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ABSTRACT

Designed to be useful in the preparation of a research proposal, a culmination report of completed research, a thesis or a dissertation, this paper discusses each chapter of these various reports and offers samples of what is typically included under each subheading. Sections of the paper address the "problem" (including problem statement, hypotheses, significance of the problem, limitations, and organization of the remainder of the report); the review of the literature; methodology or procedures (instrumentation, data collection, data analysis, and summary); results or findings (demographic data, headings related to hypotheses stated earlier, and summary); summary, conclusions, and recommendations; and appendixes. The paper concludes with a final set of advice, including avoiding adverbs and personal pronouns, writing in third person, using past tense (except for proposals), and not directly identifying persons involved as subjects. (RS)

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GUIDELINES FOR WRITING RESEARCH PROPOSALS, REPORTS, THESES, AND DISSERTATIONS

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GUIDELINES FOR WRITING RESEARCH PROPOSALS, REPORTS, THESES, AND DISSERTATIONS

The outline presented here is for use in the preparation of a research project or report, i.e., the research proposal, a culminating report of completed research, a thesis, or a dissertation. Exceptions to this format may be necessary in special circumstances, and the emphasis may vary depending on the nature of the research involved. For example, whether it is survey research concerning what is, historical research concerning what was, or experimental research concerned with cause and effect relations.

A typical research proposal consists of three parts in varying lengths depending upon where it is submitted: 1) an **Introduction**, 2) a **Literature Review**, and 3) a **Methodology** section. These three sections also correspond to the first three chapters of a final research report, thesis, or dissertation. The difference between the proposal and a report being that the proposal is written in the present or future tense and a culminating report is always written in the past tense.

In the case of the Master's or Educational Specialist Thesis as a culminating report, it is common to contain only four sections or chapters (Again, this depends on where the report is submitted). Chapter III the normal methodology or procedures chapter in a dissertation is excluded and a shortened version appears as a section called "procedures" included in Chapter I. This shortened version of a research report will not be discussed here.

The following illustrates the contents and the relationship of the proposal to the finished report:

PROPOSAL	REPORT, THESIS, DISSERTATION
Title Page	Title Page
	Signature page (Thesis Committee)
	Abstract
	Acknowledgments
Table of Contents	Table of Contents
	List of Tables (optional)
	List of figures (optional)
Part I - Introduction	Chapter I - The Problem
Part II - Literature Review	Chapter II - Literature Review
Part III - Methodology	Chapter III - Methodology
	Chapter IV - Findings or Results
	Chapter V - Summary, Conclusions and Recommendations
Bibliography	Bibliography
Appendices	Appendices

The following sections of this paper describes each chapter with their common subheadings, and what is typically included under each subheading.

CHAPTER I
The Problem

Introduction

Usually a short paragraph or two that describes the problem in broad terms, quotation from authorities in the field of interest. (The first 1-2 sentences should be striking, in order to gain the reader's attention.)

Background of the Problem

The background section narrows the focus of the study through other studies and reports. These first two sections may be viewed as a funnel. It is not possible to specify the length of the first two subtitle sections (nor of the entire research project). Generally, two to four pages or even less can be acceptable. The introduction and background sections are typically expanded in Chapter II, the Review of Literature.

Statement of the Problem

It is generally acknowledged that the Problem Statement is the most critical part of a research project because when written in a clear form, it provides direction to the entire project. There is also no "best way" or "blueprint" to write a problem statement but in general, the format illustrated by the model and examples that follows has been found to be acceptable.

sample problem statement

> Theoretically, or according to authorities in the field, etc., Blah, Blah appears to be true or this situation applies or exists. This study was designed to compare, contrast, investigate, describe, determine, examine, evaluate, develop, or clarify a related issue.

Hypotheses, Research Questions, or Questions to be Answered

In this section of Chapter I, the problem statement is further explicated. Hypotheses, either directional, research, or in the null form, are used if the research performed was experimental. Generally, survey research is limited to "Research Questions", or "Questions to be answered." These questions or hypotheses are very important because they further narrow the focus of research and because the answers become the "Conclusions" section of Chapter V (providing the study is actually completed).

