

# 영어논문 작성 Beginner 가 알아야 할 영어의 기본

황윤희 (현) Compecs 대표  
compecs@compecs.com



## 개요:

- I. 영어논문 작성 준비단계에서 고려하면 좋을 점
- II. 효과적인 논문작성 순서 및 논문 섹션 별 유의사항
- III. 영어의 정보구조
- IV. 주의해야 하는 영어적 오류
- V. 인터넷 활용한 표현 찾기

## I. Things to Consider Before Writing Your First Draft

1. Why do we need to follow a formal scientific format?
2. Typical procedure for preparing a manuscript?
  - (1) \_\_\_\_\_
  - (2) \_\_\_\_\_
  - (3) \_\_\_\_\_
  - (4) \_\_\_\_\_
  - (5) \_\_\_\_\_
  - (6) Write your first draft
3. Critical reading
  - a. What is it?
  - b. How do we engage in critical reading?
    - 1) Reading for literal meaning:  
Read “on the lines” to see what’s stated.
    - 2) Reading to draw inferences:  
Read “between the lines” to see what’s not stated but implied.
    - 3) Reading to evaluate:  
Read “beyond the lines” to form your own opinion about the material.

### **Exercise 1**: Reading to evaluate

The aim of the study was to describe how patients perceive involvement in decisions concerning their own treatment and nursing care.

[Sample]

A convenience sample of 12 patients was selected from three mixed-sex medical wards. The only criterion for inclusion in the study was a willingness to participate.

### ✓ **Critical Reading Checklist**

These questions on this checklist are designed as a guide to the process of reading academic texts critically and analytically. You can apply these questions to most academic texts.

- What is the author's approach/perspective?
- Is there another theoretical or philosophical approach which might have been taken?
- Who/what is left out of the text?
- Does the author write from an insider's/outsider's perspective? How does this effect what is included/excluded from the text?
- Do you agree with the points the author is making?
- Are the points made by the author supported by evidence?
- Is the evidence anecdotal or is the evidence the result of scientific study/research?
- Is the evidence referenced? Is it recent?
- Does the writer present opinion as fact?
- Does the writer use valid reasoning?
- Are any assumptions the writer has made clear to the reader?
  
- Does the writer oversimplify complex ideas?
- Does the writer make unsupported generalizations?
- Does the writer make reasonable inferences?
- Does the writer represent the ideas of others accurately? Fairly?
- Does the writer distort the ideas of others or present them out of context?
  
- Does the writer use unfair persuasion tactics such as appeals to prejudice or fear?
- Does the writer present a balanced picture of the issue?
- How would you characterize the writer's tone? How does the tone affect your response to the text?
- Does the writer's language, tone, or choice of examples reveal any biases? If so, do the writer's biases reduce his or her credibility?
- Do your reactions reveal biases in your own thinking?
- Does the text challenge your own values, beliefs, and assumptions?
- If the paper contains statistics, graphs, illustrations etc., are these adequately introduced and discussed and do they contribute to the author's argument?

The questions below are some that are especially relevant to **research articles**.

- Are the limitations of the procedures clear?
- Is the methodology valid? (e.g. size of the sample, method of sampling used)
- Are the results consistent with the objectives?
- Are the results verifiable?

- Are the claims the author makes about his or her own research internally consistent, that is, are the aims, method, results and conclusion of the research logically consistent with each other (i.e. what is argued on the basis of the research is supported by the results; the methodology allows the aims of the research to be achieved)?
- Are the diagrams clear to the reader?

<http://unilearning.uow.edu.au/reading/2b.html>

### Other critical reading questions

[Critical Reading Questions]

<http://www.ucl.ac.uk/ioe-writing-centre/critical-reading-and-writing/critical-reading-questions>

[Reading Skills for Academic Study: Reading critically]

<http://www.uefap.net/reading/reading-critically/reading-critically-introduction>

### Critical Review Checklist (for peer reviewers)

- Abstract
  - Is it well structured; does the abstract state the relevance, aims, questions, methods, results and conclusions?
  - Are the data presented in the abstract consistent with results and conclusions in the body of the paper?
  - Do the keywords properly represent the topic?
- Introduction
  - Is the research original and innovative?
  - Is this paper appropriate for this journal?
  - Is there new shared knowledge, experience and/or expertise on the topic?
  - What specific questions does this study address?
  - Are the questions or the topic current and significant?
  - Is the motivation for the study stated clearly?
- Methods
  - Were the experimental designs, analyses, and implementations appropriate for the research questions asked?
  - Can you think of a better way to address the research questions than what the authors did?

