

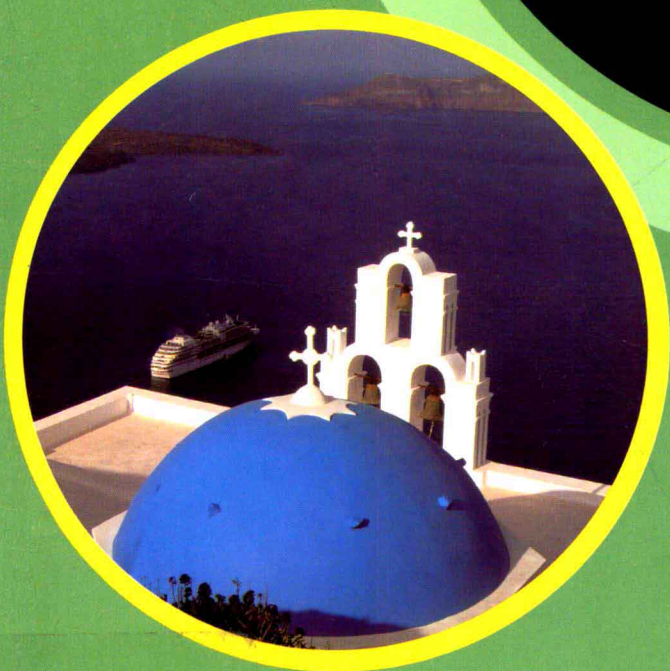
21世纪EAP学术英语系列丛书

丛书总主编 蔡基刚

21st Century EAP Series

# 环境学英语

本册主编 贺灿文



复旦大学出版社

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# 总 序

2010年10月,《国家中长期教育改革和发展规划纲要》正式颁布,向我国高校提出了“提高我国教育国际化水平”,“培养大批具有国际视野、通晓国际规则、能够参与国际事务和国际竞争的国际化人才”,并为达到此目的提出了一系列加快我国高等教育国际化的措施,包括“引进国外优秀教材”、“提高外籍教师的比例”、“吸引更多世界一流的专家学者来华从事教学和科研”等。在高等教育国际化背景下,大学生用英语进行专业学习的需求越来越普遍和迫切,具体表现在:选修全英语专业课程;听国外教授的专业讲座;用英语搜索专业文献;撰写实验报告、文献综述和小论文;参加专业领域内的国际研讨会;用英语宣读论文和进行讨论等。

我们调查发现,大学生在完成大学基础英语的学习后,要顺利过渡到以英语作为工具进行上述内容的专业学习还存在不少困难。为此,我们组织编写了这套《21世纪EAP学术英语系列丛书》,旨在培养学生所需要的学术英语能力,以便他们能够熟练地运用英语进行专业学习和研究。本书编写的主要特色如下:

## 一、以内容为依托

本书的理论基础是以内容为依托的外语教学法(Content-Based Instruction),简称CBI。其理论核心是:如果语言教学能基于某个学科知识或学科主题来进行,将外语学习同学科内容有机地结合起来,教学效率往往会大大提高(Kasper, 2000)。这是因为:1)关注内容可以把语言的焦虑感降到最低程度;2)内容学习大大增加了可理解的输入量;3)和专业相关,能极大地调动学生学习的兴趣和积极性。这一理念已为世界各国的外语教学所广泛接受和实践。英国文化委员会早在20世纪末的一项对全世界大型英语调查中就得出结论:“将来的英语学习不再是单纯的英语学习,将来的英语教学是越来越多地与某一个方面的专业知识或某一个学科结合起来。”(刘润清, 1996)

## 二、分科英语教学

前辈许国璋在1986年就指出:中学学普通英语,大学学分科英语,研究生学专业英语,这样,“中学6年,大学和研究生6年,12年培养出与麻省理工大学同行专家交流(听说读写)学术信息的专家”。如:“学化学的,拿起普通化学的书就看;学文学的,能拿起一本普通文学史就看;学国际法的,能拿起一本国际法引论就看。且看了觉得有收获,这是学好分科英语的一个标志。”为此,我们按学科内容为依托,编写了如环境学英语、法学英语、工程英语、旅游英语等。分科英语虽和专门用途英语



