**Unit 4 Living with technology**

**Welcome to the unit & Reading (I)**

* **教学目标：**

By the end of this section, students will be able to

1. know what descriptions in science fiction have turned into reality;

2. share their ideas about whether anything people can imagine can be made real;

3. imagine future technology and explain how it will change people’s lives.

* **教学重难点：**

1. Analyze the benefits and potential threats of the development of AI;

2. Know about the applications of facial recognition technology and questions related to it.

* **教学过程：**

***Step 1 Lead-in***

1. Lead in: The advance of technology is based on making it fit in so that you don’t really even notice it, so it’s part of everyday life.
2. What kind of technology is the most important to you in your daily life? How do you use it?

I think the most important technology to me is the Internet. I greatly depend on it to get information and communicate with others. Also, devices like computers, smart phones and even some smartwatches now have access to the Internet. These devices allow me to get online from anywhere and at anytime. They are truly a critical part of my daily life.

【设计意图：紧扣主题，用学生熟悉的运动来激活学生已有的知识和经验，引入主题。】

***Step 2 Welcome to the unit***

Watch a video and fill in the blanks.

 • *Twenty Thousand Leagues Under the Sea*: travelling deep under the ocean

 • *2001: A Space Odyssey*: traveling to the Moon

 • *The Matrix*: connecting the human brain with computers and entering the virtual world

Ask Ss: Do you think life in the video can become a reality?

【设计意图：通过看视频和问答激活学生已有的体育知识，通过询问学生一些问题激发学生对于新兴科技的兴趣。】

***Step 3 Pre-reading***

1. Q: When we talk about artificial intelligence, what adjectives come to your mind?

Possible answers: useful, terrifying, helpful, amazing, cutting-edge, threatening, double-edged, ...

1. Artificial intelligence: friendly or frightening?

Alliteration eg: Sense and Sensibility, Pride and Prejudice

***Step 4 While-reading***

1. What is the structure of the lecture transcript?

 Para(s) 1: Introduction

 Para(s) 2-5: Supporting details

 Para(s) 6: Conclusion

2. Read the lecture transcript and complete the chart below with the main idea of each 

1. Read Para.2 and fill in the following chart .
2. One essential aim of AI: To develop computer intelligence capable of learning from experience, adjusting to new inputs and performing tasks like humans.
3. One approach to the aim: Deep learning, which enables the machine to improve its own performance by learning from the results of its previous actions.
4. Read Para. 3 and fill in the following table.

|  |  |
| --- | --- |
| Time | Event |
| Since the 1940s | The development of computers has finally made the dream of AI a reality. |
| Years before the mid-1950s | Alan Turing had explored the theory of AI. |
| In the mid-1950s | The term “artificial intelligence” was coined. |
| In 1997 | A major breakthrough in AI was made. |
| In 2017 | A computer program defeated arguably the best human Go player. |

1. Read Paras.4-5, and answer the following questions.

Q1: What are ordinary people using AI to do?

 To get instant translation of text in foreign languages.

Q2: What are we getting closer to according to the author?

We are getting closer to the dividing line between humans and machines.

Q3: Friendly or frightening?

Friendly: drive vehicles, write novels, translate, ...

Frightening: develop human-like intelligence? threaten the existence? commit crimes? dangers?

***Step 5 Post reading***

In lines 44–46, Stephen Hawking is quoted as saying,

“The development of full artificial intelligence could spell the end of the human race.”

Do you agree with him? Why or why not?

Option 1

I do not agree with Stephen Hawking. I think that scientists fully understand the concerns about AI, and they will surely be careful about developing it. Even if we are able to create true artificial intelligence, we will know how to control it. According to the Three Laws of Robotics, put forward by science fiction author Isaac Asimov, robots may not injure human beings or allow them to be harmed, they must obey the orders given by human beings except where such orders conflict with the First Law, and they must protect their own existence if that does not conflict with the First or Second Law.

