



外语教学指导与学术研究系列丛书

A Guide for Writing
Research Papers

英语研究 论文写作指导

◎ 徐艳英 刘佳 吕蓓蓓 编著



北京理工大学出版社
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前言

PREFACE



A Guide for Writing Research Papers is designed for high-intermediate and advanced ESL/ EFL university students at the upper division or graduate level who are preparing to engage in scientific research in a variety of academic disciplines. For these students, the ability to write up their own research results in the form of technical reports, theses, dissertations, and even journal articles for publication is a key to their success as university students and as professionals in their own science and technology. This book provides instruction and practice in this special area of academic writing.

The English of technical reports or a thesis is highly conventionalized, a fact that represents a great advantage for non-native speakers as well as for their language instructors. If one can master the conventions, he can replicate the genre in an acceptable form. Moreover, the conventions are fairly consistent across a wide variety of scientific disciplines. They involve ① structuring arguments and ② matching linguistic forms to rhetorical purposes. This involves the writer's having to make a series of language choices. This book helps students to see what those choices are and to select the most appropriate—that is, the most conventional option.

Although this book deals with scientific English, the instructional language is not scientific. It is accessible to high-level students regardless of their fields of study. The book does, however, contain many authentic examples of scientific English taken from published experimental research reports in various fields. These show students how researchers actually use the conventions presented here in reporting on their scientific research work.

The best way for students to develop skills in writing English research papers or theses for a degree is to acquire them in a natural setting. This involves familiarizing

themselves with published literature in their fields, conducting research projects with their co-workers, and finally writing up their research results. A textbook alone cannot substitute for this immersion environment; however, it can serve as a friendly and useful guide for the students who will soon be involved in writing up their research.

Xu Yanying

February, 2015

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PART

I

**INTRODUCTION TO
RESEARCH PAPER
WRITING**

1.1 A Research Paper

A **research paper (report)** is a paper written by an investigator to describe a research that he or she has completed. The purpose of the report is to explain to others in the field what the objectives, methods and findings of the study were. The report may be published in a professional journal. It may appear as a monograph distributed by a research institution or publishing company, or it may be written in the form of a thesis or dissertation as part of the requirements for a university degree.

We use the term **research paper (report)** here in a very broad sense, referring to various kinds of studies. One typical kind is the controlled scientific experiment, where the researchers conduct empirical tests while identifying and controlling as many factors as possible that may affect the outcome of the study. Another common kind of research is correlational, in which the investigators compare two or more different variables to determine if any predictable relationships exist among them. Other kinds of studies may deal with information obtained from survey questionnaires or from case studies. Still other studies use computer-generated models that attempt to explain or predict phenomena observed in the laboratory or in nature.

All these kinds of studies share some common characteristics. First, they are designed around a research question. As a possible answer to the research question, a hypothesis is formulated. Also, such studies are usually quantitative — that is, they deal with the numerical data obtained in carrying out the study. These data are usually treated with one or more statistical tests to determine how seriously the results should be taken.

The reports written to describe these different kinds of studies also have much in common. Normally, a report includes the descriptions of the purpose, method, and results of the study. Complete results are usually presented in tables and graphs. Such a report contains references to other published works in the same area of study. A bibliography (a list of references) listing these works, along with all the information needed to find them in a library, is always included at the end of the report. Finally, a brief summary or an abstract covering the most important information in the report is usually attached.

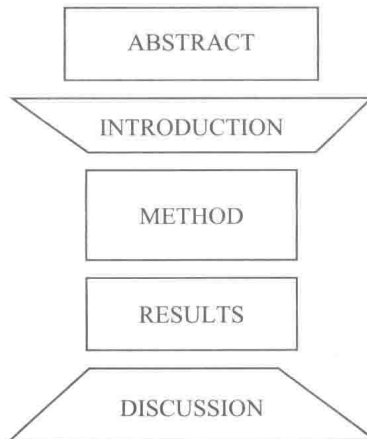
The organizational format for all research reports is basically the same, regardless of the field of study in which the author is working. Some of the research fields treated in this book are listed here.

Engineering	Science	Management	Biology
Sociology	Economics	Chemistry	Psychology
Education	Linguistics	Agronomy	Business

The purpose of this unit is to show you the basic format writers in these fields use to report the findings of their studies and to give you practice in recognizing the components that make up the format.

1.2 Information Conventions

The following diagram illustrates the major sections of a typical experimental research report in the order in which they are usually presented.



