



# Bringing Order out of the Chaos: Research Organization and Synthesis

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# Main questions

How much research do I need?

How do I organize my research?

How do I find meaning in the research?

How do I write my research prospectus?

How can I find support in the writing process?

# How much research do I need?

It depends on the project

- Empirical/statistical paper = 12-15 sources
- Lit. review with independent conclusion = 20-30 sources

Keep research ongoing

- No single “research phase”
- Don’t wait to start writing

# How do I organize my research?

Option 1: Self-made Word document w/ annotated bib.

- Annotation = 2-3 sentences on main subject matter of source and its possible relevance to your research topic
- Keywords to aid memory
- This method is easy to use and ideal for projects with 12-15 sources

# How do I organize my research?

Option 2: Reference-managing software (Mendeley, EndNote)

- Create a personal research library w/ notations
- Available anywhere

Caution: These programs take time to learn and optimise

# Mendeley

The screenshot displays the Mendeley Desktop application window. The title bar reads "Mendeley Desktop". The menu bar includes "File", "Edit", "View", "Tools", and "Help". The toolbar contains icons for "Add Documents", "Delete Documents", "Remove from Collection", "Create Folder", "Remove Folder", "E-mail Documents", "Sync Library", "Send Citation to Word Processor", and "Cancel Citation". A search bar on the right says "Type here to search".

The main interface is divided into three sections:

- My Library:** A sidebar on the left with a tree view containing "All Documents", "Recently Added", "Favorites", "Needs Review", "My Publications", "Unsorted", "Research Gone Social", and "Create Folder...". Below this is a "Groups" section with "Research Gone Social", "@MyOpenArchive", "Future of Science", and "Open Access Week". At the bottom is a "Filter by Author's Keywords" dropdown menu with a list of terms including "All", "-empirical evaluation", "Acute Disease", "Adult", "Amino Acid Sequence and phrases and since not all", "Anemia", "Animals", "Antibodies", "Antigens", "Aplastic", "Aplastic: therapy", "Base Sequence", and "beta\_Catenin".
- All Documents:** A central table listing documents. The selected document is "Citation Statistics" by Adler, Robert... published in 2009 in *Statistical Science*. Other documents include "Learning to Combine Trained Distance Metrics for Duplicate D..." by Bilenko, Mikh..., "Chemiluminescence detection for hybridization assays on the flo..." by Cheek, B J; St..., "Google Scholar's Dramatic Coverage Improvement Five Ye..." by Chen, Xiaotian, "Rapid expansion of recycling stem cells in cultures of plastic-adher..." by Colter, D C; Cl..., "Open access publishing, article downloads, and citations: rando..." by Davis, P. M; L..., "Increasing Wnt signaling in the bone marrow microenvironment ..." by Edwards, Clai..., "Citation advantage of open access articles." by Eysenbach, G..., "New use of cyanosilane coupling agent for direct binding of antib..." by Falipou, S; Ch..., "Cotransplantation of haploidentical mesenchymal ste..." by Fang, Baijun; ..., "Are Bibliographic Management Software Search Interfaces Reli..." by Fitzgibbons, M..., "Evaluating Visual and Statistical Exploration of Scientific Literatu..." by Gove, Robert..., and "Dkk-1-derived synthetic peptides" by Gregory, Carl...
- Details:** A right-hand pane showing the details for the selected document. It includes a "Type:" dropdown set to "Journal Article", the title "Citation Statistics", authors "R. Adler, J. Ewing, P. Taylor", a button to "View research catalog entry for this paper", journal name "Statistical Science", year "2009", volume "24", issue "1", and pages "1-14". It also has sections for "Abstract:", "Tags:" (citation; mendeley), "Keywords:" (and phrases; citation data; citation statistics; citations; h-index; impact factor; journal evaluation; research evaluation; scien-; scientific ranking), and "URL:".

At the bottom left, it says "1 of 17 documents selected".

# How do I organize my research?

Pick one method and stick with it

- All options can include organization, annotation, and remote access

Beware the time suck and start writing

- Research programs can be useful, but involve a learning curve

# How do I find meaning in the research?

## Engage with the literature

- Print out as much as possible
- Read, mark, highlight, write in the margins

## Gain an understanding

- Become familiar with main questions and methods related to your topic
- What is everyone doing and how are they doing it?



# How do I find meaning in the research?

## Determine where you stand

- It's okay to respectfully disagree with a research article
- Research is meant to be analyzed

## Identify researchers/approaches that appeal to you

- Think about why you're drawn to these people and methods
- Consider using the same analytical approach & applying it to another data set



# How do I find meaning in the research?

## Look for commonalities

- Map out the results of previous research
- By date, by finding, by research group, etc.

## Identify gaps/space to work in

- Find ongoing scholarly discussions and consider the contribution you could make

# How do I write my research prospectus?

Follow the steps in Appendix 2 of course syllabus: sections A – C are the most difficult to write because those sections require analysis and synthesis.

## **Section A: Topic and rationale**

- Paragraph 1: You want to establish that something is important. Say why it is important. Then assert that despite its importance, it remains relatively unexamined. Bonus points for not actually using the word “important.”
- Paragraph 2: Establish the reasons why your thesis matters/is important. These reasons should move from broader (socially important) to narrower (why it matters to how something is done or studied in your field of interest)

# How do I write my research prospectus?

## **Section B: Literature review– What to do**

- Focus on concepts, ideas and methods shared across the literature– each paragraph of the lit review should be staking out a position that identifies common or related (A) research questions (B) research design (C) conclusions that exist among the articles you are reviewing
- Integrating previous research along conceptual and methodological lines allows you to explain (A) base of knowledge in your field and (B) how your project fits into the literature and is thus relevant/important

# How do I write my research prospectus?

## Section B: Literature review– What NOT to do

- Avoid the “boxcar” approach: paragraph 1 summarizes one article; paragraph 2 summarizes another article; and so on, each article summarized in its own separate paragraph
- Boxcar approach has no organizing principle and is purely descriptive– it does not help you in writing section C– your own thesis statement and how your project fits into and contributes to the literature in your field

# How do I write my research prospectus?

## Section C: Thesis statement

- In a paragraph you establish what you will do in your proposed study: if you wrote an integrated lit review this paragraph should almost write itself
- The structure of the paragraph should follow the “formula” for persuasive paragraphs in BCaP Effective Claims handout

[https://tippie.uiowa.edu/sites/tippie.uiowa.edu/files/documents/effective\\_claims.pdf](https://tippie.uiowa.edu/sites/tippie.uiowa.edu/files/documents/effective_claims.pdf)

# How do I write my research prospectus?

## **Section D: Outline anticipated sections**

- Provide a brief overview of the major sections you anticipate with 3-5 sentences for each section.
- Include potential subheadings – subheadings that establish a position (includes a verb) more useful than functional subheadings (nouns only)

## **Section E: Reference section**

- Proposals feature articles you already read and those you intend to read
- APA style <https://tippie.uiowa.edu/how-write-bibliography>

# How can I find support in the writing process?

- Frank Center can help you with clarity and organization
- Some of our grad tutors are PhD students and familiar with the research thesis process
- Consider making a standing weekly appointment with a grad tutor or advanced undergrad tutor in your field of study
- Expect to review 2-3 pp. of analytical writing (e.g. prospectus sections A – C) per 40-minute appointment

<https://tippie.uiowa.edu/about-tippie/centers-institutes/frank-business-communication-center>