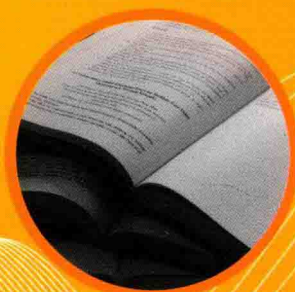




全国工程专业学位研究生教育国家级规划教材

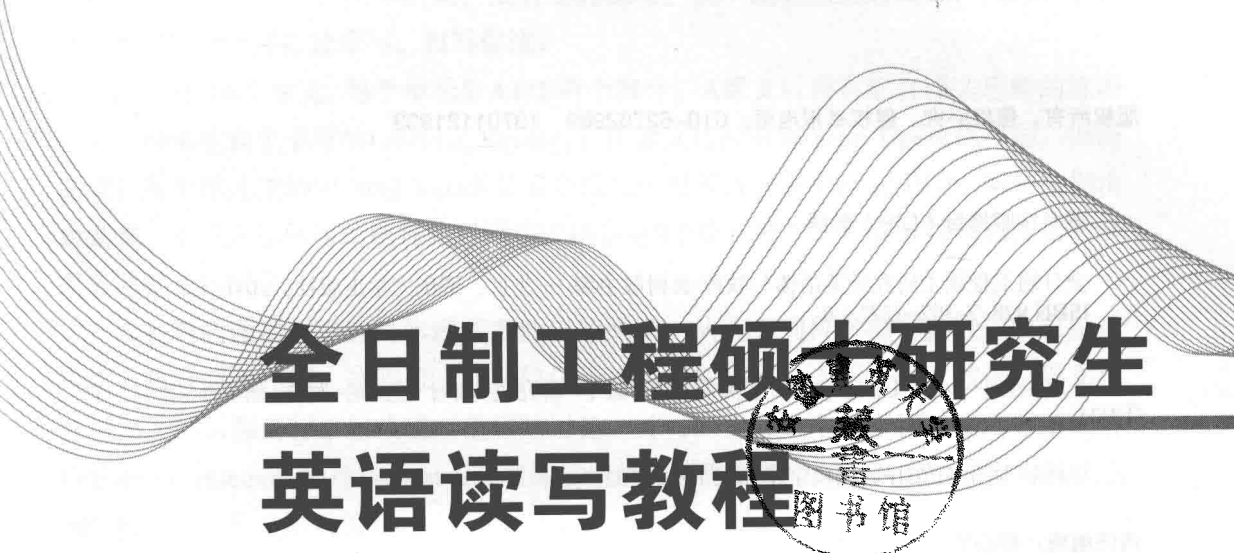


全日制工程硕士研究生 英语读写教程

主 编 吴树敬
副主编 兰素萍 王宏俐 樊葳葳

清华大学出版社

全国工程专业学位研究生教育国家级规划教材



全日制工程硕士研究生
英语读写教程

主 编 吴树敬

副主编 兰素萍 王宏俐 樊葳葳

编者（按姓氏笔画排序）

李伟平 李蓓岚 杨恽 罗永 周文慧

郑四方 栗欣 铁瑛 黄小蓉

清华大学出版社

北京

内 容 简 介

本教程适合全日制工程硕士研究生英语教学。教程共8个单元,每个单元分A和B两个部分,A课文后设有配合课文理解的练习题和引导学生自主学习的Learning Strategy, B课文后配有练习题及Writing Tips。本程教程的课文内容选材体现了多样化的原则,从人文到科技都有涉猎,内容贴近现实,具有启示作用。

