# 英语说明文读写教程

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#### 内容简介

本教材为"通用学术英语读写系列教材"第一部,是阐述、议论、文献综述和综合学术写作四个阶段之开端,重在引导学习者通过阅读阐述性英语文章,了解该文体特点,学习学术性语言的风格和基本要求。此外,通过研究和讨论文后问题,对文章内容进行反思,培养批判性思维。

全书共8个单元,每单元根据写作特点精心选编3篇课文,分别体现了定义、分类、举例、因果、对比和描写等写作方法,同时结合课文编排了针对各写作方法的读写练习。通过本教材的使用学习,学生可以为进一步深入学习学术英语打下良好的基础。

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学术英语学习旨在培养学生的学术交流能力,满足学生使用英语进行专业学习和发展的需要。中小学阶段英语教学的重点一般是培养学生用英语进行一般交流的能力,即侧重于一般英语教学。学术英语与一般英语既有联系,又有自己的特点。学术英语的学习既可以提高学生专业发展所需的语言知识和技能,同时也可以提高其一般英语的能力;它很大程度上涵盖了一般英语的学习,同时又可看作英语学习的更高阶段。学术英语学习包括两个层面的内容:一是技能层面(English for Academic Purposes)(如参加学术讲座、进行学术阅读需要的记笔记能力,论文写作、学术发言需要的概括能力等);二是语言层面(Academic English)(如用学术语言写研究报告、研究论文的能力等)。学术英语是本科生、研究生用英语进行专业文献学习及研究交流所需要掌握的基本能力。

"通用学术英语读写系列教材"(English Reading and Writing for General Academic Purposes)针对教育部在《大学英语课程教学要求》(2007)中提出的英语较高要求和更高要求而编写。根据较高要求和更高要求,大学英语教学要注重培养学生的学术交流能力,要求学生能阅读所学专业的英语文献和资料,能用英语撰写所学专业的报告和论文。同时,本系列教材的编写也迎合全球化国际大环境对大学英语教学由一般英语转向学术英语的需要。

本系列教材的设计与编写主要依据两大原则:语言学习规律和高等教育特点。根据语言学习规律,语言输入为语言产出的基础,语言产出需与语言输入相结合,外语学习尤其如此。因此,本系列教材采用了以读促写、读写结合的编写理念。同时,掌握一门语言的读写能力遵循一定的先后顺序,如先学组词、造句、写段落,然后是记叙文、说明文、议论文等。在此基础上,进行更高层次的读写学习,即综述读写、论文读写等。另外,高等教育在很大程度上是专业教育,培养与专业相关的学术素养(如综述、议论、思辨、研究规范等)对学生而言至关重要。因此,大学英语教育应该顺应和符合学生的专业发展需求。具体而言,本科和研究生英语教育均需培养学生用英语完成说明文、议论文、文献综述和研究论文等不同语体的读写能力。

鉴于此,本系列教材 1~4 册分别围绕高等教育中最常用的四个学术语体进行设计与编写,即说明文、议论文、文献综述、研究论文。同时,这四册教材又针对高等教育对学生的学术素养要求,专门就常用的学术读写能力进行训练,包括学术阅读技能、学术词汇扩展、学术语言特点、学术文本特点、学术写作技巧(如 paraphrasing)等。这些能力的训练贯穿于整个 1~4 册教材系列。

本系列教材是在教育全球化的新形势下为满足我国高校人才培养需求而开发的。教材

旨在为学生用英语顺利进行专业学习提供帮助和支撑,帮助学生掌握学术规范,提高学生的批判性和创造性思维,培养和提高学生的英语学术交流能力和专业学术素养,适用于本科生和研究生学习。我们相信,通过本系列教材的学习,学生不仅会进一步提高一般的英语交流能力,更能提高学术英语交流能力和跨文化学术素养。