Significance of the Problem

In this section, the "so what" question is addressed. The value of the study is explained by relating anticipated results to the general area of study. It would be wasteful to do a study that had no value at all. At the same time, it is acknowledged that many research projects undertaken may be severely limited in their generalizability. Learning acquired from the form of the project may often be more important than the content of the study in these cases

Definitions

The definitions section of Chapter I provides definitions for terms that are unusual or not widely understood or for terms that have meanings unique to the area under study. Acronyms also usually require definition at this point.

Delimitations (optional)

Delimitations are factors that affect the study over which the researcher has control. Delimitations set boundaries or limits. Using structured interviews or questionnaires to gather data, for example, may be delimited to a very small fraction of the total population so that the project remains "doable" within a limited time frame or with limited resources. Delimiting a study to one school or one city or otherwise delimiting the number of data sources also helps keep a project "doable."

Limitations (optional)

Limitations are factors that may affect the study but which are out of the control of the researcher. Limitations are very useful because they provide a method to acknowledge errors. It is prudent to keep this subsection of Chapter I open for revision because some problems that develop during the data gathering phase of the study may not be apparent when the project is initiated. In some cases, the limitations are so severe that they make all conclusions highly suspect. The effects of particular teaching strategies on the performance of students is an example.

Assumptions (optional)

This section of Chapter I in one sense is the opposite of the limitation section because assumptions explain factors that may affect the study but which will not be controlled. (example: gender may have an effect on perception of a particular issue but the researcher decides to look only at the total population perception).

Organization of the Remainder of the Study

This section presents an outline of the remainder of the study. (example: Chapter II is a review of selected literature concerning..." and Chapter IV is a discussion of the findings and results of the study..." Usually, subsequent chapters are described in only one or two sentences. This "summary" leads the reader to the next chapter.

CHAPTER II
Review of Literature

Introduction

The introduction section of Chapter II indicates how Chapter II is organized. It explains the subsections in Chapter II. Variations in studies makes it impossible to predict subsections, but some possibilities are illustrated below:

- Theory relevant to the area under study
- Historical background
- Current trends
- Significant research data
- Summary

Again, it is not possible to specify the length of Chapter II. It should reflect fthe findins of research related to the problems statement and expand upon the "introduction" and "Background" sections of Chapter I. In studies with significant limitations or in historical studies, Chapter II may be the prime focus of the research report. In other studies, Chapter II may be relatively short, i.e., ten pages or less. Citations should be extensive using the format recommended by the reviewing institution. APA is typically recommended.

CHAPTER III
Methodology or Procedures

Introduction

This section generally restates the problems under study and indicates the remaining subsections of chapterIII. In most survey or descriptive research studies, the subsections might be shown as below. The general rule that governs the writing of Chapter III is to show the step be step process utilized so that someone in the future who decides to replicate the study would be able to do so. In short, Chapter III provides and exact explanation of how the study was conducted. Population and Sample (either one or two sections)

In this section, the population used in the study is described and the process utilized for selecting that population. Unless the population is small, a sample is usually drawn. A sample should be small enough to be manageable, randomly obtained and anonymous. Names and organizational identifiers should be avoided except in broad terms such as "Teachers in an elementary school" or Officers in ranks E1 to E4 with a minimum of five years of service in support units." Enough description should be provided so that a person replicating the study could define a similar sample from a similar population.

The size of the sample varies with the instrument to be used, the population and the amount of time advisable to the researcher. The key is to keep the sample somewhat representative but again primarily "doable." Often stratified random samples are necessary.

Instrumentation

In this section the procedures for developing a data-gathering instrument are described. Sources of items might include the literature and experience or the instrument may be an adaptation from a previous study or may be a commercially produced one. Instruments developed by student should always be field tested or used in a pilot study. These devices provide a check of validity.