(即专业英语)同一名称,但有很大的区别:分科英语的内容只是一种载体,目的是培养学生学术英语的能力,因此选材是学科的科普内容,来自一般书刊,而非专业书籍。也就是说,无论学生和教师都不需要有专门的专业知识背景都能读懂。而专门用途英语的学科内容就比较专业。

### 三、学术英语能力

本系列教材的目的是通过与各学科内容相关的载体来提高学生在专业学习和研究中所需要的学术英语能力,具体而言,如听专业英语讲课和学术讲座的能力、搜索和阅读专业英语文献的能力、撰写专业文献综述和学术论文的能力、参加专业领域内国际学术研讨会进行论文宣讲和讨论的能力等。教材围绕着培养这些能力的目标而展开,每个单元都设置了Search for Background Information, Listen to the Lecture, Read for Information, Write an Academic Essay, Make Your Presentation等固定板块。在这些板块中,学生不仅可以围绕每单元的学科内容学到各种学术英语能力,还能学到一些必要的学术规范知识。

### 四、教材的真实性

作为训练学生学术英语能力的分科英语教材,本教材最大原则就是真实性(authentic),以便培养学生顺利应对真实学术界的能力。长期以来,我国学生的英语学习是处在一种伪环境中,教材中选用的课文在语言和内容上都受到了严格的控制,以适应不同级别的英语考试。结果学生学了近10年的英语,仍然无法应对真实英语世界。本系列教材坚持三个基本:1)基本上不对选为课文的原文在生词和结构等方面进行语言上的控制,目的是保持原生态。2)基本上不对原文进行内容方面的调整。同一主题,尽可能选择观点相异或相反的文章,以便给学生提供思考、比较和评价不同学术观点的机会。3)基本上不对输入量进行控制,如不少课文长度超过了一般大学英语教材1 200词的上限。除了同一主题有至少两篇材料外,还提供主题相关的学术讲座,不仅长度基本上按原来的,而且大多数用演讲者原文,保留了不同地方的口音。

### 五、项目研究模式

项目研究法(Project-Based Instruction, PBI)是以内容为依托的教学法中最为行之有效的一种模式。PBI教学理念就是让学生通过项目研究的方式来解决一个学科上的问题。在项目研究过程中,学生不仅能通过对相关学科内容的研究提高其学术英语能力,而且还能发展他们的自主学习能力、团队协作能力、分析和解决问题的能力以及批判性思维能力。本系列教材的安排就是要求学生根据课文单元的主题,并依据自己的学术兴趣选定研究课题,结成小组团队,开展学术性研究。要求学生们结合自己的项目,搜索和阅读一定数量的文献资料,记笔记,写出一定长度的文献综述,并进行课堂报告。我们还希望学生能够通过模仿,写出一篇1 500词左右的小论文作为该项目的研究成果,并进行演示陈述作为口头成果。为此,每本教材还提供了一篇学术小论

文作为样本。

本系列教材的对象是完成大学基础英语学习后的学生，为一个学期的学术英语课程使用，每周2—4个学时不等。我们建议学生根据自己专业选择我们系列教材中的一种。已经出版和正在出版的有法学英语、环境学英语、工程学英语、旅游学英语、新闻学英语、财经英语、商务英语、邮电英语、医学英语、航天英语、生物学英语、计算机英语、心理学英语、历史学英语、社会学英语、文学英语等。这是一套开放型的教材（我们欢迎更多的教师加入到编写队伍中来）。