版权所有,侵权必究。侵权举报电话:010-62782989 13701121933

图书在版编目(CIP)数据

全日制工程硕士研究生英语读写教程/吴树敬主编. —北京:清华大学出版社, 2016
ISBN 978-7-302-42723-0

I. ①全… II. ①吴… III. ①英语-阅读教学-研究生-教材 ②英语-写作-研究生-教材 IV. ①H31

中国版本图书馆CIP数据核字(2016)第020021号

责任编辑:蔡心奕
封面设计:常雪影
责任校对:王凤芝
责任印制:宋林

出版发行:清华大学出版社

网 址: <http://www.tup.com.cn>, <http://www.wqbook.com>

地 址:北京清华大学学研大厦A座

邮 编:100084

社总机:010-62770175

邮 购:010-62786544

投稿与读者服务:010-62776969, c-service@tup.tsinghua.edu.cn

质量反馈:010-62772015, zhiliang@tup.tsinghua.edu.cn

印 装 者:北京嘉实印刷有限公司

经 销:全国新华书店

开 本:185mm × 230mm

印 张:13.25

字 数:266千字

版 次:2016年12月第1版

印 次:2016年12月第1次印刷

印 数:1~3000

定 价:35.00元

产品编号:053852-01

作为“全日制工程硕士研究生英语系列教程”的重要组成部分，《全日制工程硕士研究生英语读写教程》是一门集读与写于一身的教程。读是信息的输入，而写是信息的输出，没有读，就写不出来，没有写的练习，就不能巩固读的成果，因此，本教材的编写原则就是以读带写，以写促读。

该教程共8个单元，每个单元分A和B两个部分：A课文后设有配合课文理解的练习题和引导学生自主学习的Learning Strategy；B课文后配有Writing Tips及练习题。但需注意：每个单元里的Writing Tips不是结合课文内容安排在各个单元里的，而是根据由易到难、由浅入深的写作训练先后顺序安排在这8个单元里的，任课教师可以根据教学需要调整先后顺序。

本教程的课文内容选材体现了多样化的原则，从人文到科技都有涉猎，内容贴近现实，具有启示作用。这些课文能够使任课教师比较容易地运用启发式教学引导学生针对课文的话题进行小组或班级范围的讨论，并可以安排学生们根据讨论内容组织有特色的Presentation，通过Presentation锻炼学生的创新思维能力和英语表达能力，以此达到“说、写”并进的目的。

各校的任课教师可以根据各自学校的需求决定每个单元所需的教学时数，也可根据各校学时的多少决定增加其他相关教学内容或有选择地减少本书的学习单元。

《全日制工程硕士研究生英语读写教程》由北京理工大学、西安交通大学、华中科技大学的教师合作编写。在编写过程中编写组得到了有关院校和单位以及多位人士的大力支持和协助，在此一并致谢。

不足或错讹之处敬请读者批评指正。

编者

2016年6月于北京

Contents

Unit 1 Development of Technology..... 1

Text A	Cars of the Future	2
Learning Strategy	Preview: Learn About a Text Before Really Reading It	11
Text B	The Third Industrial Revolution.....	12
Writing Tips	Tips on Research Paper Writing (1) Selecting a Topic	18

Unit 2 Education.....21

Text A	Why Doing a PhD Is Often a Waste of Time?	22
Learning Strategy	Compare and Contrast Related Readings: Explore Likenesses and Differences Between Texts to Understand Them Better	32
Text B	A New App Helps Parenting	33
Writing Tips	Tips on Research Paper Writing (2) Doing Exploratory Research.....	41

Unit 3 Internet43

Text A	The Internet Gets Physical	44
Learning Strategy	Synthesize Ideas to Draw Conclusions	57
Text B	Europe Weighs Tough Law on Online Privacy	58
Writing Tips	Tips on Research Paper Writing (3) Evaluating Sources	66

Unit 4 Environmental Concerns69

Text A	Life Without Nukes	70
Learning Strategy	Outline and Summarize: Identify the Main Ideas and Restate Them in Your Own Words.	82
Text B	Breathing Is Believing.....	83
Writing Tips	Tips on Research Paper Writing (4) Note-taking.....	90

Unit 5 Discovery.....93

Text A	The Myth of the Innovator Hero.....	94
Learning Strategy	Set Up Your Reading Rate	107
Text B	What Really Makes Us Fat.....	107
Writing Tips	Tips on Research Paper Writing (5) Composing the Research Paper	114

Unit 6 Nature and Human Society117

Text A	El Niño	118
Learning Strategy	Four Types of Reading Skills: Skimming, Scanning, Extensive Reading, Intensive Reading.....	130
Text B	Temperaments and Communication Styles	131
Writing Tips	Tips on Research Paper Writing (6) Footnotes and Endnotes.....	138