感谢本系列教材的每一位编委专家为教材进行全面细致的审读,并提出宝贵的意见和 建议,使得教材的编写更加契合广大院校培养优秀的研究型人才之目标,更加符合各高校 英语教学向学术英语转型的要求。

丛书主编 2013 年 7 月 《英语说明文读写教程》是"通用学术英语读写系列教材"的第一部。"说明"是书面语的一种基本表达形式,不仅广泛应用于报告、书信、产品介绍、行为指南等应用文中,在学术写作中的文献综述、观点阐述、证据引用和数据介绍等重要环节更是不可缺少。不同于记叙文的事件叙述、议论文的观点论证,说明文注重介绍和描述某个操作过程或事物之间的关系。在学术领域里,说明性文章往往用于介绍某个研究发现或阐述某一观点,评估有关证据,以清晰明了的方式把相关信息客观地呈现给读者。具体写作方式可以是定义概念、列举事实、描述细节、归类信息、介绍程序、比较观点、分析因果等。一篇文章根据写作需要经常应用多种表达方式,因此本教材选编的课文往往兼具上述几种写作方式;并且有些文章在具有说明性特点的同时,也会有论述或记叙的部分。

#### 适用对象和教学目标

本册教材适用对象是英语能力达到《大学英语课程教学要求》规定的"较高要求"的学生,或水平相当的英语学习者,旨在培养学术英语说明文的读写技能,掌握相关的写作方法,为未来学术发展打下语言基础。同时,为了提高学术英语综合能力,书中结合课文介绍了一般性读写技巧,如识别和应用中心句(thesis statement)、怎样改善句子和段落衔接、提高语言流畅性、如何写文章概要,等等,并通过练习帮助学习者积累高频学术词汇。

为帮助学生掌握基本的学术读写技能和知识,本册教材具体教学目标为:

- 1. 掌握说明文写作的基本方法: 定义法、分类法、过程介绍法、举例法、因果法、比较/对比法和描述法;
  - 2. 掌握学术文章的结构特点;
  - 3. 掌握学术语言的特点;
  - 4. 掌握高频学术词汇;
  - 5. 掌握阅读技能: 识别中心句和主题句, 做阅读笔记;
- 6. 掌握写作技能: 英语释义、大意总结、避免抄袭、句子连接、段落过渡、具体词的应用等。

# 教材结构和内容安排

全书按照课文主题内容和写作特点共分为8个单元,内容涵盖科学、自然、健康、人性、生活价值观等主题。教师可以根据课时设置需要安排4~8个课时完成一个单元,一个学期完成全册内容的教学。

每个单元分为阅读和写作两部分。

阅读部分含三篇课文、生词表及课后阅读练习。

- 1. 课文阅读: 遵循阅读为写作准备语言和思想内容的原则, 围绕类似的主题, 所选课文都集中体现了相同的写作方法。通过课堂研读、小组展示和讨论, 使学生熟悉该写作方法, 深化理解主题内容, 为完成之后的写作任务作准备。
- 2. 生词表:根据《大学英语课程教学要求》,生词表中属于较高要求的单词标记为★,属于更高要求的单词标记为▲,《教学要求》中未收录的其他词汇标记为◆。有关文化背景的知识点及专有名词在课文下方以脚注形式给出解释。
- 3. 阅读练习分为"课文理解"(Text Comprehension)和"语言练习"(Language Focus),主要练习形式包括:
  - 1)课文问答题:训练学生阅读理解能力;
  - 2) 讨论题: 用于课堂分组交流, 深化学生对课文内容的理解, 培养批判性阅读能力;
  - 3) 完成课文纲要: 检查学生对课文结构的理解, 使之学习和积累文章结构的相关知识;
  - 4)词汇练习:帮助学生巩固和掌握课文中所学的重要词汇;
  - 5) 用英文解释句子和词语: 检验学生对课文语言难点的理解, 训练其英语表达能力。

写作部分包括写作方式和技能介绍、写作练习和讨论活动。

写作练习和讨论活动主要包括:

