


医学SCI论文

撰写与发表

English for Writing Medical Research Papers

(美) 詹姆斯·博尔顿
卢凤香 编著
郭 晶

 中国协和医科大学出版社

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内 容 简 介

本书针对医学生以及医务工作者撰写并在国际学术期刊发表医学学术论文时英语语言表达上时常出现的语言问题，对论文撰写前、撰写过程中以及撰写完成后向国际学术期刊投稿过程中可能遇到的语言表达问题给予指导。本书主要以英文形式体现，对关键部位辅以中文批注，为读者从中文角度进一步了解相关知识提供便利。

本书由两部分组成，分别从“词”的层面和“论文组成”的层面来描述SCI论文的学术语言特色。每一章节还提供必要的练习材料，以加强读者对本章内容的掌握和吸收。

本书编写由首都医科大学美籍教师詹姆斯·博尔顿（James Boulton）先生、首都医科大学卢凤香教授和郭晶副教授共同完成。博尔顿先生作为外籍英语专家，在首都医科大学教授《医学英语编辑与写作》课程已近十年。该书的创作灵感源于他的教学实践以及他多年来帮助医学生和医务工作者修改待发表医学论文的经历。本书抓住了医学生和医务工作者撰写医学论文中常遇到的语言难点，同时还给出了具有很强操作性的实用案例。

序

自大学在中世纪的欧洲诞生以来，医学就是大学教育的核心。经过长期积累和传播，医学教育和研究形成了其独特的、然而却是全球性的语言特点。因此，肩负着将我国医学的创新和贡献推向世界、把赤县神州建设成真正医学强国的当代中国医学科教工作者，必须付出更多、更艰苦的努力，用地道的英语语言，撰写出高质量的医学研究文献，才能完成历史赋予我们的神圣使命。

出于这样的使命感，首都医科大学的卢凤香教授和詹姆斯·博尔顿（James Boulton）先生在他们深厚医学英语造诣的基础上，经过周密调查和反复实践，撰写了《医学 SCI 论文撰写与发表》（English for Writing Medical Research Papers）一书，为奋斗中的中国医学科技工作者注入了新的能量和动力。对于急于向世界顶级科学刊物提交学术成果的广大医学科技工作者来说，不啻是外科医生拥有了新型内窥镜，徒步远征的战士登上了军车。

本书针对性好，所涉及的内容无不是国人在英语运用中通常遇到的瓶颈；本书系统性强，从论文需用的词汇、句子、段落到标题、摘要、引言、方法、结果和讨论进行了层层解析；本书可读性佳，英、汉两种语言表达加上了旁批和注释。因此，本书对包括高、中、低各类医务工作者以及各级医学生都有极大裨益。

作为一个医学教育工作者，我要衷心感谢卢凤香教授和詹姆斯·博尔顿先生，感谢他们为在医学战线上实现“中国梦”所做出的贡献。

徐群渊

首都医科大学神经生物学系

北京脑重大疾病研究院

2015年9月30日

前 言

对全世界的学者来说,要想使自己的研究成果被更多人了解和接受,用英语撰写论文并在国际性学术期刊上发表已经成为一种势在必行的选择。近年来,医学院校的师生、医学研究机构的科研人员和医务工作者用英文撰写和发表科研论文已成常态。SCI 论文的结构布局、论证的逻辑性以及语言表达方式上都有其特定的要求;虽然中国的论文作者们大都有过十多年、乃至更长时间的英语学习经历,但用规范的学术英语语言进行写作表达的能力依然欠佳。虽然其论文的观点和数据都很好,但往往由于英语语言表达不到位,甚至表达错误,导致论文不被接受和发表,这实在是一种遗憾。

本书旨在通过系统、细致地介绍学术英语语言特点,为撰写医学论文的学者在各类 SCI 期刊上发表更多、更好的学术文章提供实质性的语言帮助。本书由两大部分组成,第一部分为 SCI 学术论文词汇、句子、段落的写作风格,包括选词如何做到清晰、准确和简洁;句子表达如何恰如其分;段落如何具有逻辑性。第二部分为 SCI 学术论文中摘要、标题、引言、方法、结果、讨论等各部分的功能与结构以及语言组织的特点。除此之外,本书还包括了 SCI 论文撰写过程中标点符号以及参考文献撰写中的注意事项。每一章节还提供必要的练习材料,以加强读者对本章内容的掌握和吸收。

