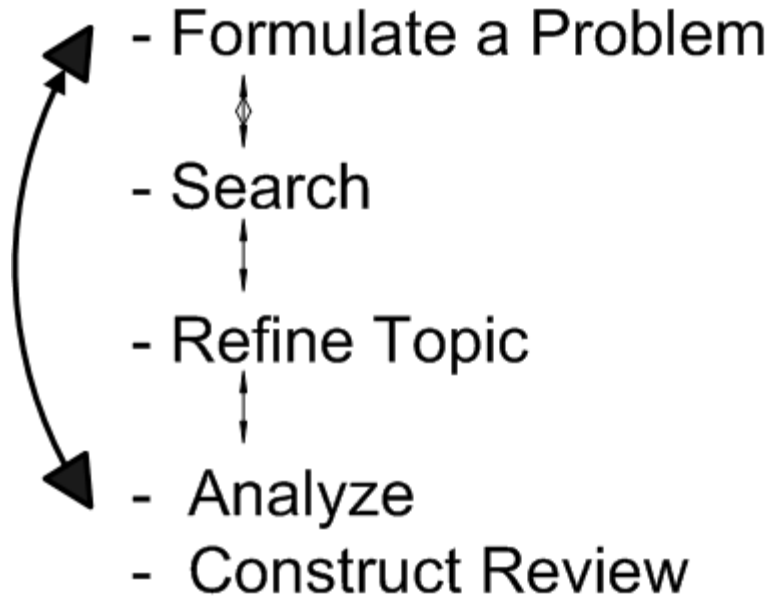


# How To Write A Literature Review

- Process of Review Development



- Research Tips
- RefWorks/EndNote

# Definition of a Literature Review

- **A literature review**

- surveys scholarly articles, books and other sources (e.g. dissertations, conference proceedings) relevant to a particular issue, area of research, or theory.
- provides a short description and critical evaluation of work critical to the topic.
- offers an overview of significant literature published on a topic.

(Lyons, 2005)



# Literature Reviews are Conducted For Various Reasons:

1. For a review paper
2. For the introduction (and discussion) of a research paper, masters thesis or dissertation
3. To embark on a new area of research
4. For a research proposal

(Burge, 2005)



# Conducting a literature review will help you:

- Determine if proposed research is actually needed.
  - Even if similar research published, researchers might suggest a need for similar studies or replication.
- Narrow down a problem.
  - It can be overwhelming getting into the literature of a field of study. A literature review can help you understand where you need to focus your efforts.
- Generate hypotheses or questions for further studies.

(Mauch & Birch, 2003)

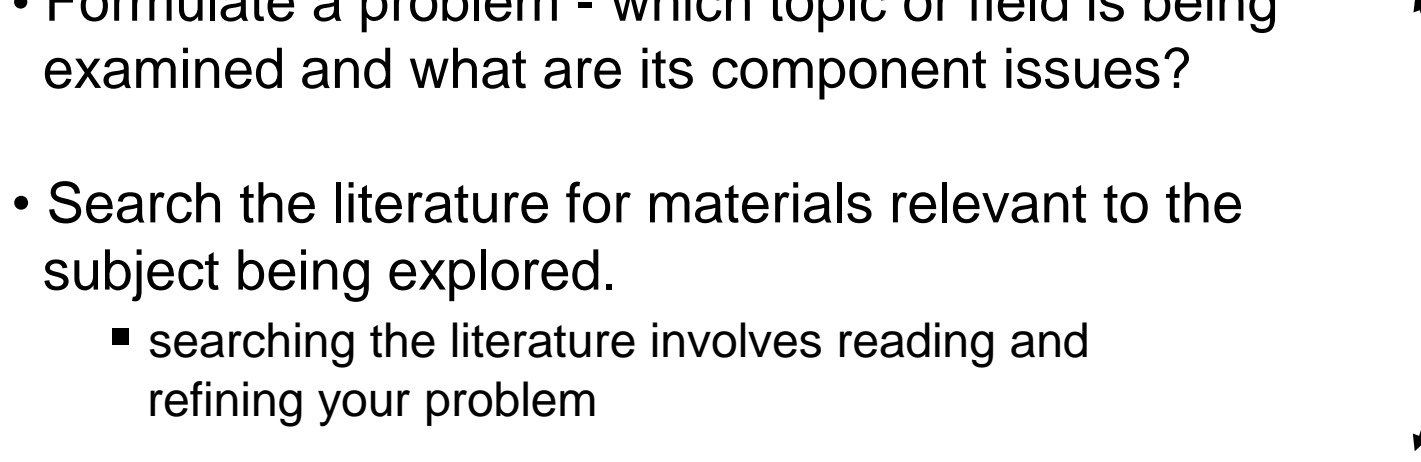


# Conducting a literature review will give you:

- Background knowledge of the field of inquiry
  - Facts
  - Eminent scholars
  - Parameters of the field
  - The most important ideas, theories, questions and hypotheses.
- Knowledge of the methodologies common to the field and a feeling for their usefulness and appropriateness in various settings.