Unit 7 Life Science141

Text A	Genes on the March	142
Learning Strategy	Ask Questions Before You Read	153
Text B	Hard Math: Adding Up Just How Little We Actually Move.....	154
Writing Tips	Tips on Summary Writing.....	160

Unit 8 Ecology163

Text A	Groundwater Depletion Accelerates Sea-Level Rise	164
Learning Strategy	Distinguish Main Ideas from Supporting Ones.....	173
Text B	International Agency Calls for Action on Natural Gas Safety	174
Writing Tips	Tips on Writing an Abstract.....	182

Answer Key187



Unit

1

Development of Technology

Text A

Learning Objectives

In this passage you will

- learn about innovative ideas for cars in the future.
- learn to preview to learn about a text before really reading it.
- learn to summarize a reading passage.

Getting Ready to Read

Automobiles have become an extremely important means of transportation. They are, however, also condemned as one of the main causes of environmental problems. How can human beings continue to enjoy the convenience that cars bring to us but not at the cost of the environment? Imagine what the future cars could be like. What functions can possibly be developed for future cars?

Read

Cars of the Future

by Stephen Ornes

- 1 **O**n a sunny day last January, people **flocked** to Las Vegas to **zip** around a parking lot in small vehicles that looked more like colorful eggs than ordinary cars. The automobiles were electric, rolled on two wheels instead of four and held only two passengers.

Thanks to their tiny size, six of the vehicles would fit in a parking spot. If the idea of parking such a small car makes you nervous, don't worry: These cars can park themselves, and return to their owners, when summoned by a button on a cell phone.

2 The vehicle is called the EN-V (pronounced like envy). It is built by the General Motors, or GM, car company and points to what future automobiles might be like. One day, such small, electric vehicles might safely **shuttle** people around, especially in crowded cities.

3 Scientists and engineers are finding new ways to make cars safer, smarter and more efficient, or use less energy. New cars may help you keep track of your health by reminding you to take medication. If it's electric, your car may send you a text reminding you to plug it in. Cars will talk to other cars, your computer, your phone and almost any other device. They'll help drivers save energy, watch out for other drivers and avoid pedestrians.

4 This is the future of automobiles: safer, smarter, and more energy-conscious. As an added bonus, they might even drive themselves down the highway or through a city. You can sit back and enjoy the ride.

Who needs drivers?

5 Google is well known for its Internet search engine, but last year the company hit the highway. It sent a fleet of six self-driving cars into the world. Each wore a **contraption** on the top that looked like a wide metal headband topped by a small, spinning **cylinder**. People rode inside, but only to give directions and ensure that the car ran correctly.

6 The cars zipped all around northern California. They navigated the turns of the Pacific Coast Highway, a narrow road

that hugs California's rugged coastline. They crossed the Golden Gate Bridge and zigzagged down the eight tight turns of San Francisco's Lombard Street, one of the **crookedest** streets in the world. All in all, the cars put on 225,300 kilometers (140,000 miles).

7 The company wasn't just showing off. Google's researchers have safety in mind, and the computer programs behind these cars are designed to turn roads into safer places. A computerized car, they say, won't be distracted by phone calls or iPods. Using video cameras, radar sensors and lasers, the cars detect other autos and obstacles, which can help avoid crashes. Around the world each year, traffic accidents kill more than one million people and injure 50 million others.

8 "People who see our technology understand its potential to make driving safer and cut down on traffic," says Sebastian Thrun, the engineer and computer scientist in charge of Google's self-driving car program.

9 Until recently, the idea of a car that drives itself could be found only in science fiction. In the early 1980s, the television show *Knight Rider*, featured a talking, thinking, bulletproof car named KITT. In episode after episode, the main character jumped in the car, gave some instructions and off they'd go to fight crime and solve mysteries.

10 In the real world, safety is the name of the game. André Platzer, a computer scientist at Carnegie Mellon University in Pittsburgh, points out that driverless trains have been running safely for years. In Detroit, an automated train has been shuttling people through downtown since 1987. At airports like the Denver International Airport, automated trains take people to their planes. In some ways, trains have it easy: They move only forward or

backward, accelerating or braking. Building automated cars is a more complicated project.

