>
<td></td>
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<td></td>
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<td>Process of developing functional health literacy tool to promoting in promoting health literacy in seniors.</td>
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</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Section/topic</th>
<th>#</th>
<th>Checklist Item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TITLE</strong></td>
<td>1</td>
<td>Identify the report as a systematic review, meta-analysis, or both.</td>
</tr>
<tr>
<td><strong>ABSTRACT</strong></td>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td>3</td>
<td>Describe the rationale for the review in the context of what is already known.</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>4</td>
<td>Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).</td>
</tr>
<tr>
<td><strong>METHODS</strong></td>
<td>5</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Eligibility criteria</strong></td>
<td>6</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Information sources</strong></td>
<td>7</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Search</strong></td>
<td>8</td>
<td>Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.</td>
</tr>
<tr>
<td><strong>Study selection</strong></td>
<td>9</td>
<td>State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).</td>
</tr>
<tr>
<td><strong>Data collection process</strong></td>
<td>10</td>
<td>Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.</td>
</tr>
<tr>
<td><strong>Data items</strong></td>
<td>11</td>
<td>List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.</td>
</tr>
<tr>
<td><strong>Risk of bias in individual studies</strong></td>
<td>12</td>
<td>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.</td>
</tr>
<tr>
<td><strong>Summary measures</strong></td>
<td>13</td>
<td>State the principal summary measures (e.g., risk ratio, difference in means).</td>
</tr>
<tr>
<td><strong>Synthesis of results</strong></td>
<td>14</td>
<td>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.</td>
</tr>
</tbody>
</table>

## Write Review – PRISMA Checklist

<table>
<thead>
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<th>#</th>
<th>Checklist item</th>
<th>Reported on page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of bias across studies</td>
<td>15</td>
<td>Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).</td>
<td></td>
</tr>
<tr>
<td>Additional analyses</td>
<td>16</td>
<td>Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.</td>
<td></td>
</tr>
</tbody>
</table>

## 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


NC State University Writing and Speaking Tutorial Service Tutors (2006). *Writing A Literature Review and Using a Synthesis Matrix*. Downloaded from [www.staffs.ac.uk/schools/.../critreview.doc](http://www.staffs.ac.uk/schools/.../critreview.doc)