全书共 14 章,英语语言易懂,所举范例易于理解和模仿,特别是本书采用了英汉两种语言表达形式,对撰写论文中容易出错的地方以中文旁批的形式给予进一步的阐述和注释,便于读者理解和准确把握。适用对象为医(药)学院校、生物医学科研单位、各级医疗机构的医、教、研人员及研究生、医学生。

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2015 年 9 月

于首都医科大学

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Introduction

I recently listened to a podcast lecture in which the speaker presented a test of truth for evaluating a world view. His test had three requirements: logical consistency, empirical adequacy, and existential relevance. As I listened it occurred to me that these three requirements should also be applied to every research paper. Logical consistency needs to be applied throughout the paper to connect ideas at every level of analysis: word, sentence, paragraph, and section. Empirical adequacy must be made evident through the explanation of the methods used and the analysis of the results found. And finally, and maybe most importantly, any findings from the study must be examined in the light of their value apart from the study itself to establish existential relevance. By keeping these three elements at the forefront, researchers and authors can find guidance for clearly and convincingly communicating ideas.

The following text has been created in the hope that its readers may be able to progress in their ability to author logically consistent, empirically adequate and existentially relevant research. Part one introduces the concept of an academic writing style, and then offers suggestions for achieving such a style at different discourse levels. Part two offers a guide for writing a scientific research paper, section by section. Throughout both parts, examples are used to illustrate and revise some of the most common problems encountered.

学术论文 (research paper)

学术论文, 是研究者经过严密设计、实验观察、统计分析后撰写而成的原始著作。学术论文包含了研究者自己的学术观点与创造性、真实性的学术贡献, 不同于综述、评论、译文、病例报告等其他类型的论文。

Part I Academic Writing

Form, Function, and Style

文体风格 (style)

英语中“style”一词具有多重含义，理解起来也有广狭义之分。此处取其广义的用法，以“文体风格”泛指某一类别文章的语言特点，主要体现在语法、用词和篇章结构方面的差别。了解不同文体风格的语言特征，有助于学习者提高“在不同的社会环境中运用得体的英语的能力”（王佐良、丁往道 1987: iii）。

学术写作的文体风格 (academic writing style)

学术写作，如撰写综述、研究论文、实验报告等，以传播和交流科技信息为目的，具有正式、严谨、准确和凝练的文体风格。学术写作是书面语，应避免非正式的口语表达，还要注重客观和简明，避免繁琐和浮夸。学术文体的主要特点可以概括为：结构严谨、逻辑一致、论述透彻、行文简洁、词义明确、格式规范。

Style is achieved in writing just as it is achieved in fashion. Not by changing the function of the material in question, but by changing the form. Any number of different coats may keep a person warm on a cold day, but each coat will give a different impression of that person. Much in the same way, any number of forms may be used to express the same idea in writing, but the different forms each create a different style and a different impression. Just as it would be difficult to be admitted into an important formal function in shorts, sandals and a tee shirt, it is difficult to be admitted into the academic community without mastering an academic style of writing.

An academic writing style is achieved through techniques applied to different levels of text analysis from the basic rules for punctuation all the way to methods for creating a unified story out of a complex relationship of concepts (Gee, 1985). Part I begins with the mechanics of writing in an academic style and then gradually moves to larger and more comprehensive levels of discourse.

Chapter One

Writing Mechanics

The technical aspects of writing including punctuation, capitalization and spelling provide the framework for the text. The framework should be in the background, unnoticed; if it is noticed, it usually means that something is wrong. Because of this, any errors or nonstandard applications of punctuation, capitalization and spelling interrupt the flow of the narrative, and should be carefully searched for and eliminated.

Although these types of mistakes do not usually affect the content, they do affect the way that the reader will respond to the writing. Mistakes in punctuation, spacing and spelling give the reader an impression of a careless writer. Although this may not be the case, the impression is still conveyed.

1. The Forms and Functions of Common Punctuation

1.1 The Period.

Periods are placed at the end of a sentence. No space is placed before a period, and one space separates a period from the following sentence (Example 1).

Example 1

Punctuation is used to separate and organize ideas within and between sentences. Reading becomes difficult when a text has been punctuated improperly.

Periods are placed after numbers or letters used to organize a list. No space is placed between the number and the period, and one space is placed after the period (Example 2).

