



“十三五”规划精品教材

新核心研究生英语

总主编：卫乃兴

英语研究论文 写作

WRITING RESEARCH ARTICLES IN ENGLISH

主编：闫莉 孙洪丽 程文华



上海交通大学出版社
SHANGHAI JIAO TONG UNIVERSITY PRESS

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内容提要

本书旨在训练并提高学生用英语撰写研究论文的能力,包括两个部分:第一部分介绍了英语研究论文写作的基本知识;第二部分涉及引言、文献综述、方法、结果、讨论、结论、摘要、题目以及致谢的写作。本书提供了典型的程式化语言资源,写作练习实践性强,针对学生的不同专业背景设计练习,并且提供了丰富的参考资料。

本书的使用对象是有英语研究论文写作需求的非英语专业研究生,包括硕士研究生和博士研究生,也适用于准备写作英语研究论文或正在写作英语研究论文的各类学生。

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前言

近年来,全球化语境日益显著,英语已然成为国际学术界交流科研成果的主要工具。在我国,越来越多的高校开始要求非英语专业的研究生用英语发表论文,一方面为了考核学生的科研能力,评价学生的科研成果,另一方面可以与国际学术界展开交流。然而对中国学生、特别是非英语专业的学生来说,用英语写作并发表科研论文是一个巨大的挑战,无论在宏观的论文结构方面,还是在微观的语言表达方面都存在诸多问题,很大程度上影响了他们的论文写作与发表。在这样的背景下,我们编写了《英语研究论文写作教程》这本教材。

教程目的

本教程的使用对象是有英语研究论文写作需求的非英语专业研究生,包括硕士研究生和博士研究生,也适用于准备写作英语研究论文或正在写作英语研究论文的各类学生及科研人员。我们的总体目标和具体目标如下:

(1) 总体目标 训练并提高学生用英语撰写研究论文的能力,包括按照一般论文的篇章结构布局谋篇的能力,参照规范准确表达各章节话语功能和意义的能力,正确调用词汇、语法手段写出地道语言的能力。

(2) 具体目标 学生应掌握英语研究论文的基本构成、各部分的话语功能、语篇特征以及语言特征,并能够在教师的指导下,独立完成英语研究论文,使其具有规范的篇章特征、地道的语言特征和流畅的意义表达。

内容安排

本教程包括两部分,共十二个单元。第一部分介绍了英语研究论文写作的基本知识,包括三个单元:研究论文简介、如何避免剽窃以及文献引用。第二部分为研究论文写作部分,包括九个单元,涉及研究论文的几个部分:引言、文献综述、方法、结果、讨论、结论、摘要和关键词、题目以及致谢。

第二部分为教材的主体部分,每个单元有四个模块:内容介绍、范文分析、语言练习以及写作实践。这四个模块层层推进,前后呼应,实现了理论与实践、语言输入与语言输出的紧密结合。

模块一 内容介绍,总结了研究论文各个部分的功能简介、结构特征和语言特征。功能简介主要阐述该部分在研究论文中的价值与作用。结构特征以体裁分析理论为基础,提供了详细的语步分析。语言特征则提供了实现各种篇章功能和各个语步功能的语言资源,包括句式、句式成分的高频替换词和典型搭配。

模块二 范文分析,包括两个子模块。第一个子模块针对研究论文的各个部分,分别提供两至三篇范文以及相关的篇章结构练习,目的是复习第一个模块的内容,练习评判语篇结构和语言使用技巧。这些范文都选自真实的研究论文,话题具有普适性和趣味性,能够激发阅读兴趣。第二个子模块针对学生的专业研究方向,提供反思性的语篇分析练习。学生收集专业研究论文,在阅读的基础上,分析专业论文的整体结构和各个部分的结构及语言特征。

模块三 语言练习,练习模块二中出现的学术搭配和词汇。练习内容参考了目前世界上库容最大的当代美语语料库(COCA),特别是该库所提供的学术词汇的统计结果和搭配信息。

模块四在前三个模块的基础上,展开实用的写作训练,包括两个子模块。第一个子模块采用问题驱动的形式,提示学生思考写作的具体问题,引导学生针对自己的研究课题和实验完成英语研究论文写作。问题中还提供了供学生参考的语言示例,这些示例主要来自COCA语料库中的学术英语子库以及我们自建的超大容量的英语期刊论文语料库。每个单元的写作内容组合起来便可成为一篇完整的研究论文。第二个子模块以教师和学生对话等形式,提供了一项研究的相关信息,让学生以提供的科研内容和细节为基础,展开写作训练。与第一个子模块相同,学生在每一个单元会完成一个部分的写作,这些写作内容组合起来即成为一篇完整的研究论文。