Option 2

Yes, I agree with Stephen Hawking. With the development of full artificial intelligence, machines may become so intelligent that human beings could no longer control them. If super intelligent AI machines could think and act completely on their own, it remains to be seen how they would treat human beings. It would be extremely dangerous if they decide that humans are their enemies. So I think we need to be very careful with full artificial Intelligence, and it is important that we consider possible dangers before it is too late.

***Step 6 Reviewing***

 Read the abbreviations of the passage and fill in the blanks with 1 appropriate word or the correct form of the word in brackets

 With the rapid development of artificial intelligence, many sweet dreams1. like a robot doing all the work for you may come true.

 AI is a branch of computer science that aims to develop intelligent machines, 2. designed (design) for better work and higher efficiency, and people have been in pursuit of the dream of AI for many years. Especially in 2017, a computer program named AlphaGo beat Ke Jie, 3.\_showing (show) a large leap in AI systems.

 Nowadays, AI 4. has been used (use) in quite a few fields, such as looking after patients, 5.\_performing\_(perform) surgeries, writing novels, driving, translating, to name 6. but a few. People feel their life is becoming more and more 7. convenient (convenience). This technology is changing our lifestyle for the better.

 8. However, with machines taking the place of humans, here come concerns and fears. People will become more 9. reliant (rely) on AI machines and they may pose a great threat to the existence of humans, spelling the end of the human race.

 To conclude, we should sincerely welcome the 10. arrival (arrive) of AI, but at the same time, we should be careful of the application of it.

***Step 7 Homework***

* Finish B1 on P47.
* Surf the Internet and learn more about artificial intelligence

Grammar and usage: Future continuous tenses

 内容分析：

本板块围绕单元话题,引导学生在介绍无人机的语篇中观察、探究将来进行时在文中的使用情况，并自主归纳其核心规则；然后通过句子、语篇两个层面的练习巩固所学、内化新知；最后再让学生正确使用目标语法完成相关活动，学以致用。

 教学目标：

By the end of this section, students will be able to:

1. understand the usage of the future continuous tense;

2. identify the verb form of the future continuous tense;

3. use the right tenses to finish related tasks;

4. apply the future continuous tense in new contexts.

 教学重难点：

1. To summarize the general rules;

2. To apply the rules correctly and properly.

 教学过程：

Step 1 Lead-in

Show a picture to the student and ask a question: What is a UAV?

A UAV refers to an uncrewed aerial vehicle.

Step 2 Exploring the rules

Have students read the talk in Part A on page 48 and fill in the following table.

Drones

The fields that have already been applied to  Photography

 (1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Military operations

 (2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The fields that will be more widely applied to Delivery drones Delivery drones will be used to (3) \_\_\_\_\_\_\_\_\_\_ like food and drink.

 Passenger drones Passenger drones will be used to (4) \_\_\_\_\_\_\_\_. They can (5) \_\_\_\_\_\_\_\_\_\_, which will let us (6) \_\_\_\_\_\_\_\_\_\_.

Significance The technology will (7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Possible Answer:

(1) Scientific research

(2) Disaster relief

(3) deliver daily supplies

(4) carry people in crowded cities

(5) save time and greatly decrease road traffic

(6) enter the age of personal flying vehicles

(7) have a huge impact on everyday life

Useful expression

military operations 军事行动

come into wider use 进入更广泛地使用

as the name suggests 正如它的名字所显示的那样

disaster relief 赈灾（行动）

distribution of medicines 药物的派送（投递）

It can be predicted that... 可以预测的是…

before long 不久

on a daily basis 每天

there can be no denying that ... 不容否认的是…

have a huge impact on 对…有巨大影响

Have students fill in the box in part A on page 48

Answer

Today I’ll be speaking to you about drones, ...

... before long many people will be using drones to deliver daily supplies like food and drink.

..., we will be entering the age of personal flying vehicles.

..., we’ll all be interacting with drones on a daily basis.

Step 3 Working out the rules

Answers of working out the rules:

(1) predictions

(2) will be doing

Go through the notes on page 99.

Step 4 Applying the rules

Have students finish B1 on page 49.