(Mauch & Birch, 2003)

# Outline of Review Process

- 
- Formulate a problem - which topic or field is being examined and what are its component issues?
  - Search the literature for materials relevant to the subject being explored.
    - searching the literature involves reading and refining your problem
  - Evaluate the data - determine which literature makes a significant contribution to the understanding of the topic
  - Analyze and interpret - discuss the findings and conclusions of pertinent literature
  - Format and create bibliography

(Lyons, 2005)

# Tips on Formulating a Problem

- Select a topic you are interested in
  - You want to be fascinated throughout the process and less likely to lose motivation.
- Choose a topic with a feasible focus.
  - Keep the focus clear and defined and it will be easier to complete than something huge like "headaches"
- Get Help - get it early and often.
  - Solicit opinions before you begin, review drafts once start them
- You may want to start out with a general idea, review the literature of that area, and then refine your problem based on what you have found.

(Green, Johnson, & Adams, 2006)



# The “Literature” in the Review

- The literature included can be any format appropriate to your topic.
- Don't restrict yourself to journal articles.
  - Look in books – you'll need to know and cite the work of major contributors to the field. A lot of this in books, especially annual reviews
  - Important Information can be found in reports, conference proceedings, and other non-journal sources. Search government websites and associations related to your topic.
- Look at library subject guides in your area to find the key databases additional resources





# Literature Search

- Perform a preliminary search of the literature.
  - Search lit to see what other work in the area of interest has already been published.
    - Gives a preview of the number of articles available on the topic.
    - If your topic is already written about, select a slightly different topic or modify the focus of the objective.
  - Recent journal issues in areas central to the topic may provide leads to content that should be in the review.
    - Consult Web of Science's Journal Citation Index for an idea of the most important journals in the field
  - Develop a list of subject headings that relate to themes of interest

# Literature Search

- Search across multiple databases and information resources.
  - It's not adequate to use Medline as your one and only resource
- Read the literature throughout the search process.
  - What you read will guide your subsequent searches and refine your topic.
- Your search should help refine the topic and objective of the overview being written.

# Think ahead

- The more one learns about a subject, the more questions come to mind.
- Keep a list of questions and hypotheses that come to your mind or that are mentioned in what you read.
  - These questions will help guide you when you are constructing your review
  - The questions will also guide you in discussing the implications of your own findings and the additional research directions your work supports or suggests.

(Mauch & Birch, 2003)



# Save your references

- Keep a record of the literature you collect
- Record where and when you retrieved the information
- Use a citation manager program like RefWorks or EndNote
- Better to record too many references than have to return a few weeks or months hence and spend hours trying to relocate documents

# Data Evaluation: Selecting literature

- Read widely
- When you read for your literature review, you are actually doing two things at the same time:
  1. Trying to define your research problem: finding a gap, asking a question, continuing previous research, counter-claiming
  2. Trying to read every source relevant to your research problem
- It is usually impossible to do the latter
  - you will need to identify the most relevant and significant works and focus on them.

(Asian Institute of Technology)



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# Data Evaluation: Selecting Literature

- As you define your problem you will more easily be able to decide what to read and what to ignore.
  - Before you define your problem, hundreds of sources will seem relevant.
  - However, you cannot define your problem until you read around your research area.
  - This seems a vicious circle, but what should happen is that as you read you define your problem, and as you define your problem you will more easily be able to decide what to read and what to ignore.