11 “A car has lots of decisions, not just going forward and backward,” Platzer says. “You can always steer left and right, or steer left and right a little bit or a lot. There are other cars around, and then there are pedestrians, and all of a sudden the traffic light changes to red and all these other things.”

12 A car that drives itself must know what other cars are doing, which means managing a lot of information. At Carnegie Mellon, Platzer and his colleagues write computer programs that test the safety of self-driving cars. He says that self-driving cars will probably not be available to buy and use within the next few years, but they’re getting closer. Already, some new cars come with automatic braking systems and warnings that alert drivers to dangerous situations.

13 As for parking? Self-driving cars have that covered, too. Ford, BMW, Toyota, Lexus, Lincoln, and Mercury already offer cars that can take control of the wheel to help drivers parallel park.

14 Platzer says that piece by piece, driverless technology is arriving. “We need to gain some experience and build in some safety technology and make sure people can rely on this,” he says. “If I want to sit in the car and read my newspaper and drink my coffee and not watch the road, then that’s something I can do only if I have enough trust in the system to handle all of the different situations in a reliable and safe way.”

My car, my friend, my nurse

15 Companies like Google are making cars smarter, safer, more independent, and friendlier. Future cars might get to know the people who ride inside.

16 At the Massachusetts Institute of Technology, or MIT, in Cambridge, scientists have designed AIDA, which stands for Affective Intelligent Driving Assistant. AIDA is a small, white robot with glowing blue eyes that sits on the **dashboard**, watching the driver. The robot gives directions and uses a video camera to watch your face and recognize your emotions. It will try to cheer you up when you're in a bad mood. AIDA also communicates with the world outside and helps you choose routes to avoid traffic jams or accidents.

17 Ford Motor Co. wants to let cars help out with a person's health. The car's onboard computer will communicate with medical devices, like a **glucose** monitor worn by a **diabetic** person. People with diabetes have to watch what they eat because their bodies have a hard time keeping sugar, or glucose, in balance. If blood sugar levels get too low, a person could become **disoriented** — or even pass out. Soon, Ford's cars might help drivers keep track of their body chemistry.

18 Still other cars are being designed to respond to the habits of their owners. One of those owners is Nick Pudar, who lives near Detroit. When he returns to his home, he has to remember to recharge his phone. He also has to remember to recharge his car.

19 “I'm still not in the habit of that,” says Pudar, the Vice-President of Business Strategy for OnStar, which helps cars made by GM communicate wirelessly with the world. Pudar drives a Chevy Volt, which is mostly powered by electricity instead of gasoline. If Pudar forgets to plug in his car, at 10 p.m., it calls to remind him. That way, he won't be **stranded** with a dead battery the next morning.

20 Our lives already **sap** electricity with household appliances, computers and gadgets. If everyone plugs in their cars at the same

time, the network of electricity suppliers and carriers might be overloaded and malfunction. There's only so much electricity available at any one time.

21 When we **flip** a switch and the light comes on, we don't think about where the energy comes from. Pudar says the electricity supply is like a box that makes rope, with a little rope hanging out the side. When you use electricity, it's like pulling rope out of the box. The more you need, the faster you pull the rope, and the harder the rope-making box has to work to provide rope.

22 "Every box has a limit, and if you pull too fast, too hard, it can't keep up," Pudar says. "That's a **blackout**."

23 Later this year, OnStar will test a program to help GM's electric cars. Instead of charging as soon as they're plugged in, the cars will use information from the electric company and charge themselves when power is least costly or most available. In general, people use less electricity in the middle of the night, so this might be the best time to recharge. Pudar says electric cars need to be able to "talk" with the electric company, and vice versa, so they can both be smarter about energy.

Along for the ride

24 In 2009, Platzer climbed into a self-driving Chevy Tahoe named Boss. The car was designed by his colleagues at Carnegie Mellon. Two years earlier, it had won a competition where self-driving cars navigated through city streets, an honor that brought the researchers a cool \$2 million prize. Platzer calls himself a "correctness guy," and he was a little nervous about trusting his life to the machine.

25 "Right after the start signal, Boss hit the gas and rocketed forward, and I felt a bit like (I was) in a rollercoaster. Only those

are safe, because they simply follow the tracks,” he says. “Boss didn’t have any tracks to follow...The curve came closer and closer, yet Boss still didn’t hit the brakes. It actually didn’t hit the brakes until long after I would have. That was a rather odd feeling.”