Example 2

1. Form

标点符号 (punctuation)

写作时正确使用标点符号有助于明确句子的意思,给审稿人和编辑留下良好的第一印象。

- 输入英文标点符号时,注意切换到英文输入法状态。
- 英文中没有中文里的顿号“、”和书名号“《》”。
- 英文中有撇号“'”(apostrophe),而中文没有。
- 方括号、圆括号和引号的前一半不可放在行尾。

空格 (spacing)

书写英文文章时,要注意在单词之间以及单词和标点符号之间正确使用空格。英文单词之间加一个空格。句号、逗号、分号、冒号以及问号的前面不加空格,后面加一个空格。

句号 (period)

句号的使用要注意以下规范:

- 陈述句无论长短,结尾都要使用句号。
- 有些缩略词后加句号,如 Ph. D. Dr. Ms. a. m.; 表示社会团体、广播电台电视台的缩略词一般不加句号,如 UN、BBC、NBC、UNESCO。
- 连续三个句号构成英文的省略号。若省略号出现在句末,与句号连用,可以写成四个点。

逗号 (comma)

逗号是研究论文中使用最为广泛、规则也最为复杂的标点符号。逗号位置不同, 句子意思就会不同。以下使用规范值得牢记:

- 英文中的逗号不可连接两个并列从句, 应该用逗号加并列连词 (and、but、or、for、so、nor、yet), 或改用分号。
- 独立从句放在主句之前时, 主从句之间要用逗号隔开。
- 句子中插入非限定性成分时, 前后均使用逗号, 切忌只用一个逗号而省略另一个。
- 分词短语、副词短语放在句子的主语前面或句子中间时, 后面常使用逗号。
- 以 that is、namely、for example 引导的短语后通常会跟一个逗号。
- 过渡性副词如 however、thus、hence、indeed、accordingly、besides 和 therefore, 其后要加逗号。
- 英文中的日期, 如写作次序为月-日-年, 在日和年之间加逗号。如用日-月-年的写法, 不加逗号。

分号 (semicolon)

分号常用于分隔未被连词连接的两个独立从句, 这一功能是逗号所不具备的。另外, 相比句号, 分号更能体现两个分句之间的密切关系。

2. Function

3. Style

1.2 The Comma.

Commas have several related functions in writing. A comma is used to emphasize a separation between phrases and clauses (Example 3) and to set apart an unrestrictive phrase or clause (Example 4) (Strunk, 2006). Commas are also used to separate the elements in a list when the list has more than two items (Example 5). A comma can not be used to connect two main clauses (Examples 6). A comma has no space before it and one space after it (Examples 3-6).

Example 3

To emphasize a phrase, a comma can be used.

Example 4

The comma, a common punctuation mark, can sometimes be overused.

Example 5

Commas, periods and semicolons are the most common punctuation marks.

Examples 6

Incorrect

Commas are not able to link two main clauses, they do not have this power.

Correct

Commas are not able to link two main clauses. They do not have this power.

1.3 The Semicolon ;

A semicolon is used to merge two sentences into one, in order to emphasize the connection between the two sentences. Unlike a comma, a semicolon can be used to connect two main clauses (Example 7). A semicolon has no space before it and one space after it (Example 7).

Example 7

Semicolons are able to link two main clauses; they have this power.

1.4 Dash—

A dash is used to separate nonrestrictive information within a sentence (Example 7). It falls between commas and parentheses in regards to the strength of separation. A dash has no space before or after (Example 8).

Example 8

A dash—but not a comma—creates a strong separation of ideas within a sentence.

1.5 Hyphen-

A hyphen is used to clarify ambiguity caused by multiple modifiers. Adjectives and adverbs are linked to other modifiers with a hyphen if there is a possibility that the link could be misinterpreted. This possibility sometimes occurs when a series of modifiers precedes a noun (Example 9).

Example 9

Stem-cell graft

1.6 Parentheses ()

Parentheses are also used to isolate information within a sentence. The sentence must be understandable if a reader ignores the information in the parentheses. In research papers parentheses are important ways to include details without interrupting the flow of ideas. The types of information found within parentheses include citations, figure and table numbers, weights, doses, sample sizes, raw data and manufacturers' names (Example 10). One space precedes the first parentheses. No space is placed between the first or second parentheses and the enclosed information (Example 10). If a punctuation mark immediately follows the second parentheses no space is placed between the final parentheses and the punctuation mark (Example 9).