这套开放型的新教材和传统大学英语教材不同，和专门用途英语（即专业英语）也有所区别。在高等教育国际化背景下的大学英语转型时期，我们相信这套教材将起到重要的作用。

蔡基刚

2012年8月11日

# 使用说明

本书系《21世纪EAP学术英语系列丛书》环境学英语分册,专为学完大学基础英语的环境学专业和其他对环境学感兴趣的学生编写,作为从大学英语过渡到用英语学习专业课程的衔接性教材。本教材编写的宗旨不在于系统介绍环境学的专门知识,而是通过与环境学相关的热点话题引导学生学习环境学英语,接触一些环境学英语基础词汇,提高英语综合应用能力,从而提升学生自主学习能力并为今后用英语学习专业课程奠定基础。书中所选内容均为环境学科普话题,不需要师生有很强的专业知识准备,也有利于提高学习者的学习积极性。

本教材共分6个单元,每单元涉及一个环境热点问题,分别为: Global Warming; Pollution; Resource Shortage and Management; Genetically Modified Conservation; Coping with Environmental Emergencies; Sustainable Solutions。

每个单元分为7个部分。具体说明如下:

## **1. Search for Background Information**

该部分列出了15个与课文A、课文B和(或)讲座相关的背景知识点或与该单元主题相关的术语,学生应充分利用互联网查找背景资料,通过热身进入最佳学习状态。本书也提供了部分链接,有利于开展第二课堂活动。

## **2. Discuss the Words' Meaning**

该部分设计了3种词汇练习,提供的生词出自课文A、课文B和讲座。通过让学生分析句子语境以理解生词含义,通过词根、词缀新词派生练习让学生掌握一定的构词法,旨在培养学生的词汇策略。

## **3. Listen to the Lecture**

该部分提供的讲座内容与单元主题相关,长度在6至10分钟之间。本部分侧重训练学生对一定长度和难度的音、视频讲座的理解,包含4个练习:回答问题、记笔记、书面概括全文、口头陈述。该部分还提供了听力的实用技巧。学生在听讲座前,应先熟悉书中提供的词汇和术语,预先学习背景材料中的相关知识,并参考技能讲解部分以帮助听力理解。

## **4. Read for Information**

该部分提供了两篇与单元主题相关的文章Text A和Text B,有利于学生围绕主题深入地思考和讨论。这些文章大部分选自科普杂志如*Science*, *Newsweek*, *Conservation Magazine*等,长度在1 000至1 600词之间。该部分还提供了阅读的实用技巧。要求学生阅读课文后对其有一定深度的理解,能回答相关问题,归纳段落大意,分析文章结

构, 综述中心思想和分析两篇文章之间的关系, 以及整理资料信息, 为今后检索文献资料和写文献综述打好基础。

### 5. Practice for Enhancement

该部分包含了4个练习: 辨析词义、词组搭配、句子释义、长难句翻译。词汇练习着重操练课文中出现的词汇, 句子释义和翻译内容选自课文。该部分还提供了句子释义和长难句翻译的实用技巧, 学生做有关练习时, 可参考技能讲解部分。

### 6. Write an Academic Essay

该部分从如何选题, 如何写引言、主体、结论和摘要, 如何规范引用资料、列参考书目等方面, 为学生提供了学术论文写作技巧的说明, 让学生掌握学术论文的写作技能, 有效提高学术英语写作能力。

### 7. Make Your Presentation

该部分旨在帮助学生了解如何运用口头演讲的技巧, 恰当运用身体语言及视觉辅助手段, 组织自己的思想, 完成内容表达, 提高英语口语应用能力。

此外, 书末附有3个附录: 学术小论文、词汇表和核心学术词汇表(AWL)。小论文格式规范, 结构完整, 并有一定的研究性, 对指导学生写相关学术论文具有重要意义。生词表中标注\*的为AWL词汇。核心学术词汇表列出了学术英语中常用的570个核心词汇。

