

# 新编科技英语教程 教师手册

● 戴炜华 主编 ● 上册

Teacher's Manual

NEW HORIZONS IN EST

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● 上海交通大学出版社

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## 内 容 简 介

本书是为配合理工科大学英语教材《新编科技英语教程》上、下册的教学需要而编写的教师手册，亦分为上、下册。内容包括教学安排、补充练习、课文参考译文、练习答案等，可供教师教学参考。

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## 前 言

本书是《新编科技英语教程》一书的教师手册。

《新编科技英语教程》一书是为课堂教学而编写的。在教学过程中，教师起着重要作用。人们普遍认为，每个语言教师都有各自的教学法，都应发挥自己独特的风格，用自己的方法处理问题。因此编写这本教师手册的目的，并非把教师局限于一定的教学法的条条框框之中，而是提供一些材料，如听写、口头理解以及所有的练习答案，有助于教学。我们希望此书对教师在指导学生透彻理解课文中能有所裨益。

尽管教师的教学法各有千秋，但一个有计划的工作程序则是必要的。编者在《新编科技英语教程》一书的教学过程中，摸索出一套有效的教学方法，并愿提供给教这门课程的教师参考。

在语言教学中，教师对学生的学习目的是十分清楚的。但是无论他们的最终目的是什么，在起步阶段则是以进行口头训练为主。因此上册要求进行大量的口头训练。

为了达到这一目的，需要强调以下几点：

1. 教师必须用英语授课，使学生置身于英语的气氛中。

这也可作为一种听力训练。对大多数学生来说，英语课是给他们提供听英语的唯一的时机。这就是为什么我们特别强调用英语来授课的原因。但这并不意味着绝对排除使用本族语。在翻译时要使用本族语，有时用本族语解释一些术语等也能防止误解，还能节约时间。

2. 除了笔头翻译外,其他练习必须口头做。做练习时学生不许使用本族语。

如何进行教时安排?

学生用书的前言已说明,每一册有四个单元,每个单元有四课。每个单元的最后一课用来复习。每课平均需要四学时:

课文解释与理解性练习	75分钟
听写	10分钟
常用词及习惯表达	25分钟
口语练习	30分钟
语言表达部分的讲解与练习	60分钟
总计	200分钟

每一单元的最后一课需要 150 分钟。这样每一册课本共需要60学时。

课文: 教师要规定学生预习课文。在课堂上教师仅仅解释一些语言难点。帮助学生理解复杂句子,并找出句子与句子、段落与段落之间的关系。

练习: 附在课文后面的练习是用来检查学生理解课文的程度。如辨别题和选择正确答案这样的练习,可以在对课文进行解释后立即进行。这样学生就会对课文有更准确、更清楚的理解。做练习时,不管学生选择的答案正确与否,都应要求他们说出理由。词义选择和新词练习要在课堂上规定时间内完成。当然,预习是必要的。在进行课堂讨论题时,学生不必顾忌语法错误,说话方式要随便。至于笔头练习就只有汉译英一项。

口头理解问题(仅列在教师手册中): 这一练习的目的是提供一个机会,让学生用刚学过的词或词组说话,这也是用正确的英语组织思维的一种能力训练。在开始阶段,学生在回答问题时,可以看课文。但经过一段时间的训练后,就不允许看书了。

**听写：**每篇课文的听写材料，可以说是本课文的摘要。教师要根据学生的英语水平来决定听写速度。

**自由谈话：**发言不得超过一定长度。但要做到每位学生都应有准备。

**常用词与习惯表达：**许多一词多义的英语词汇，常使学生感到困惑。本练习试图指导他们克服这一困难。编入本书的66个常用动词在英语中非常活跃，学生必须掌握它们。在课堂内，教师不一定要花很多时间来解释关于这些词用法的语法现象，只要让学生把它们作为固定的习惯表达记住就行了。

**语言表达：**这一部分内容的编写是以学生已掌握的基本语法知识为根据。对于理工科学生来说，了解一些科技英语的特点是很重要的。一开始，学生可能难以读下去，因为要碰到许多对他们来说几乎完全是陌生的专门术语。因此只有这部分内容，需要教师做大部分的工作。教师的主要任务是帮助学生掌握科技英语的特点，为学生今后进一步的学习打下扎实基础。因此，要求教师清楚地解释这些专门术语以及它们之间的关系。另外，要经常复习。必要时可用本族语进行解释，以免理解错误。