- Is the given information sufficient to reproduce the method or approach?
  - Are the presented data and results scientifically credible and feasible?
  - Were appropriate controls employed?
  - Were the experiments conducted in accordance with relevant ethical standards?
  - Results & Discussion
    - Are the results accurate and reasonable, and presented clearly?
    - Are the authors' interpretations backed by the data and convincing?
    - Can alternative conclusions and/or limitations of the research be considered?
    - Are the statistical analyses appropriate?
    - Do figures/graphs/tables contribute to the paper, or are they redundant, misleading, or unnecessary?
    - Are there discrepancies between text, figures, and tables?
  - Conclusion
    - Does the conclusion contain clear statement of findings and conclusions?
    - Are important and novel aspects of the work emphasized?
    - Are meaningful implications for future research included?
4. Decide on a journal
- ✓ Study aims and scope + Instructions for authors

**Example:**

Articles have a summary, separate from the main text, of up to 150 words, which does not have references, and does not contain numbers, abbreviations, acronyms, or measurements unless essential. It is aimed at readers outside the discipline. This summary contains a paragraph (2-3 sentences) of basic-level introduction to the field; a brief account of the background and rationale of the work; a statement of the main conclusions (introduced by the phrase 'Here we show' or its equivalent); and finally, 2-3 sentences putting the main findings into general context so it is clear how the results described in the paper have moved the field forwards.

<http://www.nature.com/nature/authors/index.html>

## 5. Identify the \_\_\_\_\_.

Research Idea + Data + \_\_\_\_\_ + Writing = Research paper

Story is not about you. It is about your **RESULTS**.

1. Title
2. Abstract = the teaser
3. Introduction = sets the stage
4. Methods = describe the characters
5. Results = the main action
6. Discussion = what happens now?
7. Conclusion = the bottom line

## 6. Make an outline

- Introduction
  1. Why is your research important?
  2. What is known about the topic?
  3. What are your hypotheses?
  4. What are your objectives?
- Materials and Methods
  1. What materials did you use?
  2. Who were the subjects of your study?
  3. What was the design of your research?
  4. What procedure did you follow?
- Results
  1. What are your most significant results?
  2. What are your supporting results?
- Discussion and conclusions
  1. What are the study's major findings?
  2. What is the significance/implication of the results?

## 7. Make the figures

## II. The writing process

### 1. Format of a regular paper

- Title *What did I do in a nutshell?*
- Authors *What is a problem?*
- Abstract *How did I solve the problem?*
- Introduction *What did I find out?*
- Materials and Methods *What does it all mean?*
- Results
- Discussion
- Conclusion

### 2. Order of writing

Title	Abstract	Introduction	Methods	Results	Discussion
(1)	_____				
(2)	_____				
(3)	_____				
(4)	_____				
(5)	_____				
(6)	_____				

#### A. Materials and Methods

- For well-known methods: name of method, citation of reference
- For methods previously described but not well known: brief description of method, citation of reference
- For methods that you devised: relatively detailed description

**Principle:** Make the flow of ideas clear in a process description.

**Exercise 1:** Please revise the sentences so that the information flows better.

1. The sample is collected and stored in a sterile container.

→

2. Individuals were selected and interviewed by phone.

→

3. Wine making

The grapes are harvested. The grapes are crushed to release the pulp and seeds.

The grapes are fermented for three weeks.

→

**Exercise 2:** Choose appropriate active/passive voice verbs.

1. Patients were randomly assigned to receive X drug (25 mg per day) or matching placebo for four weeks, after which the dose of X drug **increased/was increased** to a maximum of 50 mg per day.
2. After week 1, the mean systolic and diastolic blood pressure **increased/was increased** in both groups from base line to each time point throughout the remainder of the trial.

**B. Results and Discussion**

- Common Structure

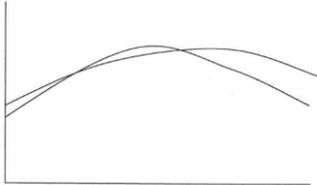
<b>Option 1</b>	Results	Discussion	Conclusion
<b>Option 2</b>	Results	Discussion	
<b>Option 3</b>	Results and Discussion		Conclusion
<b>Option 4</b>	Results		Discussion and Conclusion

- Difference between Results and Discussion

<b>Results</b>	<b>Discussion</b>
Facts	Points
Descriptive	Interpretive
Presenting	Explaining

**Principle:** Results do not speak for themselves. Thus guide the readers to properly read graphs and charts.

**Example:**



**Compare:**

- (1) As can be seen in the figure, **the two curves are very similar.**
- (2) As can be seen in the figure, **the two curves are noticeably different.**

**Exercise 1: (X)** As can be seen in Fig. 1, the effect occurred in 18% of cases.

- a. In \_\_\_\_\_ 18% of cases
- b. In \_\_\_\_\_ 18% of cases

**Exercise 2:** Moving up from 40% to 44% is a 4 \_\_\_\_\_ increase but is an actual 10 \_\_\_\_\_ increase in what is being measured.