26 Platzter trusted his colleagues, so he wasn’t too worried. Still, he says, scientists have a lot of work to do before self-driving cars can safely hit the streets. But like the masses that turned out in Las Vegas to watch the egglike EN-Vs glide silently through the parking lot, he’s excited about the future. It’s coming, and fast.

27 “Will (today’s) kids do their driver’s license test first, or will robot cars do their driver’s license test first?” wonders Platzter. “I don’t know, but I’m working on the driver’s license test for robot cars, which is difficult.”

(1,664 words)

Glossary

flock	[flɒk]	v.	聚集；涌入
zip	[zɪp]	v.	迅速地行动（或移动）
shuttle	[ˈʃʌt(ə)l]	v.	短程穿梭般地运送（乘客）
contraption	[kənˈtræpʃ(ə)n]	n.	古怪装置；新设计，新发明
cylinder	[ˈsɪlɪndə]	n.	圆筒；柱状物；（发动机的） 气缸
crooked	[ˈkrʊkɪd]	adj.	弯曲的
dashboard	[ˈdæʃbɔ:d]	n.	（机动车辆的）仪表盘
glucose	[ˈglu:kəʊs]	n.	葡萄糖
diabetic	[ˌdaɪəˈbetɪk]	adj.	患糖尿病的
disoriented	[dɪsˈɔ:riəntɪd]	adj.	不知所措的；迷失方向的
strand	[strænd]	v.	使陷于困境；使搁浅
sap	[sæp]	v.	使衰竭；破坏

flip	[flɪp]	v.	轻弹；轻击；抛掷
blackout	['blækaut]	n.	断电；灯火熄灭

Notes

Knight Rider

美国电视系列剧《霹雳游侠》：1982年开始播出，讲述麦克奈特在世界上独一无二的智能汽车的协助下专门惩治逃避法律制裁的罪犯的故事。

After You Read

Task 1 Reading for General Understanding

Answer the following questions according to the text.

1. What are the core ideas behind the design of future cars?

2. How the new idea for future cars be translated into reality?

3. What is your interpretation of the last part of "Along for the ride" in the passage?

Task 2 Reading for Specific Details

Do the following statements agree with the information given in Text A?

Write T for true and F for false.

- | | T | F |
|--|--------------------------|--------------------------|
| 1. Google sent six driverless cars onto the roads to detect what's going on. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. There are more decisions to make for a car than a train. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Ford Motor Co. will design cars that can send their sick drivers to hospital automatically. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. The electricity supply is compared to a box of making ropes. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Platzer feels so excited about the future of cars without any worry. | <input type="checkbox"/> | <input type="checkbox"/> |

Task 3 Inferring Meaning from Context

A Choose the correct answer from the four choices marked A, B, C or D.

- Platzer says he can ride in a self-driving car “only if I have enough trust in the system”. How to enhance trust?
 - Governments should promote self-driving cars.
 - Scientists should equip the car with more safety technologies.
 - More people should be encouraged to ride a self-driving car.
 - Advantages of self-driving cars can be revealed in more science fictions.
- In the underlined sentence “Platzer calls himself a ‘correctness guy’, ...” on page 7, “a ‘correctness guy’” means _____.
 - he did something wrong in the past
 - he's unable to trust others
 - he always wanted to make the correct choice

D. the car won a competition

B Replace the underlined word with a synonym.

1. On a sunny day last January, people flocked to Las Vegas to zip around a parking lot in small vehicles that looked more like colorful eggs than ordinary cars. ()
2. These cars can park themselves, and return to their owners, when summoned by a button on a cell phone. ()
3. One day, such small, electric vehicles might safely shuttle people around, especially in crowded cities. ()
4. Google is well known for its Internet search engine, but last year the company hit the highway. ()
5. If blood sugar levels get too low, a person could become disoriented — or even pass out. ()

Task 4 Passage Summary

Write a summary of Text A within 200 words.

Learning Strategy



Preview: Learn About a Text Before Really Reading It

Previewing enables readers to get a sense of what the text is about and how it is organized before reading it closely. This simple strategy includes seeing what you can learn from the