复旦大学蔡竹君负责技能部分的编写工作。

本书的编写有不少新的尝试, 加之编者水平有限, 不妥之处, 欢迎读者批评指正。

编 者

2012年2月



# 目 录

## Unit 1 Global Warming 7

1. Search for Background Information 1
2. Discuss the Words' Meaning 2
3. Listen to the Lecture 5
4. Read for Information 8
  - Text A Global Warming: Myth or Fact? 8
  - Text B Causes, Effects and Solutions of the Global Warming Crisis 15
5. Practice for Enhancement 22
6. Write an Academic Essay 28
7. Make Your Presentation 29

## Unit 2 Pollution 30

1. Search for Background Information 30
2. Discuss the Words' Meaning 31
3. Listen to the Lecture 34
4. Read for Information 37
  - Text A Noise Pollution 38
  - Text B Our Vanishing Night 43
5. Practice for Enhancement 50
6. Write an Academic Essay 55
7. Make Your Presentation 57

## Unit 3 Resource Shortage and Management 58

1. Search for Background Information 58
2. Discuss the Words' Meaning 59
3. Listen to the Lecture 62
4. Read for Information 64
  - Text A Rising above the Low of Peak Water 65
  - Text B Peak Oil Production May Already Be Here 70
5. Practice for Enhancement 78
6. Write an Academic Essay 85
7. Make Your Presentation 86

**Unit 4 Genetically Modified Conservation 88**

1. Search for Background Information 88
2. Discuss the Words' Meaning 89
3. Listen to the Lecture 92
4. Read for Information 95
  - Text A Genetically Modified Conservation 96
  - Text B What If Organic Farmers Joined Forces with Genetic Engineers? 103
5. Practice for Enhancement 109
6. Write an Academic Essay 115
7. Make Your Presentation 116

**Unit 5 Coping with Environmental Emergencies 117**

1. Search for Background Information 117
2. Discuss the Words' Meaning 118
3. Listen to the Lecture 121
4. Read for Information 124
  - Text A The Green Cross 124
  - Text B When Will We Learn? 129
5. Practice for Enhancement 135
6. Write an Academic Essay 141
7. Make Your Presentation 142

**Unit 6 Sustainable Solutions 143**

1. Search for Background Information 143
2. Discuss the Words' Meaning 144
3. Listen to the Lecture 148
4. Read for Information 150
  - Text A Building on the Fly 151
  - Text B Can Cities Feed Us? 157
5. Practice for Enhancement 165
6. Write an Academic Essay 171
7. Make Your Presentation 172

**Appendix 1 Sample Academic Essay 174**

**Appendix 2 Glossary 179**

**Appendix 3 The 570 Words of the Academic Word List (AWL) 198**

# Unit 1

## Global Warming



### 1. Search for Background Information

1.1 Find the information on the Internet about the following terms from texts or about the subject.

A) global warming

---

B) COP15

---

C) United Nations Framework Committee on Climate Change

---

D) the Ice Ages

---

E) Intergovernmental Panel on Climate Change (IPCC)

---

F) greenhouse gases

---

G) fossil fuels

---

H) deforestation

---

I) solar activity

---

J) greenhouse effect

K) permafrost

L) the Atlantic meridional overturning circulation (MOC)

M) the Advanced Microwave Scanning Radiometer

N) carbon capture and sequestration

O) global warming controversy

### Web Resources

[http://en.wikipedia.org/wiki/Global\\_warming](http://en.wikipedia.org/wiki/Global_warming)

<http://www.globalwarming.org/>

<http://www.stopglobalwarming.org/>

<http://earthguide.ucsd.edu/earthguide/diagrams/greenhouse/>

<http://epa.gov/climatechange/>

1.2 Report the information you've found to the class in the form of an oral presentation with or without PowerPoint within 2 minutes.



## 2. Discuss the Words' Meaning

2.1 Read the sentences below and use the context to write the definitions of the underlined words. An example has been given.

**prevail:** be widespread

I know that you have your own ideas, but this viewpoint still prevails among the researchers.

