

Guidelines of Writing a Research Paper

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Version 1.0

1 Overview

The materials in this document are completely based on the 1994 book *Academic Writing for Graduate Students* by John M. Swales and Christine B. Feak. It aims to serve as a reference sheet for the key points (in my view) in this excellent book. If you feel like knowing more details, please buy the book; also note there is a 2nd version of it published in 2004. Thanks to the authors of the book for kindly granting the permission to publicize this summary.

1.1 Elements for Academic Writing

audience (if the reader knows more or less than you do)

purpose (instructional or displaying your familiarity)

organization (structured, usually adopt a text pattern)

style Here are some simple rules:

1. no “informal words”, prefer a single verb with Latinate origins to a phrasal or prepositional verb (e.g., use *collaborate* instead of *work together*);
2. avoid contractions (e.g., *it's*);
3. use formal negative forms (*no, little, few* instead of expressions like *there is not any ...*);
4. limit the use of “run on” expressions (e.g., *and so forth* and *etc.*);
5. avoid “you”;
6. limit the use of direct questions;
7. place adverbs within the verb instead of initial or final positions (use *The entropy is then calculated ...* instead of *Then the entropy is calculated ...*);
8. an academic English sentence should never end with a preposition.

flow (linking words and phrases; *this*+summary word); the most common relations include

- adversative (*although, however, despite*)
- cause and effect (*because, consequently, hence*)
- contrast (*whereas, in contrast*)

1.2 Logical Organization

General→Specific→General

Introduction from general to specific (present tense, lots of citations and commentary)

Methods the “narrowest” part (past tense and passive voice); imperatives may sometimes be used in mathematical context (*let, suppose, assume*)

Results findings are described accompanied by variable amounts of commentary (past tense)

Discussions increasingly generalized account of what has been learnt in the study, with a series of points (present tense, lots of citations, qualification and commentary)

2 Common Text Patterns

2.1 General-Specific (GS) Texts

Descriptive and expository; the author positions himself as being informed and organized. GS texts usually begin with one of the following:

Extended Definition Begins with a general definition, then be more specific as additional details are provided:

- an analysis of the components
- historical change or development
- knowledge of applications
- operating principles
- awareness of problems or exceptions
- further predictions
- and many other features

Contrastive or Comparative Definition For contrastive definitions, display your knowledge about two or more related terms; for comparative definitions, either historical account or how various experts view a concept differently.

A Generalization or Purpose Statement Describe the object in terms of its most relevant fact, e.g., Chinese is the language with the largest number of speakers.

GS texts often widen out again in the final sentence. How to give a definition: using a restrictive clause, first assigned to a class or group, then distinguished from other terms in the class. *whereby* is commonly used in formal writing instead of *by which*; avoid *when* and *where* in definitions.

2.2 Problem-Solution (PS) Texts

Argumentative and evaluative; the author positions himself as questioning and perceptive. Can be used in review; the *-ing* clauses of result can be particularly useful in PS texts.

- the next step in the process (*leading to ...*)
- a resulting problem (*increasing the risk of ...*)
- a resulting solution (*giving a possible solution to ...*)

Indirect questions can be used to pose problems, offering evaluation of a solution, and explaining purposes. Another way to introduce problems is to use an adversative sentence connector (e.g., *however*).

2.3 Writing a Summary

2.3.1 Notes

1. understand the information and how it is interrelated;
2. limit paraphrasing the original;
3. begin with a sentence with two elements: the source and the main idea;
4. the reporting verbs (*states, argues, maintains, claims, suggests*) can be objective or evaluative, be cautious of the use;
5. in certain cases, the reader should be reminded you are still summarizing (*the author further states that ...*);
6. in comparative summaries you need to infer and make explicit the relationships among the sources (may not be objective).

2.3.2 Critiques on Others' Work

1. be fair and reasonable;
2. the use of unreal conditionals (suggest a thing that would have happened);
3. the use of evaluative language (*innovative, impressive, elegant, preliminary, remarkable, interesting, important, limited, exploratory*);
4. the use of inversions to special emphasis (*of particular interest is ...*);
5. the use of scare quotes (the writer does not necessarily believe the concept is valid).

3 Title

The title should contain:

- topic of the study
- scope of the study
- self-explanatory and specific

Use colons to separate ideas (problem:solution, general:specific, topic:method).

4 Abstract and Introductions

4.1 Linguistic Characteristic of Abstract

1. the use of full sentences
2. the use of impersonal passive
3. the absence of negatives
4. avoid abbreviation, jargon, and symbols

4.2 Create a Research Space (CARS) Model

1. establish a research territory (introducing and reviewing);
2. establish a niche (micro-environment for thriving), indicating a gap in the previous research, raising a question about it, or extending previous knowledge in some way;
3. occupying the niche, outlining purposes or stating the nature of the present research (announcing the principal findings is optional in introduction, but obligatory in abstract).

Claiming Centrality For example,

there has been growing interest in ...

has generated wide interest in ...

is a classical problems in ...

a central issue is ...

has become an important aspect of ...

many recent studies have focused on ...