教程特色

目前,我国教材市场上聚焦于英语研究论文写作的教材数量日益增加,内容包括科研技能与规范、英语学术语言与语法以及英语研究论文的语篇与语言特征。在这些教材的基础上,我们以先进的语料库语言研究为手段,以详细的学生需求分析为依据,进一步扩充了英语研究论文写作教材的内容。本教程特色如下:

(1) **提供典型的程式化语言资源** 基于语料库语言研究的方法,结合教学经验与文献研究结果,我们提供了实现各种语步功能和语篇特征的程式化语言资源。这些语言资源结构相对固定,学生可以整体储存于头脑中,写作时能够以最短时间提取出来,使语言输出快捷、流畅、地道。句式之间的相互组合还可以构建各种语篇框架,为写作实践提供有效的指导。此外,我们在写作模块中提供了针对部分程式化语言资源的语言实例,并在范文分析模块中用黑体字标出程式化语言资源,以提高学生对程式化语言的敏感度。

(2) **写作练习实践性强** 在讲解与练习学术规范和篇章特征的基础上,我们针对实际课堂中研究生的科研进展和写作需求,设计了两套写作练习。第一套适用于正在写作科研论文或准备写作科研论文的学生,第二套适用于尚未开始科研课题的学生。每套练习完成后,学生都可以写出一份完整的研究论文。这些写作任务实践性强,有利于激发学生的写作兴趣,切实培养学生的研究论文写作能力。

(3) **针对学生的不同专业背景设计练习** 受各种资源的限制,我国高校研究生英语写作课的学生通常来自不同的专业背景。针对学生研究方向的多元化,本书设计了全面、系统的反思练习,其中范文模块二中的第二个子模块,引导学生分析自己专业的研究论文。并且,在写作实践模块的第一个子模块中,很多问题的初衷也是引导学生反思自己专业的论文特征。

这类练习可以使教学跨越专业界限,提高学生的写作动机和学习自主性。

(4) 提供丰富的参考资料 本教程充分结合了学术界在学术英语方面的研究成果,为教师和学生提供了大量的参考资料,包括学术英语词汇表、学术英语搭配表、学术英语搭配练习、不同学科研究论文结构的统计结果、化学专业英语研究论文的典型结构分析以及教材中所引范例的全文等,如有需要请与上海交通大学出版社(021-60403036)联系索取。

使用说明

本教程适用于英语研究论文写作课程或英语学术论文写作课程。作为学术英语中最有代表性的一种体裁,研究论文是学习和掌握学术英语的最佳实例,因此该教程也可以满足基础学术英语读写课程的教学需求。

本教程适合一个学期完整的教学安排,教师可以根据教学重点和学生的反馈安排每个单元具体的学时。基于“以学生为中心”的教育理念,教程设计了各类阅读与写作任务,以提高学生的参与性和主动性,教师可以根据这些任务灵活安排教学活动。

在教程编写的过程中,我们参考了国内外与英语研究论文写作相关的理论、实践和教材,并引用了数篇国外期刊上已经发表的英文期刊论文的片段以及COCA语料库中的语言实例和语言信息,在此我们对所有的作者或编者一并表示感谢。

同时,我们向上海交通大学出版社教材出版中心的编辑老师们表示感谢,在教程编写的每一个阶段,他们都及时地提供建议和帮助,专业水准令我们钦佩。与此同时,我们也感谢北京航空航天大学外国语学院公共研究生英语教学部同仁们的支持与帮助,特别是张晓君老师,她把我们带入学术英语这一领域,并毫无保留地分享教学资料和经验;还有夏历老师,她为本教程的修改提供了宝贵的意见与建议。

我们还要特别感谢总主编卫乃兴教授,感谢他对我们的信任与鼓励、对教程的指导与建议。他前瞻性的学术眼光和先进的教学理念启发我们在教程内容方面不断创新,他朴实无华的人格魅力和无微不至的人文关怀让我们坚定地站在研究生英语教学第一线,编写优质教材,为我国研究生英语教学改革做出贡献。