1. **contribute to:** \_\_\_\_\_

It is reported that smoking contributes to lung cancer.

2. **span:** \_\_\_\_\_

Her teaching career spanned almost forty years.

3. **composition:** \_\_\_\_\_

Police has given the details on the composition of the bomb and said it was powerful.

4. **deduce:** \_\_\_\_\_  
If we see a doctor leaving a house, we may deduce that someone in the house is sick.
5. **recede:** \_\_\_\_\_  
Flood waters finally receded, and the government said it had received \$125 million in aid to fight the destruction caused by the floods.
6. **abrupt:** \_\_\_\_\_  
As soon as I felt the bump we came to an abrupt stop.
7. **halt:** \_\_\_\_\_  
Nobody can halt the advance of history.
8. **compelling:** \_\_\_\_\_  
His arguments in favour of a trade sale were so compelling that people in presence all agreed with him.
9. **hypothesis:** \_\_\_\_\_  
The research findings do not support the hypothesis that recapitalizations negatively affect shareholder wealth.
10. **contend:** \_\_\_\_\_  
The woman contended that it was not her fault.
11. **fluctuation:** \_\_\_\_\_  
Opening higher at 156.45 *yen*, the currency made a wild fluctuation between 138.30 *yen* and 168 *yen*.
12. **variable:** \_\_\_\_\_  
In this research the weather is one variable to be considered.
13. **ramification:** \_\_\_\_\_  
Have you considered all the ramifications of your act?
14. **impact:** \_\_\_\_\_  
How will the war impact on the local people?
15. **retribution:** \_\_\_\_\_  
Shareholders might demand retribution for such poor performance.
16. **offset:** \_\_\_\_\_  
The extra cost of travelling to work is offset by the lower price of houses here.
17. **disseminate:** \_\_\_\_\_  
One of the main tasks of your group will be to disseminate sales information among the consumers.
18. **manipulation:** \_\_\_\_\_  
The opposition party claims the president returned to power through political manipulation.
19. **bias:** \_\_\_\_\_  
This question does not mean that you are expected to bias your answer in favour of the government.

20. **polarize:** \_\_\_\_\_  
The debate is becoming polarized and there seems to be no middle ground.
21. **wage:** \_\_\_\_\_  
They've been waging a long campaign to overthrow the government.
22. **guzzle:** \_\_\_\_\_  
Some factories currently guzzle huge amounts of energy to produce unwanted goods.
23. **utilize:** \_\_\_\_\_  
The vitamins can be easily utilized by our body.
24. **attribute:** \_\_\_\_\_  
He attributed his success to his parents' support and his hard work.
25. **amplify:** \_\_\_\_\_  
The abortion debate triggers deep passions that greatly amplify its political impact.
26. **point to:** \_\_\_\_\_  
All the evidence points to suicide.
27. **dislocation:** \_\_\_\_\_  
Hurricane has caused serious dislocation to train services.
28. **pollutant:** \_\_\_\_\_  
A pollutant in the air which leads to global warming is carbon dioxide.
29. **appliance:** \_\_\_\_\_  
General Electric Co., one of the world's most efficient appliance manufacturers, doesn't plan to sell such products here.
30. **modify:** \_\_\_\_\_  
The Energy Department is going to modify its nuclear energy plants in response to a report that exposure to low-level radiation may carry more cancer risk than previously believed.

2.2 Find more words of each word family. The first one has been done for you.

Base Form	Other Related Forms in the Word Family
pollute	e.g. pollution, polluted, pollutive, polluter, pollutant
converge	
dispute	
volcanic	
erupt	
contribute	
forest	
connect	
verify	



accelerate	
circulate	
conceive	
induce	
generate	
contaminate	
reverse	

2.3 Explain the meaning of the following roots or comb. forms. Add at least 5 similar derivatives with their Chinese equivalents. An example has been given.