- 1. 写作方法练习: 引导学生结合课文内容识别相关的写作方法, 了解其在文中的具体运用情况;
  - 2. 写作技巧练习: 针对写作部分介绍的具体技巧训练学生的运用能力;
- 3. 主题讨论: 针对阅读部分三篇课文涉及的话题进行课堂分组讨论,形式可以是头脑风暴式发言、商讨、总结、小组报告,旨在开拓学生的思维,为作文写作创造条件;
- 4. 文章写作:在上述主题讨论的基础上,要求学生选择一个自己感兴趣的话题写一篇 作文,具体写作一般安排在课后完成。

本教材的显著特点是每个单元突出一个主题和写作技巧,读与写紧密结合,练习简洁实用,既能帮助学习者巩固所学的写作方法和语言知识,也便于利用课文主题展开交流和讨论,充分发挥学习者的学习能动性;既能够培养阅读中的批判性思维,也有利于学生拓宽写作的思路、深化主题思想。

本教材基于清华大学外文系教师合作编写的讲义,经过几个学期的课堂试用,吸取学生和教师的反馈意见编写而成。由于编写学术英语教材是一种新尝试,加之时间和编者水平有限,不足之处难免,敬请读者批评指正。

编者 2013年3月于清华园

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# **Science and Technology**

# **Learning Objectives**

- 1. What a thesis is in an essay;
- 2. How an expository essay is composed.

# Reading



# Text A

# Climate Change and the Mystery of the Shrinking Sheep<sup>1</sup>

- The mysterious shrinking sheep of Hirta sounds like a job for super sleuth Sherlock Holmes. The case involves a rare herd of wild sheep on the remote Scottish island known in Scottish Gaelic<sup>2</sup> as Hirta that are refusing to **bow** to conventional **evolutionary** pressure, which says big is best. Instead, they have steadily decreased in size since the 1980s.
- The island of Hirta, part of the isles of St Kilda on the western coast of Scotland, is home to a special **breed** of sheep, Soay sheep. They are the most primitive breed of domestic sheep and have lived on the isles of St Kilda for at least a **millennium**. They are generally smaller than the average **domesticated** sheep, and that difference is getting



<sup>1</sup> The text material is partly retrieved and adapted from the news report on the website of *Science Daily* at http://www.sciencedaily.com/releases/2009/07/090702140845.htm.

<sup>2</sup> Gaelic ['geilik]: one of the Celtic languages, especially spoken in parts of Scotland and in Ireland. 盖尔语

larger and larger. Over the last 20 years, the Soay sheep have started to shrink. A new study provides evidence for climate change as the cause of the mysterious decrease in the size of the wild sheep on the Scottish island of Hirta, first reported by scientists in 2007.

- Soay sheep live in a closed population that doesn't have to deal with human interference, predators, migrants (either in or out), or significant competitors. That makes them an ideal population to study if you are an evolutionary biologist interested in how animal populations change over time. One such group, including Ozgul and his colleague Tim Coulson from Imperial College London, have been studying the Soay sheep since 1985.
- Classical evolutionary theory suggests that over time the average size of wild sheep increases, because larger animals tend to be more likely to survive and reproduce than smaller ones, and offspring tend to resemble their parents. However, among the Soay sheep of Hirta, average body size has decreased by approximately 5% over the last 24 years. They are becoming gradually lighter at all ages such that today's lambs and adults weigh around 3kg less than those from 1986. Their hind legs have also shortened to a similar degree, suggesting that they have indeed shrunk, rather than fallen increasingly ill. The research team analyzed body size and life history data, which records the timing of key milestones throughout an individual sheep's life, for Soays on Hirta over this 24-year period. They found that sheep on the island are not growing as quickly as they once did, and that smaller sheep are more likely to survive into adulthood. This is bringing down the average size of sheep in the population overall.
- The team wanted to work out the extent to which the sheep's shrinking size is due to the influence of natural selection and to what extent it is just an ecological response to changing environments. To that end, they developed a mathematical model designed to analyze their 24 years of data and **tease** apart these contrasting effects.
- The model showed that natural selection favours heavier individuals, who are more likely to make it past the first two years of life. But these effects were **paltry** and largely **counteracted** by a far more important influence the difference in body weights between parents and their young. Every August, year on year, the **ewes** were **rearing** daughters that were around 150g lighter than they were at the same age.
- Young ewes simply cannot produce larger young when they themselves are reproducing earlier and failing to reach full adult body size. The "young mum effect" explains why Soay sheep have not been getting bigger, as they are expected to according to evolutionary theory. But it is not enough to explain why they are shrinking.
- Professor Coulson suggests that shorter, milder winters caused by global climate change, mean that lambs do not need to **put on** as much **weight** in the first months of