Example 10

The heart rate increased 12% more in the experimental group than

连字符与破折号 (hyphen vs. dash) 这是英文中容易相互混淆的两个标点符号, 能够正确使用是英文写作者严谨和准确作风的体现。

- 连字符用于构成复合词, 特别是名词之前用作形容词的复合词。单字或者前缀的连接应该用连字符而不是破折号。
- 连字符可以用来分隔数字, 例如电话号码和日期。
- 英语中的破折号有长短之分。人们常说的破折号其实是指长破折号 (em dash), 因其使用最频繁。短破折号 (en dash) 又叫做连接符, 在科技文体中偶有使用。从长度来说, 短破折号介于连字符和长破折号之间。
- 破折号用于表示详细叙述或解释说明时, 它不如冒号正式, 又不像圆括号那么拘谨。
- 破折号可以用在 *that is* 或 *namely* 之前。
- 破折号有时可用来表明副标题。
- 破折号与连字符的前后均不用空格。

圆括号 (parentheses)

圆括号的基本用法是分隔内容。

- 圆括号中的内容可以与所在句子的其他部分没有语法关系。
- 圆括号可以用于注释陌生或外学术语。
- 左圆括号与前面内容之间加一个空格, 与后面内容之间不用空格。
- 右圆括号与前面内容之间不用空格, 与后面的其他标点符号之间也不用空格。
- 句号若属于圆括号所在的句子, 则放在右圆括号之后。
- 右圆括号之前不能使用逗号、分号和冒号。
- 圆括号应与其周围文本的字体一致, 不与括号中内容的字体一致。

冒号 (colon)

冒号用于引出一个或一系列对象，是对冒号前面内容的举例或阐述。冒号比逗号效果更强，比破折号更正式，但不如分号的分隔作用大。

- 冒号通常用在引导性短语 *as follows*、*the following* 等之后。
- 冒号不应置于充当动词宾语的系列之前，例如 *X includes A, B and C.* *X requires A, B and C.*
- 冒号通常不能用于 *namely*、*for example* 等词之后。
- 冒号用在正式书信的称呼语后。
- 冒号用在比率、时间中时，后面不应有空格。
- 冒号可用以隔开标题与副标题，此时，冒号后副标题的第一个单词首字母大写。
- 冒号引出一段对话或摘录，或者引出两个以上的句子时，后面第一个单词的首字母应该大写。

in the control group (Figure 1). The change in blood pressure had no significant difference between the two groups (Figure 2).

1.7 Colon:

A colon signals that the information that follows is a further amplification of what was said before. The colon can also be used to introduce examples or members of the group being discussed (Example 11). Do not place a colon after a verb, because the verb also introduces; so the colon would be redundant (Example 12). No space precedes a colon and one space follows it (Example 10).

Example 11

Three vital signs were recorded in the report: heart rate, respiration rate and blood pressure.

Example 12*Incorrect*

The recorded vital signs were; heart rate, respiration rate and blood pressure.

1.8 Quotation Marks “ ”

Quotation marks are used to set apart a direct quote from an author or speaker. They should be followed or preceded by a citation to the source of the quote. Quotation marks should not normally be used to set apart words or phrases within a sentence that are not direct quotes. Like parentheses, quotation marks have no space after the first or before the final quotation mark. One space is placed before the first and after the last quotation mark. In the United States the convention is for ending periods or commas to fall within the final quotation mark (13).

Example 13

Albert Einstein said: “I never teach my pupils. I only attempt to provide the conditions in which they can learn.”

1.9 Suggestions on Correcting Punctuation and Spelling

Writing a paper with a word processing programs helps to

eliminate many common punctuation and spelling errors. If the automatic spell/grammar check functions are activated, possible problems can be automatically highlighted and even corrected. Usually by right clicking the mouse one time on the highlighted word, possible solutions will be provided. And then by left clicking the appropriate solution one time, the text will be automatically corrected.

2. Capitalization

Capitalization can be a problem for writers whose native language has no capitalization, like Chinese. However, by following some simple rules it is a problem that can be easily solved. The rules below give some guidance on when to capitalize the first letter of a word.

2.1 The beginning of every sentence

Every sentence begins with a capital letter. This may be one reason why numerals can not be used at the beginning of a sentence (Example 14). If the sentence must begin with a number, the number must be written out (Example 15). An alternative would be to use an introductory phrase before the numeral (Example 16) or to rearrange the sentence structure (Example 17).

Example 14

Incorrect

10 samples were rejected because of insufficient records.

Example 15

Ten samples were rejected because of insufficient records.

Example 16

In total, 10 samples were rejected because of insufficient records.

Example 17

Because of insufficient records, 10 samples were rejected.