(Asian Institute of Technology)



# How To Read the Material

- Reading for the big picture
    - Read the easier works first
    - Skim the document and identify major concepts
    - After you have a broad understanding of the 10 to 15 papers, you can start to see patterns:
      - Groups of scientists argue or disagree with other groups.
- For example, Some researchers think x causes y, others that x is only a moderating variable

(Carroll, 2006)



# Narrow your focus

- Start from new material to old, general to specific
  - starting with general topic will provide leads to specific areas of interest and help develop understanding for the interrelationships of research
  - Note quality of journal, output of author
- As you read and become more informed on the topic, you will probably need to go back and do more focused searches
- Think, analyze, and weed out
- Arrange to spend some review time with an experienced researcher in the field of study to get feedback and to talk through any problems encountered

(Mauch & Birch, 1993)





# Read the Material Closer

- Step 1: read the abstract
  - Decide whether to read the article in detail
- Step 2: read introduction
  - It explains why the study is important
  - It provides review and evaluation of relevant literature
- Step 3: read Method with a close, critical eye
  - Focus on participants, measures, procedures
- Step 4: Evaluate results
  - Do the conclusions seem logical
  - Can you detect any bias on the part of the researcher?
- Step 5: Take discussion with a grain of salt
  - Edges are smoothed out
  - Pay attention to limitations

(Carroll, 2006)

# Analyze the Literature

- Take notes as you read through each paper that will be included in the review
- In the notes include:
  - purpose of study reviewed
  - synopsis of content
  - research design or methods used in study
  - brief review of findings
- Once notes complete organize common themes together. Some people do this in a word document, others use index cards so they can shuffle them.
- Some people construct a table of info to make it easier to organize their thoughts.
- As you organize your review, integrate findings elicited from note taking or table making process.

(Green, Johnson, & Adams, 2006)



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# Questions To Consider In Your Review

- What do we already know in the immediate area concerned?
- What are the characteristics of the key concepts or the main factors or variables?
- What are the relationships between these key concepts, factors or variables?
- What are the existing theories?
- Where are the inconsistencies or other shortcomings in our knowledge and understanding?
- What views need to be (further) tested?
- What evidence is lacking, inconclusive, contradictory or too limited?
- Why study (further) the research problem?
- What contribution can the present study be expected to make?
- What research designs or methods seem unsatisfactory?

(Asian Institute of Technology)



# Construct the Literature Review

- In the introduction, explain why the topic is important and give the reader an idea of where you are going in your paper.
- Group research studies and other types of literature according to common denominators.
  - If you've taken notes before, the common themes are more easily identifiable.
  - Some factors used to organize reviews are:
    - Conclusions of authors
    - Specific purpose
    - Objective
    - Chronology (this method will give the worst impression, use only if it really makes sense to your topic!)

(University of Wisconsin, 2006)



# Construct The Literature Review

- Summarize individual studies or articles
  - Use as much or as little detail as each merits according to its comparative importance in the literature
  - Space (length) denotes significance.
  - Don't need to provide a lot of detail about the procedures used in other studies.
  - Most literature reviews only describe the main findings, relevant methodological issues, and/or major conclusions of other research.
- Discuss major areas of agreement or disagreement
- Tie the study into the current body of lit, make logical interpretations from the lit reviewed.
  - If there is no discussion of the relevance of the overview to other work in the field, or if there is no interpretation of the literature, it may signal the author has not thoroughly investigated the topic.

(University of Wisconsin, 2006)



# Organization of the Review

## Introduction to the lit review

- Content - what is covered
- Structure - how it is organized
- Boundaries - what is outside of its scope

## Body of the Lit Review

### SECTION 1

The most important topic or a key concept

- discussed and evaluated
- summarized and related to your research project

### SECTION 2

The next most important topic or a key concept

- discussed and evaluated
- summarized and related to your research project

### ADDITIONAL SECTIONS

- Follow the same pattern

## Conclusion

From each of the section summaries,

- highlight the most relevant points
- relate these back to the need for research
- reiterate what these mean for the research design

(Golden-Biddle & Locke, 1997)



# An Effective Literature Review

- Places each work in the context of its contribution to the understanding of the subject under review
- Describes the relationship of each work to the others under consideration
- Identifies new ways to interpret, and shed light on any gaps in, previous research
- Resolves conflicts amongst seemingly contradictory previous studies
- Identifies areas of prior scholarship to prevent duplication of effort
- Points the way forward for further research
- Places one's original work (in the case of theses or dissertations) in the context of existing literature

(Lyons, 2005)

# Be accurate and thorough

- Your review acts as a guide of your topic for others.
- Take care to make your review:
  - Accurate: e.g., Citations correct, findings attributed to authors correct.
    - Make sure someone can track down the article and that you have provided a reliable representation
  - Complete: i.e., include all important papers (not every paper written on the topic).