### C. Introduction

- Four options for establishing a knowledge gap:
  - (1) Counter-claiming (something is wrong)
  - (2) Indicating a gap (something is missing)
  - (3) Raising a question or making an inference (something is unclear)
  - (4) Continuing a tradition (adding something)

**Compare:** introduction vs. literature review

- (1) Smith (2017) found X. → focuses on the researcher
- (2) X occurs (Smith 2017). → focuses on the findings

**Example:** While most reports suggest X (e.g., Smith, 2017; Jones, 2015), Fraser (2018) found the opposite, arguing...”

**Principle:** Avoid starting the introduction with short, choppy, overly simplistic sentences.

**Examples:**

1. Chronic lymphocytic leukemia (CLL) is characterized by an accumulation of mature B cells. CLL is the most common leukemia among adults in Western countries.  
→ Chronic lymphocytic leukemia (CLL), the most common leukemia among adults in Western countries, is characterized by an accumulation of mature B cells.
  
2. Lyme disease is an inflammatory disorder caused by the spirochete *Borrelia burgdorferi*. Lyme disease is the most common parasitic infection in the United States.  
→
  
3. The rates of all chemical reactions increase with temperature. This phenomenon grows directly from physical chemistry's transition state theory and the Arrhenius equation. However, respiration in soil doesn't always appear to follow this pattern. Some studies have shown no respiration response to increasing temperature, while a few have even reported a negative response.  
→ Respiration in soils, surprisingly, doesn't always increase with temperature as predicted by transition state theory and the Arrhenius equation. Some studies have shown no respiration response to increasing temperature, while a few have even reported a negative response.

**D. Titles**

- Indicate exactly what was studied
- Begin with an important term to give immediate impact
- Avoid beginning the title with a general word such as:

(X) Results of, A Study of, An Investigation into, A Report of (a Case of),  
An Approach to, A Consideration of, An Analysis of, Observations on,  
The Effects of, The Impact of, Incidence of, Predictors of

### III. Information Structure

**Principle 1:** Place the most important information at the end of the sentence.

**Exercise:** Which sounds better?

- (1) This study examined **the relationship between A and B**.
- (2) **The relationship between A and B** was examined in this study.

**Compare:**

- a. Viruses were not studied in the sea until 1989 yet are its most abundant biological entities.
- b. The most abundant biological entities in the sea are viruses, yet they were not studied until 1989.
- c. The most abundant biological entities in the sea were not studied until 1989: viruses.

**Principle 2:** Use “*this + summary word*” or use “*this + interpretive word*”

**Exercise 1:**

The Faculty-Training Program Assessment site provides information about ENGG 101 assessment including its goals and rubrics, resources for teaching the goals, sample scoring, and assessment results. Beginning Fall Semester 2018, we will be assessing student work in ENGG 101. This \_\_\_\_\_ will be divided into three phases.

**Exercise 2:**

According to a recent survey, 26% of all American adults now smoke, down from 38% 30 years ago. This \_\_\_\_\_ can be partly attributed to the mounting evidence linking smoking and fatal diseases, such as cancer.

**Principle 3:** Communicate “*old information*” before “*new information*.”

**Exercise 1:** Which sounds better?

1. Younghee spends her Saturday nights at Sweet Bakery. Mr. Kim owns the bakery. He has been making pastries the French way since opening the bakery in 1995.
2. Younghee spends her Saturday nights at Sweet Bakery. The bakery is owned by Mr. Kim. He opened the shop in 1995 and has been making pastries the French way ever since.

**Exercise 2:**

Digitalis increases the contractility of the mammalian heart. Changes in the calcium flux through the muscle cell membrane cause this increased contractility.

- Digitalis increases the contractility of the mammalian heart. This increased contractility results from changes in calcium flux through the muscle cell membrane.

**Exercise 3:**

<sup>A</sup> Our findings demonstrate that in patients with clinically moderate to severe congestive heart failure and left ventricular dysfunction, the arteriolar vasodilator hydralazine produces significant hemodynamic benefits independent of the presence or absence of mitral regurgitation. <sup>B</sup> We found significant increases in cardiac index, stroke volume index, and stroke work index, and significant decreases in systemic vascular resistance in all patients. <sup>C</sup> These beneficial effects were greatest in patients who had documented severe to moderate mitral regurgitation, intermediate in those who had mild to no apparent mitral regurgitation, and smallest in patients who had competent mitral valve prostheses and therefore no mitral regurgitation.

- <sup>A</sup> Our findings demonstrate that in patients with clinically moderate to severe congestive heart failure and left ventricular dysfunction, the arteriolar vasodilator hydralazine produces significant hemodynamic benefits independent of the presence or absence of mitral regurgitation. <sup>B</sup> The benefits we found were significant increases in cardiac index, stroke volume index, and stroke work index, and significant decreases in systemic vascular resistance in all patients. <sup>C</sup> These benefits were greatest in patients who had documented severe to moderate mitral regurgitation, intermediate in those who had mild to no apparent mitral regurgitation, and smallest in patients who had competent mitral valve prostheses and therefore no mitral regurgitation.