1. Celine: Lisa is a smart engineer. I feel proud to see the contributions she (a) \_\_\_\_\_\_\_\_\_\_\_\_ (has made/ will be making) to the company.

 Jack: So do I. I also believe we (b) \_\_\_\_\_\_\_\_\_\_\_ (are seeing/will be seeing) more of them in the next few years.

2. Sam: (a) \_\_\_\_\_\_\_\_\_(Will you be visiting/Have you visited) the science exhibition next month?

 Amy: Yes. You know I’m a technology enthusiast and I (b) \_\_\_\_\_\_\_\_\_\_ (am looking forward to/will be looking forward to) it.

3. Alice: I (a) \_\_\_\_\_\_\_\_\_\_\_\_ (have been giving/will be giving) a talk on artificial intelligence from 2 to 3 p.m. tomorrow. I really feel nervous.

 Simon: Take it easy. You (b) \_\_\_\_\_\_\_\_\_\_\_\_(have been making/will be making) preparations and your audience will be impressed.

Answers:

1. has made will be seeing

2. Will you be visiting am looking forward to

3. will be giving have been making

Have students finish B2 on page 49 and then fill in the flowing table.

For better or for worse, the widespread use of drones will affect our lives in different ways. It is certain that as the technology gets more advanced, more drones (1) \_\_\_\_\_\_\_\_ in the sky. Despite all the wonderful functions that drones perform, they may also cause trouble.

Take air traffic for example. When passenger drones are flying above our cities in large quantities, the sky (2) \_\_\_\_\_\_\_\_\_\_\_\_ more and more crowded. As a result, they are more likely to crash into each other. In addition, drones cause much trouble for airlines as some of them fly near airports, posing a threat to planes that (3) \_\_\_\_\_\_\_\_\_\_\_\_ or landing.

Another risk is that people might take advantage of drones to harm others. For instance, as more people (4) \_\_\_\_\_\_\_\_\_\_\_\_ drones for photography in the future, some might spy on and take photographs of others without their knowledge. Illegal hunters might also use drones to track and kill animals.

Such issues must be addressed. The government needs to make laws to monitor the production and use of drones. For example, in some countries, a remote pilot licence is required in order to fly a drone for business purposes. At the moment, different countries (5) \_\_\_\_\_\_\_\_\_\_\_\_ air traffic control systems that can manage large numbers of drones. Police forces around the world are also looking at ways of stopping drones from flying near airports and stadiums.

Answers:

1. will be flying

2. will be getting

3. are taking off

4. will be using

5. are developing

Possible troubles of drones

Measures taken

Possible answer

Possible troubles of drones  Making the sky more and more crowded

 Threatening planes that are taking off or landing

 May be used to spy on and take phonographs of others without their knowledge

 May be used to track and kill animals by illegal hunters

Measures taken  Requirement of a remote pilot licence for business purposes

 Air traffic control systems

 Stopping drones from flying near airports and stadiums

Useful Expressions in B2

get more advanced 变得更先进

in large quantities 大量的

pose a threat to 对…构成威胁

spy on 偷窥

without one’s knowledge 在某人不知情的情况下

address the issue 处理问题

monitor the production 监测生产

a remote pilot licence 遥控飞行员执照

Have students finish B3 on page 49.

Possible answer

I predict that within 50 years, everyone will be riding in self-flying cars.

I predict that in the future children will be studying at home using virtual reality headsets.

Step 5 Homework

Finish Exercise C on P76.

Unit 4 Living with technology

Extended reading: Virtual Reality

 内容分析：

【What】本板块的语篇是一段访谈脚本，对话双方分别为科技杂志的编辑和虚拟现实领域的专家。专家首先向读者介绍了虚拟现实的定义和原理；接着分别从教育、医学及日常生活等方面探讨了虚拟现实的实际运用领域和发展前景；在客观分析了阻碍虚拟现实技术发展的原因——时间、费用及技术局限后，专家表示自己对虚拟现实的未来还是抱有乐观态度的。