由于我们的能力和时间有限,教程中必然存在需要改进和完善的地方,我们真诚希望各位读者和同行提出宝贵的批评与建议。

编者
2016年6月

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Part I
Preparing for Writing



Overview of Research Articles

实证型研究论文是最具代表性的学术论文形式。其特点是以实证研究为基础,以证据、数据和事实为依据,报告研究结果,传递科研信息。

实证型研究论文通常包括题目、摘要、关键词、引言、文献综述、方法、结果、讨论、结论、致谢、参考文献等部分。由于学科差异、研究内容差异以及期刊的不同要求,实证型研究论文的主体部分呈现出多种结构形式,如“引言—文献综述—方法—[合并的结果与讨论]—结论”“引言—方法—[合并的结果与讨论]—结论”“引言—文献综述—方法—结果—讨论”,以及“引言—方法—结果—讨论”等。

在语言方面,实证型研究论文具有正式性、复杂性、客观性和精确性的特点。并且,论文作者经常针对文献、其他研究者、研究结果以及研究意义等表达自己的立场和态度,以寻求学术界对文章和研究成果的普遍认可。

Objectives

- To learn the functions and the structure of research articles.
- To learn the language features of research articles.

I. Introduction

In academic journals and conference proceedings, you can find different types of research publication, such as research articles, theory papers, review articles, response papers, or short communications. A research article (henceforth RA) is a written paper reporting the findings of an original study. It tends to be empirically oriented, based on evidence, data, and fact. In contrast, a theory paper presents logical argumentation or theoretical analysis of an observation. A review article is the review of a scholarly book, and a response paper comments on or reacts to an earlier publication. A short communication, or a technical note, usually takes the form of a mini RA.

Being the most representative academic writing, RAs are regarded as the jewel on the crown of academic English papers. As we know, writing and publishing English RAs are the required academic tasks for both junior and senior scholars. These tasks have become increasingly challenging in the modern academic world where publication is very competitive among international researchers and degree students. In this regard, this textbook takes RAs as the sole mission. It aims at alleviating your pressure of writing English RAs and satisfying your professional requirement of publication.

The nature of research explains the features of RAs. Scientific research is known as a systematic process of collecting and analyzing information in order to discover or establish facts or principles. Therefore, an RA is not personal thoughts or ideas without factual or experimental bases. Nor is it the idea of others or a series of quotations. Instead, an RA presents and interprets an original study, acknowledging all the sources referred to.

However, like all the writings, the purpose of writing an RA is always closely connected with audience. Therefore, you should analyze the audience of a target journal or conference, or identify the audience by reading the *Guide for Authors*, which will in turn help you decide what and how to present and interpret, and to what extent. For instance, if the audience is fairly narrow, mainly consisting of the scientists from related disciplines, your RA should aim at informing the audience of the specialized details of the research. However, if the audience is fairly broad, your RA should also provide basic and sufficient background details so that the audience can comprehend and evaluate the research.

The functions, structural features, and language features of an effective RA are outlined below.

Functions

The primary function of an RA is to advance knowledge in a certain academic field. By writing and publishing RAs, researchers make their studies public to the academic community. In this way they contribute to the understanding of the phenomenon under study. At the same time, they also learn about the latest or the edge-cutting research by reading their peers' RAs, which will in turn help develop their own investigations.

Structural Features

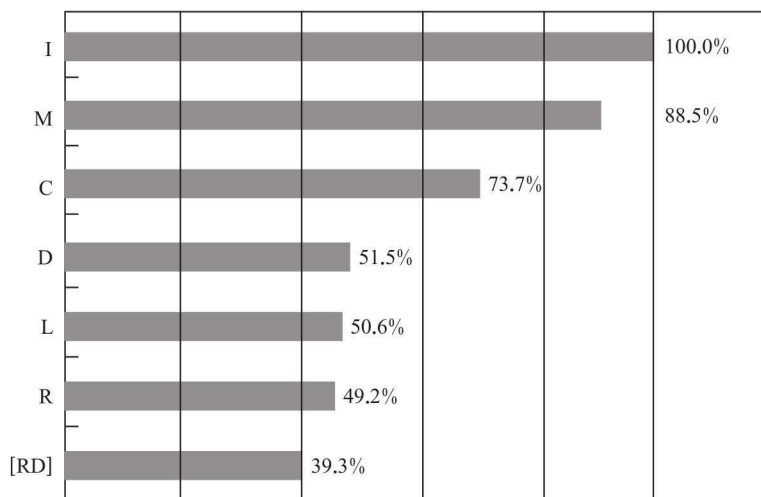
1. Sections of RAs

RAs follow a somewhat standard format with which writers present their research in an orderly and logical manner. The following table shows the sections of an RA and their essential functions responding to different research information.