Piloting or field testing of the instrument takes place using two or three subjects similar to the subjects from whom the data is to be obtained. The instrument may then be revised if needed. In final form it always requires advisor or committee approval prior to sending out. It is displayed in the appendix of the research report.

Data Collection

This section is used to describe in detail how the data was obtained and the timelines involved. For example, the coded questionnaire, a cover letter of explanation, and a self-addressed stamped return envelope were sent to each member of the sample on xxxx, 1998. After three weeks, on xxxx, 1998, a follow-up postcard was sent to each subject whom had not yet returned the questionnaire...

Data Analysis

This section is used to describe in detail how the data obtained were analyzed. It forces the researcher to predict how the data are going to be reported. Frequency counts, means, comparisons, relationships, and data in tabular form are examples of the most often used methods of analysis. Studies that involve more complex statistical manipulation should describe which form of analysis was used for each hypotheses or question. If complex statistical tests were used, then the test should be described and explained and its source referenced.

Summary

This section leads the reader to Chapter V

CHAPTER IV
Results or Findings

Introduction

A short introduction provides a review of the problem and addresses the organization of the content of Chapter IV. The subtopics of Chapter IV may include the following:

Demographic Data

In this section, demographic findings are reported. In Chapter IV it is important to limit the discussion to "what" was found or revealed. One problem in reporting findings is to avoid stating conclusions or answers to the questions raised in Chapter I. Conclusions belong in Chapter V.

Headings Relating to Hypotheses Listed in Chapter I

In these sections each research question or hypothesis listed in Chapter I will be directly addressed using the methods for analysis outlined in the "methodology" section of Chapter III.

Summary

This section gives a summary of the highlights of the findings and leads the reader to Chapter V.

CHAPTER V
Summary, Conclusions, and Recommendations

Summary

Chapter V does not typically require an "Introduction" because the Summary recapitulates the problem and hypotheses or questions from Chapter I. The "Summary" gives and overview of the problem and methodology but probably not the findings. The general rule is that a person who reads Chapter V could understand essentially what the study was about, how it was done, and what conclusions were drawn.

Conclusion

In this section the questions or hypotheses raised in Chapter I are answered using the data presented in Chapter IV (unless the data does not reveal any answers). Then a conclusion could speculate on the limitations that prevented a viable result.

Conclusions are always stated tentatively, i.e., "it appears that..." or "The data indicates..." Findings may provide evidence that a hypothesis can be rejected or a question answered, but flat assertions of fact are rarely appropriate in educational research.

Recommendations

Typically there are two kinds of recommendations. One kind is recommendations from the study. At this point, the researcher could recommend policy changes or procedural changes based upon the conclusions of the study. The subsection "Significance of the Problem" in Chapter I could be reference for these recommendations. Recommendations of this kind should not go beyond the data generated in the study.

The second type of recommendation involves ideas for additional research studies. The researcher could recommend that the study be replicated using a different sample, a larger sample, or a new environment. Recommendations for further study may also acknowledge limitations in the present study and suggest the need to control variables which may have confounded the study.

BIBLIOGRAPHY

A research project ends with a bibliography (a list of all sources mentioned in the test or footnotes, not a references list where ideas were formulated from other works). APA style is commonly used for reports, theses, and dissertations.

APPENDICES

The Appendices contain pertinent materials that are not important enough to be included in the body of the report or proposal, but which may be of value to some readers. Such materials may include complete copies of locally devised tests or questionnaires, together with the instructions and scoring keys for such instruments, item analysis data for measurements use, verbatim instructions to subjects, and tables that are very long or of only minor importance to the study.

A final set of advice:

A research project should be written formally. This means that all opinions of the researcher are invalid and should not be included in the report with the exception of the "recommendations" subheading in Chapter V. Formal writing or scientific writing is limited by the following dicta:

1. There should be no references made to the "writer" or the "researcher"
2. Do not use personal pronouns
3. Avoid using adverbs
4. Write in third person
5. The report is primarily written in past tense (except for proposals which are written in future tense)
6. There should be no direct identification of persons involved as subjects