【Why】本板块的语篇通过对虚拟现实这一新兴科技的探讨和分析，旨在帮助学生认识虚拟现实技术的广泛运用，以及它将如何从方方面面改变人们的日常生活，让学生感受科技对生活产生的深远影响，以积极的态度对待虚拟现实技术的快速发展。

【How】本文的语篇类型为访谈脚本，通过科技杂志编辑和虚拟现实专家之间的对话展开全文，一方面，编辑的每个问题都起到开篇布局、承上启下的作用，构成了全文的主要框架，使读者明白语篇的主要目的以及结构特征；编辑轻松的语言风格也使读者能够共享其对虚拟现实技术的赞许和好奇。另一方面，专家对问题的回答则为读者提供了详实的信息，既有专业的说理，又有生动的例证，增强了文章的可信度和可读性。

 教学目标：

By the end of this section, students will be able to:

1. summarize the related information about VR;

2. give examples of the applications of VR;

3. describe the future development of VR.

 教学重难点：

Students will find it a little bit hard for them to:

1. describe how VR works;

2. imagine what the future life will be with VR development.

 教学过程：

Step 1 Lead-in

Watch a short video: What is Virtual Reality?

Talk about with Ss: What words or phrases Ss have got in the video?

Examples: modern concept; VR headset; digitally; images; 3 dimensions; interact; real-world; trainings and simulations, etc.

Step 2 Free Talk

What do you think is the most important value of VR?

I think the most important value of VR is that it can create a virtual world which is indistinguishable from the real one. When used appropriately, this is definitely a game-changing approach for fields like education and entertainment. Although it is hard to tell whether creating a virtual world is a good thing, we can still look forward to the future development of VR.

Step 3 Reading

Listen to the interview and fill in the mind map.

Step 4 Careful Reading

Fill in the table with the information from the interview transcript. (P54)

What VR is

How it works

Applications:

Show Ss some gifs, and ask them in which field is each application.

Key: A. in education

B. in medicine

C. in entertainment

D. in shopping

E. in travelling

Barriers:

Time, cost and technical limitations.

Future:

There are endless possibilities.

Step 5 Discussion

What is the future like with the development of virtual reality?

Enjoy the video if time permits.

Step 6 Language points

1. When you wear a VR headset equipped with sensors and a screen , you are surrounded by three-D images, sounds and other sensory information.(lines 5-7)

sensor n. 传感器，敏感元件，探测设备

sensory adj. 感觉的，感官的

Have a try: translation

1). The ultimate intention is to link up all the cars on the road via WiFi by setting up a WiFi-enabled sensor in a car.

最终的目标是把道路上所有汽车通过无线网络联系起来，在车内安装支持WiFi的传感器。

2). In spite of its importance to our emotional and sensory lives, smell is probably the most undervalued sense in many cultures.

尽管嗅觉对我们的情感和感官生活很重要，但在许多文化中，它可能是最被低估的感官。

2. ... part of your brain believes it is—and acts accordingly. (lines 9)

accordingly adv. 相应地，照着；因此，所以

1). It is a difficult job and they should be paid accordingly. 相应地

2). The cost of materials rose sharply last year. Accordingly, we were forced to increase our prices. 因此

3. Imagine studying the solar system or the human body in a fully immersive environment. (lines 15-16)

immersive adj. 拟真的；沉浸式的；沉浸感的；

 v. \_\_\_\_\_\_\_\_\_\_\_\_\_ 使沉浸(于)，使深陷(于)；使浸没(于液体中)

adj. \_\_\_\_\_\_\_\_\_\_\_\_\_ 浸入的，专注的

Answers: immerse; immersive

more phrases about “immerse”:

immerse oneself in/into sth./doing sth.

be immersed in/into sth./doing sth.

Have a try

1). Take notes and immerse \_\_\_\_\_\_\_\_\_\_ in the words of great thinkers.

2). One drawback is that children become fixated and \_\_\_\_\_\_\_\_ (immerse) in their screen time and become reluctant to exercise, \_\_\_\_\_\_\_\_\_\_ (result) in problems such as obesity.