Table 1 The sections of an RA and the research information they convey

Sections	Research information
Title	What is the subject matter of a research?
Author(s)	Who did the work and wrote the paper? Who made substantial contributions?
Abstract and Keywords	What did the study do in a nutshell?
Introduction	What is the research background? What is/are the research question(s)?
Literature Review	Which previous studies are related to this research?
Methods	How did the author(s) answer the research question?
Results	What did the author(s) find out?
Discussion	What do the findings mean?
Conclusion	What is the significance of this research in a larger context?
Acknowledgements	Who helped the author(s) with the research?
References	Whose work did the author(s) cite?
Appendix	What extra information did the article provide?

Title and Authors, Abstract, and Keywords are the front components of an RA; Introduction (I), Literature Review (L), Methods (M), Results (R), Discussion (D), and Conclusion (C) constitute the body part. The frequency of the sections in the body of an RA is shown in the following figure.

**Figure 1** The major sections in RAs

(Note: [RD] means the merged part of Results and Discussion)

This figure illustrates that I is an obligatory section, M and C appear in most of the RAs, and D, L, and R can be found in around half of the RAs. It should be noted that [RD] section plays an important role in RAs as well.

Different disciplines adopt different major sections. For example, in the RAs of applied linguistics, I, M and R are the most common sections, but in computer science, I, R and D/C occur most frequently.

2. Headings of RAs' Sections

There are three types of section headings, namely, standard, functional, and content headings. The standard headings refer to those conventional labels, such as Introduction, Literature Review, Method, Results, Discussion, and Conclusion. The functional headings are the variations of standard headings. For instance, "Discussion and critique", "Comment", "Beyond the evidence", "General discussion", and "Interpretation of the findings" are the functional versions of the standard Discussion in RAs. Content headings are the theme related headings, such as "An example from the tobacco litigation", "Use of humor in the meetings", and "Learning effort comparison". These subtitles perform the same functions of traditional headings but explicitly indicate the topics of these sections.

Disciplinary variation in the headings of RAs' sections is remarkable. For example, in medical areas, the heading of "Results" is often replaced by "Observations".

3. Structural Patterns of RAs

Originating from lab reports, the conventional RAs followed the layout of IMRD in the body part; however, other frameworks have also evolved over time. The prevalent structural patterns in modern RAs include ILM[RD]C, IM [RD]C, IMRDC, and ILMRD, as shown in Fig. 2.

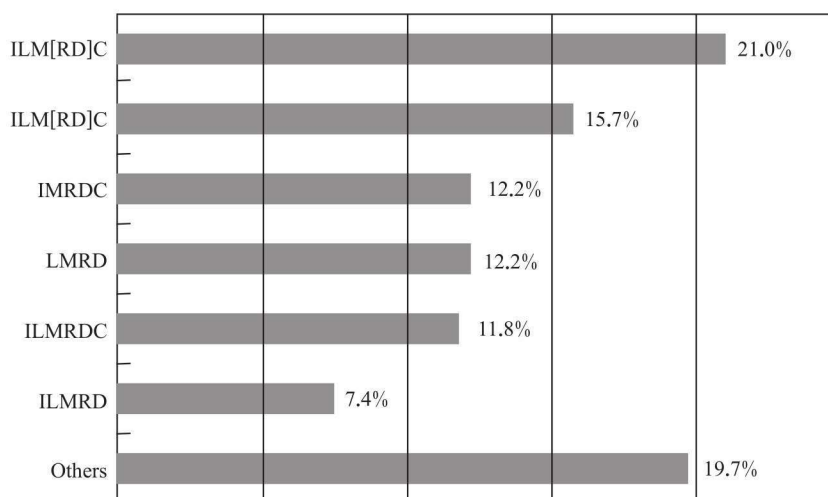


Figure 2 The macro-structural patterns of empirical RAs

The structure of an RA is a reflection of disciplinary nature. The most prominent pattern, ILM[RD]C, is often adopted in engineering and social sciences, while the traditional IMRD pattern is frequently used in many applied science disciplines and some social science disciplines, and rarely employed

in engineering and humanities disciplines. Given the differences in subject matters, disciplines, and journal requirements, you are strongly suggested to examine the structural patterns in the RAs of your specialized area.