## 本手册使用指南

《新编科技英语教程》上册使用60学时。

本教师手册由下列部分组成：

1. 听写材料
2. 口头理解问题
3. 练习答案

练习提供参考答案，没有答案的练习可能有几种答案。

4. 课文译文

课文提供参考译文。由于全部课文选自科技英语原著，因此译文的重点在于忠诚原文。

## PREFACE

This book is written as the teacher's manual for **New Horizons in EST**. **New Horizons in EST** is designed for classroom use. The teacher, therefore, has a very important role to play in utilizing this book. The aim of this teacher's manual is not to confine the teacher to certain limited approaches or to dogmatize on teaching methodology since it is widely agreed that the teaching of a language is an individual thing and the teacher should be free to develop various methods. The aim of the book is, therefore, to make the teacher's work easier by providing him with materials for Dictation, Oral Comprehension, Questions and the Key to all the exercises as well. It is hoped that the teacher will find this book of some value when guiding the students in digesting the text.

Nevertheless, however individual the teaching of language may be, a planned programme of work is necessary. There are certain general approaches that the compilers find successful in their teaching of **New Horizons in EST** and would like to offer as reference to the teachers who use the course.

In teaching a language, teachers are likely to keep in



mind the objectives of the learners. But whatever may be their final objective, it is wise to make use of oral work during the initial stage. Thus Book I requires extensive oral work.

To achieve this purpose, the following requirements have to be emphasized:

1. The teacher should conduct the classes in English so that the students are surrounded by an English 'atmosphere'. This can serve as an ear training exercise. For most students, the English class is the only chance to hear English. That is why we attach great importance to the use of English in class. But this does not mean the strict exclusion of the native language. Sometimes a little translation or explanation in Chinese prevents misunderstanding and saves time.
2. Except for the translation, all exercises should be done orally, and no native language is allowed on the students' part.

How are the materials to be presented to learners?

As has been stated in the preface to the student's books, each of the two books consists of 4 units, with 4 lessons in each unit. The last lesson of each unit is used for review.

On average one lesson requires 4 teaching hours:

Text and Comprehension Exercises:	75 min.
Dictation:	10 min.
Useful Words and Expressions:	25 min.
Oral Practice.	30 min.
Language Presentation:	60 min.
<b>Total</b>	<b>200 min.</b>

The last lesson of each unit requires 150 min. Thus, each book requires 60 hours altogether.

**Text** The teacher should have the students preview of the text as a rule. In class, he explains only some of the difficult language points, helps the students understand complicated sentences and find relationships between sentences and paragraphs.

**Exercise** Nearly all the exercises after each passage are designed to check how much the students have understood. Exercises like 'True-False statements' and 'choosing correct answers' can be done in class immediately after the explanation of the text so that the students may have a clearer and more precise idea of the passage. In doing these exercises the students are required to give reasons for the choices they make whether the choice is right or wrong. Exercises like 'Finding the Meaning' and Using the 'New Words' should be done in a set time in class. Of course, preparation is necessary. 'Questions for Classroom Discussion' might be done in such a way that the students speak freely regardless of errors in grammar. The only written work in the book is the translation from Chinese

into English.

**Oral Comprehension Questions(In Teacher's Book only)**

The aim of the exercise is to give the students a chance to speak the words and phrases they have just learned and to strengthen their ability in organizing ideas in correct English. In the initial stage, the learners can answer the questions while looking at the text. But it is not allowed after a certain period of training.

**Dictation** The Dictation of each passage is, in some way, a short summary of the text. The teacher should decide the speed according to the English level of the students.

**Free Talks** There should be a limit to the length of the talk. But be sure that every student prepares before class.

**Useful Words and Expressions** Many English words that have a wide variety of meanings are often bewildering to the learners. An attempt has been made here to lead them through this maze. The 66 verbs selected in the book are very active in English. The students are required to have a good command of them. In class, the teacher should not spend much time explaining the grammatical phenomenon of these words. He just requires his students to memorize them as set expressions.