if the past, only the big, healthy sheep and large lambs that had piled on weight in their first summer could survive the **harsh** winters on Hirta. But now, due to climate change, grass for food is available for more months of the year, and survival conditions are not so challenging, even the slower growing sheep have a chance of making it, and this means smaller individuals are becoming increasingly **prevalent** in the population." Their results suggest that the decrease in average body size seen in Hirta's sheep is primarily an ecological response to environmental changes over the last 24 years; evolutionary change has contributed relatively little.

- The researchers believe that, due to climate change, survival conditions on Hirta are becoming less challenging, which means slower-growing, smaller sheep are more likely to survive the winters than they once were. This, together with so-called "young mum effect" whereby young ewes produce smaller offspring than expected, explains why the average size of sheep on the island is decreasing. These two factors are combining to override what we would expect through natural selection. Climate, then, is the chief culprit behind the mystery of Scotland's shrinking sheep.
- As for the future of the sheep, the team believes that they are still shrinking. "The next step is to extend our description of past change into a predictive model," said Professor Coulson. "But it's too early to say if, in 100 years, we will have pocket-sized sheep." And it is difficult to say what the response of the Soay sheep could mean for other species, though biologists have reported that several species of birds and fish are changing size and shape, which could **be down to** global warming. Their island home, Hirta, is just "vegetation and sheep" he said. In other cases, predators and competition for food from other animals **complicate** the picture and make it difficult to tease out the influence of changing climate.

# New Words and Phrases

approximately	[əˈprɔksimətli]	adv.	大概; 近乎
bow	[bau]	vi.	屈从, 顺从
breed	[bri:d]	n.	品种;种类
* complicate	[ˈkəmplikeit]	vt.	使(某事)复杂化
▲ counteract	[ˈkauntərˈækt]	vt.	对抗;抵消
domesticate	[dəˈmestikeit]	vt.	驯养; 驯化
evolutionary	[i:vəˈlu:ʃənri]	a.	发展的;渐进的;进化的
♦ ewe	[ju:]	n.	母羊

harsh	[ha:ʃ]	a.	严峻的, 艰苦的
interference	[intəˈfiərəns]	n.	干预,干涉
<b>★</b> milestone	['mailstəun]	n.	里程碑; 划时代的事件
• millennium	[mi'leniəm]	n.	一千年;太平盛世
★ offspring	['ofsprin]	n.	子孙,后代
▲ override	[iəuvəˈraid]	vt.	比更重要
paltry	['po:ltri]	a.	无价值的, 微不足道的
▲ predator	['predətə]	n.	捕食其他动物的动物;食肉动物
★ prevalent	['prevələnt]	a.	普遍的,流行的
rear	[cia]	vt.	养育; 饲养
♦ sleuth	[slu:θ]	n.	(口,谑)侦探
survive	[sə'vaiv]	vt.	活过/挺过(艰难时期);幸免于
		vi.	幸存,继续存在
★ tease	[ti:z]	vt.	梳理
timing	[ˈtaimiŋ]	n.	时间安排; 时间选择
★ whereby	[weə'bai]	adv.	通过,借以
be down to		依赖	,依仗
put on weight			增加;长胖



# **Text Comprehension**

# I. Answer the following questions according to the text.

- 1. What is the uniqueness of the living conditions of the Soay sheep?
- 2. Why is the shrinking sheep said to be a mystery?
- 3. What do the data in Paragraph 4 indicate?
- 4. What is "young mum effect"?
- 5. What is climate effect on the change of the sheep size?
- 6. How do you explain the mystery of the shrinking sheep?