Although RAs may follow different organizational patterns, these patterns share a prominent feature of information flow, i.e., “general-specific-general”. This movement of information means that an RA starts with general information of the research area, narrows towards the body part, and widens after it, as demonstrated in the following diagram.

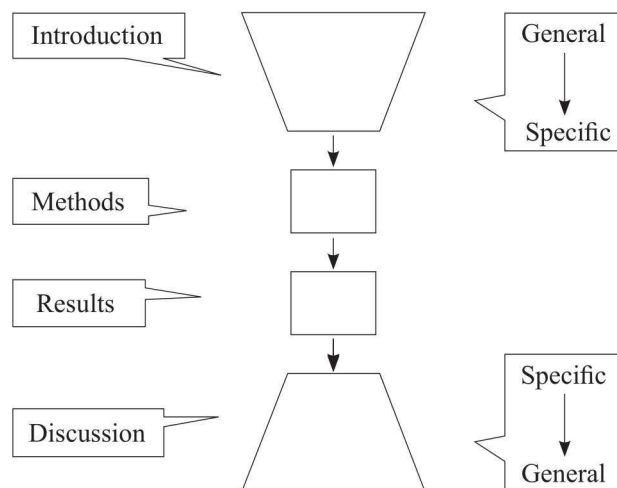


Figure 3 The information flow of RAs

Language Features

So far, you must have been familiar with or even proficient at essay writings. An RA in fact shares many similarities with common essays, such as a well-focused topic for the whole paper, adequate support for the topic or sub-topics, and the use of transitional signals throughout the paper. However, some language features do distinguish an RA from an ordinary essay. The features to be discussed here are formality, complexity, objectivity, precision, and stance taking (立场表达).

1. Formality

To report scientific studies academically, RAs prefer formal expressions to colloquial and informal ones. Colloquial expressions such as “stuff”, “a lot of”, “thing”, or “sort of” should be avoided. Although informal elements do exist, the large percentage of formal elements is still a distinctive feature of RAs. Particularly, English has such a large vocabulary that there are usually different ways to express an idea. You are suggested therefore to choose formal forms whenever possible to reduce informality. Examples of formal words and expressions are italicized in the following Abstract of an RA.

Kissing right? On the consistency of the head-turning bias in kissing

(Published in *Laterality*, 2011)

The present study *investigated* the *consistency* of the head-turning *bias* in kissing. *In particular* we *addressed* what happens if a person who prefers to kiss with the head turned to the right kisses a person who prefers to kiss with the head turned to the left. *To this end*, *participants* (N=57) were *required* to kiss a life-sized doll's head *rotated* in different *orientations* that were either *compatible* or *incompatible* with the participants' head-turning preference. *Additionally*, participants' *handedness*, *footedness*, and eye preference was *assessed*. Results showed that a higher percentage of participants preferred to kiss with their head turned to the right than to the left. *In addition*, the right-turners were more *consistent* in their kissing behaviour than left-turners. *That is*, with the doll's head *rotated* in an *incompatible* direction, right-turners were less *likely* to switch their head to their non-preferred side. Since no clear relationships between head-turning *bias* and the other *lateral* preferences (i.e., handedness, footedness, and eye preference) were *discerned*, the more *consistent* head-turning bias among right-turners could not be explained as *deriving* from a joint pattern of lateral preferences that is stronger among individuals with *rightward* as compared to individuals with *leftward* lateral preferences.

The formal words in RAs are known as academic words. They are more formal than general English, but unlike technical terms, they are not specific to any disciplines. Take the following pairs for example:

Table 2 Pairs of informal and formal words

Verbs		Adjectives		Nouns		Others	
Informal	Formal	Informal	Formal	Informal	Formal	Informal	Formal
go	depart	wrong	incorrect	help	assistance	at first	initially
tell	inform	whole	complete	understanding	comprehension	besides	additionally
get	obtain	enough	sufficient	sight	vision	so	therefore
keep	retain	better	superior	house	residence	next	subsequently
stop	cease	empty	vacant	chance	opportunity	at once	immediately

To express an action or occurrence, a single verb tends to be chosen over a phrasal or prepositional verb (verb + preposition) in order to increase the degree of formality. For example,

- The present study **investigated** the consistency of the head-turning bias in kissing.
Cf. The present study **looked into** the consistency of the head-turning bias in kissing.