**Language Presentation** This section is written on the assumption that the learners have had a general knowledge of basic grammar. For science and engineering students

it will be very important to understand some features of scientific English. The students might, at first, find it hard to read on because of some special terms in a totally unfamiliar field. Therefore, only in this section does the teacher do a large part of the work. His main role is to aid the students to acquire a clear view of the features of scientific English and to lay a solid foundation for further advanced work. Therefore, it is essential that the teacher explain clearly the special terms and relationships among them. And frequent review is absolutely necessary. Some explanation can be done in the students' mother tongue to avoid misunderstanding.

## **A Guide To The Use of This Manual**

**New Horizons in EST Book One** is designed for use within 60 hours.

The **Teacher's Manual of this book** consists of the following parts

1. Dictation
2. Questions for Oral Comprehension
3. Key to the Exercises

Suggested answers to the exercises will be found in a key. Exercises to which the key is not given can be answered in a variety of ways.

4. Chinese Version

Each lesson is given a Chinese version. Since all the passages are selected from the original technical literature, we lay our emphasis on the faithfulness of the translation.

## UNIT ONE

### Lesson One

#### Dictation:

Science often appears to be very mysterious to us. It is certainly difficult to understand. But science does not mean that we just believe and remember what others tell us. We must, rather, examine facts so as to find out the truth for ourselves. And this is called scientific method. In fact, we use the scientific method in simple ways every day.

#### Questions for Oral Comprehension:

1. What do real scientists do in order to reach the truth?  
(They examine facts.)
2. Why do we sometimes feel that we shall never be able to understand how science works?  
(Because science often appears to be difficult and sometimes even a kind of magic.)
3. In the writer's opinion, what is the chief thing about the scientific method?  
(The chief thing about the scientific method is that we must make tests in order to get the answer.)
4. Name some possible causes for a flat tyre of a bicycle.  
(Perhaps the bicycle has not been used for a long time; perhaps something is out of order; perhaps a

nail punctured the tyre.)

5. What will you do if the cause of a flat tyre is that the bicycle has not been used for a long time?

(I will pump in some air.)

6. What will you do if the tyre is still flat?

(I'll try to find the exact trouble by making tests.

7. What might an unscientific man think about the flat tyre according to the text?

(He might think it necessary to buy a new bicycle altogether because an evil spirit has caused the tyre to be flat.)

8. What truth do you get from this example of the flat tyre?

(From this example I fo understand that scientific method is not only used by scientists but also by everyone.)

**Key to the exercises:**

### **Useful Words and Expressions**

#### **Exercise**

1. What caused these plants to die?
2. Galileo believed that scientists ought always to make experiments.
3. He spends half of his money on books.
4. The Arabs kept a store of science which the West

later received.

5. He had to keep his six children.
6. Being kept in the open air is one of the causes for metal corrosion.
7. I spent almost an hour looking up these words in the dictionary.
8. This has caused much trouble to happen;
9. Please don't keep singing.
10. The clock will keep good time in winter.
11. He ought to have been a good football player.
12. Changes in temperature and pressure often cause a substance to change from one state into another.
13. Scientists ought to watch the results of their experiments.
14. The same crop ought not to be grown in the same place every year; it is better to have a different crop.

### Comprehension

#### I.

1. T; 2. F; 3. T; 4. T; 5. T; 6. T; 7. T;
8. F; 9. F; 10. F

#### II.

1. a; 2. b; 3. a; 4. b; 5. c; 6. b; 7. d; 8.
- a; 9. c; 10. a

#### III.

1. remember; 2. spends; 3. causes; 4. understand;



5. keep; 6. seen; 7. take off; 8. case; 9. take;
10. unless

#### IV.

1. d; 2. d; 3. c; 4. d; 5. b

#### VI.

1. A good tyre will prevent air from escaping.
2. Not to look into a matter is opposite to the scientific method.
3. When a tyre goes wrong, one must examine it and then decide where it needs mending.
4. Science sometimes appears to be a kind of magic, but scientific method is something we can all use with advantage.
5. One might not gain much by spending much money, while sometimes one can do a lot of things with a little money.

### Language Presentation

#### Exercises

2. is, forms, provide, needs, come, consist, is, are, make up, are, have, contain, is, gives, passes
  3. Is
    1. Sound travels at a speed of 333 meters a second.
    2. Rain washes salt from the soil.
    3. Water freezes at 0°C.
    4. A yard equals 0.9104 meters.
    5. Air flows around us.
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