

Description

Pulling together years of research into a dissertation may seem a daunting task. But it needn't be. If you can organize a scientific article, you can structure a dissertation.

Dissertation Structure

Like [scientific articles](#), the structure of a dissertation varies somewhat depending on the nature of the research and the dictates of the publisher, the university in this case. Dissertation examples can be reviewed to find accepted formats, but typically, as in a scientific article, there are five basic sections: introduction, experimental, results, discussion, and conclusion.

Introduction

The introduction lays out the background of the research: what is the problem, why is it important, what strategy was used to solve the problem? To answer these questions you will need to [review the literature](#), to show what other researchers have done on this problem or similar ones. The introduction is sometimes titled "historical."

Experimental

The relevant experiments are described in enough detail to allow a scientist to repeat the work. Special techniques and apparatus should be described or sketched. In many ways this is the most important section of the dissertation since the results and discussion depend on it.

Results

Here the salient results of the research are described. For example, an X-ray crystal structure may be shown and data on bond angles and distances summarized. Plots of kinetic studies are included and rate constants tabulated. Synthetic schemes are shown and yields given. The results section presents the facts that were uncovered.

Discussion

The implications of the results are now explored and the facts are related to theory and hypothesis. How does the X-ray crystal structure compare to analogs in the literature? Does the structure support the original hypothesis of the research? If not, how must the hypothesis be amended? What are the mechanistic implications of the kinetic studies? Why did the synthetic work succeed or fail? Sometimes it is convenient to combine results and discussion into one section; in other cases this becomes cumbersome and it's better to keep them separate.

Conclusion

Particularly for a complicated piece of research, a conclusion is helpful to summarize the results of the

research and delineate what was learned. As in a journal article, this section is brief.

A Dissertation May Be a Publication

When I wrote my [dissertation](#) my adviser required us to write them in the form of one or more scientific papers ready for submission. Thus, my dissertation had three parts and three publications came out of it. I think this is a fine method of [writing a dissertation](#): it's flexible but rigorous, since each part must follow the form of the scientific journal to which it will be submitted. This is also a timesaver, since there is no need to re-write the dissertation as separate papers. The dissertation contains the papers, ready to send out.

Category

1. Journal Guidelines
2. Reporting Research

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