# II. Complete the outline of the text.

Theme: The Soay sheep on the Scottish island Hirta are shrinking.

Method: A research group from Imperial College collected data over 24 years and analyzed them with a mathematical model.

Data:				a second
filips <sub>sep</sub> alition be a	Parallian 251 mon	Librard dend	leuri office e	dend same.
Analysis: 1	The gainst letters and t	Sucrete to notify	n la lo	Innana
elants)	Tillisaden lada	in nature are	n beimes att	eminet II A. Ri
2	Control	otron routes na	noot il ac han	othetidagenin (
Conclusion:	instruin Viet	acid sale il s	AP ortion noise	race property
Limits of the rese	earch:			

#### III. Discuss the following topics with your classmates.

- 1. The Soay sheep are shrinking due to their living environment, especially the warming climate. If it is true for many other animals, what will it result in?
- 2. How has human body changed in the past centuries? What are the possible reasons?
- 3. Are there any other biological mysteries in nature? What are the culprits behind them?

#### **Language Focus**

I. Find an appropriate interpretation from Column B for each item in Column A.

A	В
I. sleuth	a. the baby or babies of an animal
2. bow	b. make wild animals used to living with humans; tame
3. breed	c. a person who investigate crimes; detective
4. domesticate	d. find something out from a mass of irrelevant information
5. offspring	e. be more important than
6. tease out	f. submit
7. paltry	g. because of which
8. prevalent	h. a particular type of animal
9. whereby	i. very small; unimportant
10. override	j. existing or happening generally

II.	Complete the following sentences with appropriate words or expressions
	you have learned from the text. For each missing part there is a hint in the
	brackets.

1. A of deer was making its way through the park. (a group of anim	ials of
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# 英语说明文 **读写教程** Reading and Writing for Expository Essays

the same type)
2. The number of the rural poor dropped from 125 million to 80 million, with
annual of 6.4 million on average. (becoming fewer, reduction)
3. All human beings are, in nature, psychologically (simple an
unsophisticated, as if from an earlier period of history)
4. The proportion in the 25 to 35 age has to 7 percent. (become smaller size or amount)
5. In New Zealand, there were no before the arrival of man. (an animal the kills and eats other animals)
6. It seemed to Castle that he began to more and more closely, in to vulgarity and brutality of his speech, the Captain Van Donck whom he despised. (similar to)
7. Our house was built one foot below the water surface. (almost correct or exact but not completely so)
8. Women have become more involved in the decision-making procedules (slowly, over a long period of time)
9. The small woman a family of five on her own in the past 20 years. (can for the young until they are fully grown)
10 were usually cast for five years on the farm. (female sheep)
I. Paraphrase the underlined part of each of the following sentences.
1. The wild sheep on the remote Scottish island, Hirta, are refusing to bow to to conventional evolutionary pressure.
2. The research group wanted to work out the extent to which the sheep's shrinking size is an ecological response to changing environments.
3. The researchers found that the smaller sheep are more likely to <u>survive in adulthood</u> .
4. But these effects <u>were</u> paltry and <u>largely counteracted</u> by a far more important influence.
5. The lambs do not need to <u>put on</u> as much <u>weight</u> to survive to their first birthed as they used to.
6. The survival conditions are not so challenging; even the slower growing she
have a chance of making it.

- 7. They are actually the culprit behind the mystery of Scotland's shrinking sheep.
  - 8. In other cases, predators and competition for food from other animals <u>complicate</u> <u>the picture</u>.