More examples of formal verbal alternatives are given in the following table.

Table 3 Pairs of informal and formal expressions

Informal	Formal	Informal	Formal
set up	establish	put off	postpone
go up	increase	carry out	conduct
come across	encounter	find out	discover
go up and down	fluctuate	cut down	reduce
get rid of	eliminate	come up with	create

Furthermore, RAs conform to the following grammatical conventions in order to reduce informality:

- **Refraining from contractions such as “can’t”, “doesn’t”, “won’t” and “shouldn’t”**
E.g. It is alarming to note that the source of nearly 30% of viruses **can’t** be determined. (Informal)
Cf. It is alarming to note that the source of nearly 30% of viruses **cannot** be determined. (Formal)
- **Limiting the use of “run on” expressions such as “and so on” and “etc.”**
E.g. Hydrogen can be used in gas turbines, fuel cells, **etc.** (Informal)
Cf. Hydrogen can be used in gas turbines, fuel cells, **and other applications.**/Hydrogen can be used **in a number of applications, from** gas turbines **to** fuel cells. (Formal)
- **Limiting the use of informal negative forms “not ... any”, “not ... much”, and “not ... many”**
E.g. This emerging social disaster has **not** received **much** attention. (Informal)
Cf. This emerging social disaster has received **little** attention. (Formal)
- **Limiting the use of direct questions in hard sciences**
E.g. **Why** does the brain function that way? (Informal)
Cf. **Many studies have examined the reason** why the brain functions that way./**It remains unclear why** the brain functions that way. (Formal)
- **Limiting starting a sentence with conjunctions such as “and”, “but”, and “so”**
E.g. Most notably, this is the first study to investigate the effectiveness of extended psychosocial intervention. **And** our results provide compelling evidence for long term involvement, suggesting that this approach appears to be effective in counteracting stress. (Informal)
Cf. Most notably, this is the first study to investigate the effectiveness of extended psychosocial intervention. Our results provide compelling evidence for long term involvement, suggesting that this approach appears to be effective in counteracting stress. (Formal)

- **Placing adverbs within verbs rather than at the beginning or end of the sentence**
E.g. The self-report questionnaire was developed by Eccles et al. (1983) **originally**. (Informal)
Cf. The self-report questionnaire was **originally** developed by Eccles et al. (1983). (Formal)

2. Complexity

In general, RAs are complex both lexically and grammatically. The words in RAs are longer, denser, and more varied than those in common essays. Proportionately, more lexical words are used than grammatical words. Another salient feature of RA's vocabulary is the prevalence of nominalization whose formation can be summarized below:

Table 4 Summary of the formation of normalized words

Suffixes (后缀)	Examples
-tion	<i>reproduction, adaptation, rotation</i>
-ity	<i>ability, similarity, complexity</i>
-ness	<i>blindness, darkness, preparedness</i>
-ment	<i>development, encouragement, unemployment</i>
-ery	<i>robbery, bribery, bakery</i>
-ance	<i>assistance, resemblance, performance</i>
-ing	<i>selling, developing, evolving</i>
-ism	<i>activism, skepticism, alcoholism</i>

Grammatically speaking, RAs employ more clauses than general essays in order to express complicated ideas. Take a sentence from the Abstract on page 8 as an example: "In particular we addressed what happens if a person who prefers to kiss with the head turned to the right kisses a person who prefers to kiss with the head turned to the left." The embedded clauses such as "what happens ...", "if a person ...", and "a person who prefers ..." apparently increase the complexity of this sentence.

RAs also display an overwhelming occurrence of phrasal modifications, in particular noun phrases with multiple levels of phrasal embedding. This is known as structural compression, as shown in the following table.

Table 5 Categories of typical noun phrasal modifications and examples

Grammatical features	Examples
Adjective as noun premodifier	a <u>large</u> number, <u>unusual</u> circumstances
Noun as noun premodifier	<u>surface</u> tension, <u>liquid</u> manure

(continued)