# Research Tips

- Use the A-Z guide to find key databases and other resources related to your topic
- Consult with a librarian for resource recommendations and how to use them.
- Talk to experienced researchers in the field, they can recommend resources and identify key works and authors
- Look at reviews in completed dissertations and reports from your program to get an idea of the format and requirements
- When collecting references, use a citation management tool like RefWorks or EndNote

# Citation Management Tools

- Managing the references you find and use in your review will take a significant amount of work
- Using a citation management tool like RefWorks or EndNote will save you much time and effort
  - Organize and store references
  - Make in-text citations based on required style (ex. APA)
  - Create a list of references based on required style

# RefWorks

- Free program (for BU affiliates) that collects and formats the references used in scholarly writing.
  - You can save the references you plan to cite in your review and ensure that they are automatically formatted in the appropriate style: MLA, APA, Chicago, hundreds more.
- Any member of the BU community (students, faculty, staff) is eligible to register for free personal accounts: you can sign up at <http://www.bu.edu/library/refworks/>.
- Web-based service
  - Access your account and work with your references from any internet-capable computer around the world.



# Collecting References With RefWorks

- Once RefWorks has the data for a citation, it will create citations and bibliographies for you
- Four ways to put references into RefWorks:
  1. Import references from a database
    - PubMed, MEDLINE, Web of Science, Google Scholar, more
  2. Import web pages from Ref-Grab-It bookmarklet downloaded from RefWorks, scraps the screen for information.
    - Best used when the source itself exists only as a webpage
  3. Search the library catalog or PubMed from within RefWorks
    - Best for books or when you have a list of citations
  4. Manually create a reference by filling out a form
    - Good for websites, unusual references

For directions on how to work with references, see

<http://medlib.bu.edu/tutorials/refWorks>



# RefWorks Tutorials

- Basic RefWorks
  - <http://www.refworks.com/tutorial/>
  - <http://medlib.bu.edu/tutorials/refWorks/>
- BU and Medical Library specific tutorials:
  - Searching the BU Library ([text](#), [video](#))
  - Searching PubMed through Refworks ([text](#), [video](#))
  - Importing citations from PubMed ([text](#), [video](#))
  - Importing citations from Ovid Medline ([text](#), [video](#))

# EndNote

- Similar to RefWorks
  - Import citations, searches catalog and PubMed from within the program
  - Has feature (“cite while you write”) that inserts in-text into your word document
- Distinctions from RefWorks
  - Not free
    - Buy at discounted student rate
  - Not web-based
  - Has more output styles than RefWorks (2 times as many)
  - Easier to create custom output styles
  - “Cite while you write” easier to work with than Ref Work’s Write-N-Cite



# Other Citation Management Tools

- Zotero
  - Free Firefox extension
- Connotea
  - Open source, aimed at scientists.
  - Works with DOI
  - Encourages tagging
- Papers
  - For Macs

# References for this module

- [Review of Literature \(slideshare.net\)](#)
- Asian Institute of Technology. *Writing up research: Using the literature*. Retrieved 1/22/2009, 2009, from <http://www.languages.ait.ac.th/EL21LIT.HTM>
- Burge, C., *7.16 Experimental Molecular Biology: Biotechnology II, Spring 2005*. (Massachusetts Institute of Technology: MIT OpenCourseWare), Retrieved 12/15/2008, from <http://ocw.mit.edu>. License: Creative Commons BY-NC-SA
- Carrol, J., *15.301 Managerial Psychology, Fall 2006*. (Massachusetts Institute of Technology: MIT OpenCourseWare). Retrieved 12/15/2008, from <http://ocw.mit.edu>. License: Creative Commons BY-NC-SA
- Golden-Biddle, K, & Locke, K (1997). *Composing Qualitative Research*. Thousand Oaks, CA: Sage.
- Green, B. N., Johnson, C. D., & Adams, A. (2006). Writing narrative literature reviews for peer-reviewed journals: Secrets of the trade. *Journal of Chiropractic Medicine*, 5(3), 101-117.
- Lyons, K. (2005). *UCSC library - how to write a literature review*. Retrieved 1/22/2009, 2009, from <http://library.ucsc.edu/ref/howto/literaturereview.html>
- Mauch, J. E., & Birch, J. W. (1993). *Guide to the successful thesis and dissertation : A handbook for students and faculty* (3rd , rev. and expand ed.). New York: Marcel Dekker.
- University of Wisconsin. (2006). *UW-madison writing center writer's handbook*. Retrieved 1/22/2009, 2009, from <http://www.wisc.edu/writing/Handbook/ReviewofLiterature.html>