Experimental research is a sub-branch of academic writing. Academic writing can be also called as professional papers writing. It is a formal printed document in which professionals present their views and research findings on any deliberately chosen topic. It is variously known as “research paper/experimental research report,” “course paper,” “thesis paper” or “library paper.” No matter what kind of paper it may actually belong to, the task of the author may, in most cases, be the same: to do

research on any particular topic, gather information on it, and report the findings of his research.

1.3 Ways of Preparing Research Papers

In order to write and get a research paper accepted in a journal or by a research committee, the writer has to spend months or even a longer period in preparing for it. Generally speaking, there are four steps to be taken for its final submission.

1.3.1 Searching for Good Ideas

Research papers are different from ordinary compositions in that they have to be highly specific in their topics and do have a certain practical, scientific or economic value. Investigations are to be carried out based on laboratory or social practice, and on library search.

1.3.2 Finding Topics

Usually, a suitable topic can be formulated and finally decided on by following the five general rules.

- (1) It should be a topic within the reach of the author and capable of being finished within the assigned or suggested time limit.
- (2) It should be a topic of practical value for the specialty or the development of economy or science in general.
- (3) It should be a topic for which sufficient materials and documents can be made available either through readings or through investigations.
- (4) It should bear being tested theoretically and experimentally if his research is experimentation and investigation in nature as science demands thoroughness, accuracy and objectivity.
- (5) It should be a topic free from the author's personal bias or preference even if it may be a topic of humanistic nature.

Just for the above and many more other reasons, it is worthwhile making a careful choice of topics before starting a long research process.

1.3.3 Moving from Brainstorming to Drafting

“Brainstorming” has become one of the popular terms in scientific research circles, which may refer to “a meeting of a group of professionals to develop some clever ideas.” “Brainstorming” can also mean a painstaking thinking process that an author experiences before making a draft for an article.

A good draft is necessary because it is necessary to organize all the facts and ideas related together in a logical and systematic way, that is, in a manner that all the details and related facts appear in the paper as a whole. Drafting can only be started on the basis of a perfect outline. However, the drafting process can help to improve the outline too. In many cases, a good thesis paper may have to be finished through more than one draft.

1.3.4 Editing and Refining

When following the outline prepared to complete the writing of a thesis paper, the author has to bear in mind that even if he is an exceptionally skillful author, he also has to make considerable revisions. In most cases, revision work would continue until the last minute for the submission of the paper. It is advisable to revise the paper from its general layout to the minute omissions and mishaps in language use.

1.4 Detail Sections of a Research Paper or a Thesis

Included in a research paper or a thesis (dissertation) are more or less such sections as abstract (including title and keywords, both in Chinese and English for Chinese writers), introduction (methodology, data collection and analysis introduced in it) and/or literature review, body, conclusions (findings or future work and suggestions, etc. presented in it), references and/or acknowledgments.

Needless to say, to be able to write effective research papers, it is very important to have an overview of their linguistic features and writing requirements. In the following parts, we'll introduce the way to choose a research topic, the academic sources for research data collection and deal with the different sections of a research paper writing respectively.

PART II

BEFORE WRITING

Unit 1 Choosing a Topic

Unit 2 Data Collection

Unit 1 Choosing a Topic

Your instructor may let you choose what to write about in your paper or may assign a topic. Even if the topic is assigned, you will probably need to decide which specific idea to explore or which approach to use. Selecting an appropriate topic is seldom a simple matter. Even after you discover a subject that attracts your interest, you may well find yourself revising your choice, modifying your approach or changing topics altogether after you have begun research.

Remember the time allotted to you and the expected length of the research paper. “Functional Linguistics” would obviously be too broad a topic for a ten-page term paper. You may prefer to begin with a fairly general topic and then to refine it, by thought and research, into a more specific one that can be fully explored. Try to narrow your topic by focusing on an aspect of the subject or an approach to it. A student initially interested in writing on ESP style, for instance, might decide, after careful thought and reading, to focus on the lexical features in Legal Document; the topic “syntactic characteristics in EST” could likewise be narrowed to “passive voice in EST.” When you begin to focus on a topic, you should consult library materials and other information resources to see whether enough work has been done on the subject to permit adequate research and whether the pertinent source materials are readily accessible.

In general, then, give yourself plenty of time to think through and rethink your choice of a topic. Look for a subject or an issue that will continue to engage you throughout research and writing. Preliminary reading is essential in evaluating topics. Consult some general reference works, such as encyclopedias, as well as books and articles in the areas you are considering. Before settling on a final topic, make sure you understand the amount and depth of research required and type of paper expected.

1.1 Discovering Your Purpose

The first step in writing a research paper is to determine the purpose of your