	Roots	Meaning	More Derivatives with Chinese Translation
e.g.	cor-	joint, mutual	correlation 相关性, corradiate 使（光线）共聚, correspond 通信, correlative 相互关联的, corrival 竞争者
1	aer(o)		
2	glaci		
3	aqu		
4	therm(o)		
5	tri-		
6	phot(o)		
7	hydr(o)		
8	neo-		



3. Listen to the Lecture

Difficult Words and Expressions

recapitulate /ˌri:kəˈpɪtjʊlət/ v.	概括；概述
slide /slaɪd/ n.	幻灯片
beachcomb /ˈbi:tʃkəʊm/ vi.	在海滨流浪；在海滨捡漂浮物（或贝壳等）
*project /prəˈdʒekt/ v.	计划；设计
deflect /dɪˈflekt/ v.	偏离；使转向
wedge /wedʒ/ n.	楔子，三角木

sequestration /ˌsɪkweˈstreɪʃən/ n.	扣押，没收
hybrid /ˈhaɪbrɪd/ n.	混血儿；混合物
*convene /kənˈviːn/ v.	召集，集合
arcane /ɑːˈkeɪn/ adj.	神秘的
clickthrough /ˈklɪkθruː/ n.	[计] 点击
catalyst /ˈkætəlɪst/ n.	[化] 催化剂
Nashville /ˈnæʃvl/	纳什维尔 (美国田纳西州首府)
stay arm’s length	保持距离
bipartisan /ˌbaɪˈpɑːtɪzən/ adj.	代表两党的
liability /ˌlaɪəˈbɪlətɪ/ n.	责任
*mediate /ˈmiːdiət/ v.	调停
neocortex /ˌniːəʊˈkɔːteks/ n.	新（大脑）皮层
viable /ˈvaɪəbl/ adj.	可行的

3.1 Listen to the first part of the lecture and answer the following questions. (00:00-05:08)

1. What’s the theme of the lecture?  
\_\_\_\_\_.
2. What is like beachcombing according to the speaker?  
\_\_\_\_\_.
3. What is the historical average temperature for January and what was the temperature record for the month before the lecture was given in America?  
\_\_\_\_\_.
4. What specific suggestions are given to achieve transportation efficiency?  
\_\_\_\_\_.
5. What specific suggestions are given to reduce emissions in our home?  
\_\_\_\_\_.

3.2 Listen to the second part of the lecture and take notes according to the questions in the left column.(05:09:10:00)

Questions	Notes
1. Why does the speaker say “don’t complain about quarterly report CEO management if you have invested money with managers who you compensate on the basis of their annual performance”?	_____, people do _____. And if they judge how much they’re going to get paid on your capital that they’ve invested, based on the short-term returns, you’re going to _____.

2. How to become a catalyst of change?	Teach others, _____.
3. Why does the speaker suggest “consider sending somebody to Nashville”?	Because he is going to _____ this summer for a group of people that are _____ to come and then give it, en masse, in communities all across the country, and they are going to _____ for all of them every single week _____.
4. Do people need to stay arm’s length from politics?	No. People should become _____. Make their democracy _____.
5. How does the speaker tend to rebrand global warming?	He likes _____, but again, he needs the help of those who are _____ on this.

**3.3 Listen to the whole lecture again and write a short summary of the lecture according to your answers and notes.**

**3.4 Exchange your summary with your partner and be ready to read to the class.**

## Skills for Listening to Lectures (1)

## How to do homework for a lecture

Lectures are a major source of your academic studies and research. You will get information from them no less than from reading essays and articles. To listen to an academic lecture effectively, however, you may do some homework beforehand. The following are some tips.

- 1) Find out the topic of the lecture to be delivered.
- 2) Research and read the topic-related sources or the assigned material.
- 3) Familiarize yourselves with the subject and list out questions if possible.
- 4) Sort out subject-specific words and terms the lecturer may use.
- 5) Check the meaning and pronunciation of the terms and words.