2.2 The first word of every main word in a title

Titles follow different rules than the rest of the text. Titles do not need to be complete sentences, if the first word of a

大写 (capitalization)

以下情况注意规范使用大写:

- 句子第一个单词的首字母。
- 标题及副标题的首、尾两词以及所有实词的首字母。
- 专有名词的首字母。
- 缩写词的全部字母大写。
- 大多数的头衔只有出现在专有名词 (人名) 之前时, 首字母才大写。
- 药品生产商和商品品牌的首字母。
- 语言、民族或其形容词的首字母。
- 月份和星期的首字母。

以下情况不需要使用大写 (标题首尾除外):

- 冠词 (a, an, the) 首字母小写。
- 少于 5 个字母的介词 (包括 as) 首字母小写。
- 构成不定式的 to 首字母小写。
- 并列连词 and、but、or、for、nor 等的首字母小写。
- 后面不带人名的头衔一般小写。
- 表示地点的专有名词中如有定冠词 the, 则 the 小写。
- 疾病、症状、诊断程序、解剖结构等的名称首字母小写 (所含专有名词除外)。
- 药品的通用名称、药物中的化学名称首字母小写。

title is an article it can be omitted, and unless otherwise stipulated by the journal, the first letter of every word in the title should be capitalized. That is, the first letter of every word except for small words. This can be a little confusing, but usually all the words are capitalized except for articles, coordinating conjunctions and prepositions (Example 18). Of course, if the first word of a title is an article or preposition the first letter must be capitalized.

Example 18

Effect of Smoking on Lung Cancer

2.3 Acronyms

Every letter of an acronym should be capitalized, whether it is an acronym that is pronounced like a word (AIDS) or an acronym in which the letters are pronounced one by one (NAACP). Unless the acronym is better known than its full form, write out the full form at first mention and place the acronym in parentheses. Writers must consider the limits of working memory when deciding how many acronyms to use in a passage. Use of acronyms should be limited to well-known forms and one or two unfamiliar forms that have multiple mentions.

2.4 Proper nouns

The first letter of a proper noun is always capitalized. This includes the names of people, places, institutions and companies. If a person's title is followed by a name then the title is also capitalized (Example 19); if not followed by a name, the title is not capitalized (Example 19). If a place name includes the article *the*, the definite article is not capitalized (Example 19). The chemical names of medications are not capitalized (Example 20); however, manufacturers or brand names of medications are capitalized (Example 21).

Example 19

President Obama, the president of the United States, graduated from Columbia University.

Example 20

The patients were given 325 mg of acetaminophen daily.

Example 21

The patients were given 325 mg of Tylenol daily.

3. Key Points

- ✓ Nonstandard punctuation, capitalization or spelling interrupt the flow of the writing and should be found and corrected during editing.
- ✓ A word processing program is an indispensable tool for searching out and correcting problems with writing mechanics.

4. Revision Exercise

The following sentences were taken from an article written by Daniel Kahneman. All punctuation and capitalization have been removed. After revising the sentences the original can be found in the appendix.

the operations of system 1 are fast automatic effortless associative and difficult to control or modify the operations of system 2 are slower serial effortful and deliberately controlled they are also relatively flexible and potentially rule-governed.

Chapter Two

Academic Style at the Phrase Level

Writing a phrase in an academic style involves using the words that express the intended meaning clearly and precisely, but also somewhat paradoxically, simply. When used properly these three dimensions of communication check and balance each other, hopefully leading to the best choice of words.

1. Clarity

1.1 Articles (a (n), the, no article)

Clarity is often dependent on context, and the context of a noun phrase is set by the article or lack of article that precedes the noun. Improper usage of articles inevitably confuses and frustrates communication no matter how well the noun itself expresses the intended concept. The rules behind this seemingly simple choice are both numerous and complex (Yule, 2000), but there are some guidelines that can be followed to avoid many mistakes.

The key is to categorize the noun as countable or uncountable within the context that it is being used. If countable then it must be determined whether the noun is a singular or plural form and whether the noun describes a category or a particular member of a category.

Example 1

We randomly assigned patients to two different groups: medication group and placebo group.

In Example 1 four nouns must be analyzed: patients, groups, group and group. The first, *patients*, is obviously both

冠词 (articles)

英语中,冠词属于限定词,常用于名词短语的开头。冠词分为不定冠词“a/an”(表示泛指)和定冠词“the”(表示特指)。冠词虽是小词,却既重要又复杂。一般来说,漏掉冠词和过度使用 the 是较为常见的语法错误。准确使用冠词,最根本的是分清泛指和特指,最有效的是判断单数可数名词、复数可数名词和不可数名词,同时还要熟悉和积累不用或省略冠词的情况。