

Master's Paper-Elements and Content

The Master's Paper can take several forms (research project, program evaluation, needs assessment, policy white paper, etc.), and there is no current divisional policy on its organization or content. The following paragraphs regarding the content of major sections has been compiled from the helpful book **How to Write and Publish a Scientific Paper** (R.A. Day, ISI Press, 1979) to serve as a starting point for section content. Be sure to check with your advisor on the elements and contents that are appropriate for your paper. It is appropriate to use a high quality published report in an area related to your paper as a template for the elements, style of presentation, and citation format.

Master's Paper Elements

- Title Page--check CHS Student Handbook for correct text
- Abstract--usually written last
- Table of Contents
- Acknowledgments (optional)
- Introduction
- Literature Review/Background & Significance
- Theoretical Framework
- Methodology
- Results
- Discussion
- Conclusions
- Literature Cited
- Appendices--include any instruments/forms, consents, copies of IRB approval, etc.

Research Study

Introduction: "The purpose of the introduction should be to supply sufficient background information to allow the reader to understand the problem you chose, its importance, and how you plan to study it." It is important for the reader to understand how the problem is defined and the approach you will be taking for the rest of the paper.

Literature Review: Give the reader sufficient background information to understand the intellectual and existing research on the topic. This ought to allow the reader to "evaluate the results of the present study without needing to refer to previous publications on the subject. Choose references carefully to provide the most salient background rather than an exhaustive review of the topic". This is not an annotated bibliography listing all known works on the subject, but is a critical analysis of pertinent literature relating to your topic or problem. The topics should be arranged in a logical sequence, using subheadings. There should be good flow/transitions between sections. The review should lead the reader through what is known (and not known) and evaluate the methods which have been used to date. A good review should lead to no surprises in the methods section (e.g. a sample you did not discuss, a measure you did not bring up, etc.)

Theoretical Framework: This section needs to give the reader an overview of the social, behavioral, physiological, political, economic or other theory being used to guide the study, analytic review or policy analysis. The conceptual model that reflects the concepts being addressed is presented and discussed here. The theoretical propositions derived from the theoretical framework are stated and explained in reference to the theory and conceptual model developed for the paper. For position or

policy analysis papers and analytic literature reviews, the theoretical framework ought to reflect the concepts being discussed.

Methods: In this section, you detail the methods and steps you used to perform the study. These are usually presented chronologically, taking care to include how the sample and subjects were selected, any instruments developed and validated, variables selected, method(s) used to obtain the data, and statistical analysis plan. While your sample population can be generally described, do not introduce results in this section. Be sure to include in the appendices any instrumentation you used. Remember that all student research must be approved by the Institutional Review Board (IRB) prior to your beginning the project; it is appropriate to include mention of this approval in the methods, and to include a copy of the approval in the appendices.

Results: Give a brief overview of what was done, without repeating the Methods section, then present the data. If there are only a few determinations, then the data can be presented descriptively in the text. More complex data should be presented as tables. Keep in mind that whatever you present should be meaningful and not repetitive. Variables which seemed to have little effect on your results can be mentioned, but may not necessarily be included in their entirety--check with your advisor. Unanticipated findings can and should be presented. Any statistics used should also be meaningful. "The results should be short and sweet, without verbiage". Your results represent that aspect of your study which is new knowledge, and as such, they must be very clear. "When the perfect scientific paper is written, if it ever is, the Results section may possibly have just one sentence: 'The results are shown in Table 1'". Theoretically, the written results and any tables or figures should be able to stand alone, but this does not mean that all points from a table are described in the text. Contrary to a manuscript submitted for publication, tables and figures in a Master's Paper are included in the text near their first citation.