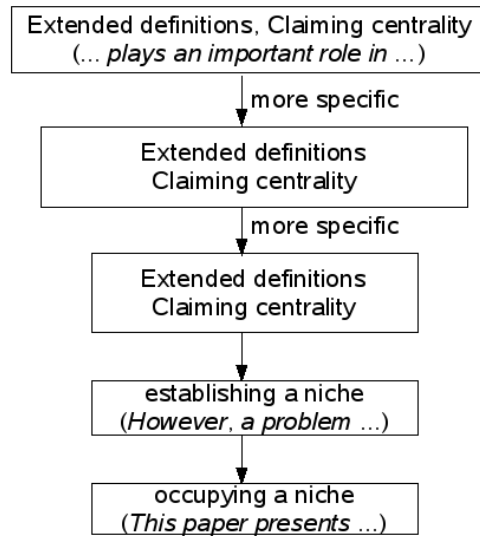


Figure 1: The typical logic flow of the Introductions (or Abstract) section.

4.3 Citation and Tense

Past *researcher activity* (cited reference) as agent (the participant that carries out the action expressed by the verb); reference to single studies; close to writer's own opinion;
The causes of illiteracy were investigated by Jones (1987).

present perfect *researcher activity* not as agent; reference to areas of inquiry; close to writer's own research;
Several researchers have studied the causes of illiteracy (Jones 1987).

present no reference to *researcher activity*; reference to state of current knowledge; close to the current state of knowledge.
The causes of illiteracy are complex (Jones 1987).

4.4 Establishing a Niche

Notes about the niche:

- this is the key move among the three;
- establish the motivation of for the study;
- indicating a gap;
- usually short, but can be complicated by analyzing the weakness of previous work.

Begin a niche by:

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- beginning with negative subjects (*few* or *little*);
 - using a contrastive statement (*rather than ...*, *as opposed to ...*);
 - raising a question, or hypothesis, or need;
 - continuing a line of research (follow up previous work).

4.5 Occupying a Niche

- typically signalled by some reference to the present text (*this*, *the present*, *here*), and these signals come early in the sentence;
- Can be either purposive or descriptive;
- optionally, you can announce the principal findings or state values of the study

5 Methods

Mostly passive voice, except for the change of state verbs (e.g., *rise*, *form*).

6 Results

- do not simply repeat the numbers;
- do not read too much into the data;
- order the statements from most significant to the less significant.

The purpose of the Results section:

- highlight the results;
- assess standard theory in the light of the data;
- assess the reliability of data;
- discuss the implication of the data.

The elements of the Results section:

- location of tables or figures;
- highlighting
 - trends;
 - separate more important findings from less important ones;

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- make claims with appropriate strength (use modal auxiliary)
 - * probability (*it is highly probable that ...*)
 - * distance (*appear to ..., seem to ...*)
 - * generalization (*tend to ...*)
 - * weak verbs (*contribute to ...*)

- discussion.

Use the present tense; the verbs can be either indicative (e.g., *provide*) or informative (e.g., *suggest*); linking *as*-clauses (no subject, serves to announce or confirm, e.g., *as shown in Figure 2, ...*).

To conclude a commentary:

- explanations or implications;
- unexpected results (*may be due to ... can be attributed to ...*);
- possible future research.

7 Discussions

7.1 Notes

- authors can assume a fair amount of shared knowledge with readers;
- Results are facts and descriptive, discussions are *points* and interpretive;
- go beyond the results (more general, more connected to the real world);
- in terms of generalization, the Results is the most specific, the Abstract section is the most general, the Discussions section is something in between.

7.2 Moves in the Discussions section

1. consolidate your research space (obligatory), should contain statements of the results as well as the following possible follow-ups:
 - examples;
 - comparison of other work;
 - conclusions;
 - commentary on whether the results are expected or not.
2. indicate the limitations of your study (optional but common);
3. identify areas of further research.

7.3 Begin a Discussion

- main results
- discussion of the literature
- summary
- reminder of the purpose
- a comment about the methodology

The choice of strategy depends in part on how the authors view their work.

7.4 Limitations of the Present Study

Limitations of the research scope or in conclusions.

7.5 Cycle of Moves

There can be several cycles of moves in the Discussion section. Begin with specifics and then move toward the more general.

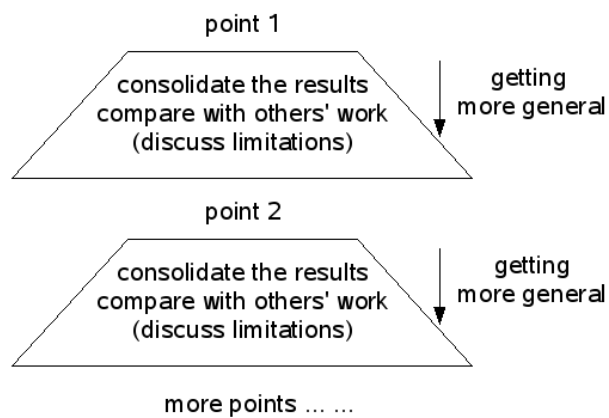


Figure 2: The typical logic flow of the Discussions section.