**Example 4:**

<sup>A</sup> Propranolol had variable effects on the hypoxemia-induced changes in regional blood flow. <sup>B</sup> In the cerebrum, the increase in blood flow caused by hypoxemia was not significantly altered by propranolol. <sup>C</sup> However, in other organs, such as the gut and the kidneys, and in the peripheral circulation, propranolol caused a more severe decrease in blood flow than did hypoxemia alone.

- <sup>A</sup> Propranolol had variable effects on the hypoxemia-induced changes in regional blood flow. <sup>B</sup> In the cerebrum, propranolol did not significantly alter the increase in blood flow caused by hypoxemia. <sup>C</sup> However, in other organs, such as the gut and the kidneys, and in the peripheral circulation, propranolol caused a more severe decrease in blood flow than did hypoxemia alone.

#### IV. Other Important Language Points

**Exercise 1:** Choose appropriate verb tenses.

1. In recent years, technology (reach) a level where vast amounts of digital information are available at a low price.
2. Optical coherence tomography (OCT) (is used) to analyze DME [6–9].
3. We (investigate) the causes of death among Korean diabetic patients between 2005 and 2015.
4. A questionnaire (is) mailed in April. A follow-up questionnaire (is) sent 2 months later to the dentists who (do not reply) to the initial mailing.
5. Genomics (provide) crucial information for rational drug design.
6. Table 1 above (demonstrate) the success of cloning in various animal species.
7. Figure 2 below (show) methylation in mouse 2-cell embryos.
8. One implication of these findings (is) that cultural stressors may increase the risk for poor mental health outcomes among this group.

**Exercise 2:** Avoid using informal language.

1. One recent study talked about sleep quality investigating sleep duration and BMI.  
→
2. A lot of people agreed that this was likely the most rigorous study of stress-induced DNA methylation changes in plants.  
→

Showy	Plain	Showy	Plain
Fabricate		terminate	
endeavor		commence	

**Exercise 3:** Choose proper collocations; replace “get” with a verb or expressions in the box.

sustain	contract	develop	be diagnosed with	catch
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1. To **get** cancer is the most frightening experience, and people often need intense counselling to cope with it.
2. Jinsoo escaped with bruises, but experts say he was lucky not to have **got** serious injuries.
3. Many musicians who **get** arthritis experience the tragedy of no longer being able to play their instrument.
4. Millions of people **get** malaria each year in poorer countries, and drugs to treat it are in short supply.

**Exercise 4:** Use action verbs instead of nominalizations

There was an **increase** in the quality of nursing care, as well as **decrease** in patient mortality, length of hospital stay, and nosocomial infections.

- ➔ The quality of nursing care improved, and patient mortality, length of hospital stay, and nosocomial infections decreased.

**Exercise 5:** Omit unnecessary words

In the first trial conducted in this experiment, there appears to be a **demonstration** of the negative effects when the substances are combined into one.

- ➔ The first trial demonstrated the negative effects of combining the substances.

**Exercise 6:** The hyphen and the dashes

1. physician/patient relationship
2. 6 months old infant
3. dose related response (vs. The response is dose related.)
4. short term therapy (vs. The therapy was short term.)
5. Magnetic Resonance Imaging (MRI)
6. Centers for Disease Control and Prevention (CDC)

## Useful references

Swales, J. M. and Feak, C. B. (2012) *Academic Writing for Graduate Students*.

Third edition. Ann Arbor: University of Michigan Press.

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Swales, J. M and Feak, C. B. (2000) *English in Today's Research World: A Writing Guide*.

Michigan: University of Michigan Press

Daniel W. B. (2017) *Publishing Your Medical Research*. Second Edition. Philadelphia: Wolters Kluwer

### [Academic Phrasebank]

<http://www.phrasebank.manchester.ac.uk/>

### [Guide to grammar and writing]

<http://grammar.ccc.commnet.edu/grammar/>

### [Purdue Online Writing Lab]

<https://owl.english.purdue.edu/>

### [Collocation Dictionary]

<http://www.ozdic.com/>

### [10 websites to help improve your grammar]

<https://prowritingaid.com/art/111/10-Websites-to-Help-Improve-Your-Grammar.aspx>

### [Speech - Words to minutes]

<http://www.speechinminutes.com/>

### [Presentation Phrasebook]

<http://englishforuniversity.com/wp-content/uploads/2008/09/Presentation%20phrasebook.pdf>

### [Turning text into talk: writing a research paper for conference presentation]

<https://sites.ualberta.ca/~graves1/documents/kuleoct2011.pdf>