Discussion: This is often the most difficult section for students because term papers often don't give you much practice at doing it. However, this is an important section because it explains what your results mean and how they relate to what we already know. Key features of a good discussion include: (a) presentation of the principles, relationships and generalizations suggested by the Results; (b) integrate the findings into the theoretical/conceptual basis for the research; (c) point out any exceptions or lack of correlation and define unsettled points; (d) discuss how your results and interpretations agree (or contrast) with previously published work; (e) discuss the theoretical implications of your findings; and (f) discuss possible practical applications to public health practice. The discussion also includes a section on the limitations of the study or analysis.

End the paper with a statement of your conclusions, and relate back to the overall significance of your results. "Seldom will you be able to illuminate the whole truth; more often, the best you can do is shine a spotlight on one area of the truth, ...buttressed by your data." Don't conclude beyond what your data and findings suggest.

Literature Cited: There are several styles used in citing sources you use in the paper--use the one your advisor suggests. A good guide for format issues for citations as well as other issues is the **Publication Manual of the American Psychological Association**. It is important to be consistent with whatever style you use. Similarly, you need to select and cite primary and original sources; it is not acceptable to list a reference you have not directly consulted.

Sources:

Day, R.A., **How to Write and Publish a Scientific Paper**, ISI Press, Philadelphia, 1979.

DePoy, E. and L.N. Gitlin, **Introduction to Research**, Mosby, St. Louis, 1994.

Leedy, P.D., **Practical Research: Planning and Design**, Third Edition, Macmillan, New York, 1985.

Analytic Literature Reviews

Rather than being an annotated bibliography, a good review paper critically evaluates the published literature in an area(s), usually drawing conclusions based on the literature. Often, literature from several content areas will be evaluated to explore a particular problem, form the basis for suggesting other research, develop a theoretical model, or to make recommendations aimed at resolving a pertinent problem. As with any paper, getting organized is important; many writers find an outline helpful, and it shows your advisor/reader where you intend the paper to go. As an example of appropriate reviews, you might check those listed in a recent **Annual Review of Public Health** (found in the SPH Reference Center, Library of the Health Sciences and on-line).

The major topic/concept areas are arranged in a logical order, leading the reader through the maze of information to the point you wish to make. Each topic area should be introduced with a general description of what you will cover, and will end with a similar paragraph which bridges from one division to another.

Introduction: This section introduces the reader to your topic and the problem(s) you plan to address in the rest of the paper. A good introduction provides the road map for the reader. It clarifies the chosen problem, why it is important, and how you will address the essential elements in the review.

Background and Theoretical Framework: It is appropriate to have a section following the introduction which provides the theoretical framework you are using to explore your research questions, and/or outlining the research approach you are taking to the analytical review. It is important to provide the reader information about the topic so that the literature to be reviewed can be assessed in relationship to what is known about the topic. A theoretical framework is also presented in which the major concepts are identified. Also, the theory or theories used to understand the topic is discussed.

Methodology: Provide a fairly detailed description of the methods used. This will include, at minimum, the procedure used to search for the relevant literature, the criteria for including a research report in the review, and the procedure for abstracting the relevant information or data from the literature. This section ought to be sufficiently detailed so that the search could be replicated. Remember to be selective in your review. A literature review is not everything you have read on a topic; it is everything you have read that is directly related to the topic of study.

Results: Some sources suggest organizing the review as an inverted pyramid, moving from the broad perspective to a more specific one. Sub-headings are very helpful for the reader, and can serve as an 'internal outline' of the literature review. Throughout, it is important to show the 'relatedness' of the study to your problem. Remember what you "*say about the study*" is more important than what the author says *in the study*".

Discussion: This is a major section of the paper where you develop and integrate the ideas presented with the literature, heavily relying on your own ideas. This section can also identify gaps in the literature and specific areas for additional research. Through the literature review and discussion process you demonstrate your understanding of the theoretical, research methods, findings and implications of the reviewed literature in that field. Remember not to go beyond your data.

Conclusion: An analytical literature review should also include a brief conclusion section where you take all the information you have gathered and integrated and present the significance--what does it all mean and why is it important?