3). You’d better trying living your customers’ lives and experiencing the \_\_\_\_\_\_\_\_\_\_ (immerse) realities of their media mix.

Answers: yourself; immersed; resulting; immersive

Can you think of more phrases on “专心做...”?

 be immersed in / be indulged in

 be buried in

 be absorbed in

 be involved in

 be engaged in

 be focused on

 be concentrated on

 bend one’s mind/efforts to sth.

 keep one’s mind on sth.

 devote ones attention to sth.

4. By delivering the content in a meaningful way, this new approach to learning manage to engage students’ interest and enhance learning efficiency. (lines 16-18)

engage v.允诺, 签约保证;雇用, 聘请; 参加, 从事;吸引,引起;适应,与……有密切关系;占用

engage的基本意思是“约定”,即凭借契约、誓言或诺言等约束人或事。用于约束别人,即表示“雇”“聘”; 用于约束自己,则表示“许诺”“保证”。这种允诺可信,有约束力,并将履行一段时间,如“订婚”等。引申可表示“占用,吸引,引起”或“使忙于,使从事”等。

Have a try

1). Jack and Anne are engaged (to each other). 订婚

2). I have engaged a room at this hotel. 预定

3). We engaged the services of a famous engineer. 雇佣

4). They never learned skills to engage the attention of the others. 吸引

5). The candidate’s apparent lack of engagement with younger voters. 与...有亲密关系

6). He engaged himself to pay back the money. 承诺,保证

7). I have never engaged in film shooting. 参与，从事

8). He is engaged in a game of tennis. 参与，忙于

5. Treatments of anxiety and drug addiction are other valuable and cost-effective application of VR. (lines 28-29)

addiction n. 沉溺，上瘾

be addicted to sth./doing sth.

cost-effective adj. 有成本效益的，划算的

or: cost- efficient

effective cost 实际成本

6. The entertainment industry is one of the most enthusiastic advocates of VR. (lines 33-34)

advocate v. 提倡，拥护，支持，主张，鼓吹，为…辩护

 n. 提倡者,拥护者；辩护律师,辩护人

1). He is a strong advocate of nuclear power.

2). Many experts advocate \_\_\_\_\_\_\_\_\_ (reward) your child for good behaviour.

3). He is a mountain climber, an inspirational speaker and an advocate for the disabled.

7. It won’t be long before virtual museums and interactive three-D exhibitions become common. (lines 36-37)

1). It won’t be…before…用不了多长时间就会…

2). It will be…before…得过多久才…

不用3个小时他就要到达这里。

It won’t be three hours before he arrives here.

他要3个小时才能到这里。

It will be three hours before he arrives here.

8. It really boils down to three things—time, cost and technical limitations. We will need time to develop and fine-tune... (lines 45-46)

boil down to 归结为，简化为

The issue really boils down to a clash between left and right.

fine-tune v.调试，微调

The government seeks to fine-tune other economic policies.

9. When talking about VR, we should keep in mind its quick rate of evolution. (lines 53-54)

keep in mind 牢记 (bear ... in mind)

evolution n.进化，发展，演变

vt & vi. \_\_\_\_\_\_\_\_ evolve

Many Victorians were shocked by the notion that Man had evolved from lower forms of life.

He has evolved a new theory after many years of research. 总结出

10. 5G technology, with its potential to serve up more stable mobile connectivity at faster speed, ... (lines 54-56)

serve up 提供，端上食物

e.g.:

The entertainers served up a lively show.

We are high up above the clouds now. The flight attendant will offer drinks and snacks soon. Just tell her what you want and she will serve it (up) to you

我们现在在高空云层中了。一会儿乘务员会提供饮料和零食。告诉她你想要什么，她就会给你端过来。

Step 7 Text review

1. When you wear a VR headset \_\_\_\_\_\_(equip) with sensors and a screen, you are surrounded by 3-D images, sounds and other \_\_\_\_\_\_ (sensor) information.

2. ... part of your brain believes it is—and acts \_\_\_\_\_\_\_\_ (according).

3. Imagine studying the solar system or the human body in a fully \_\_\_\_\_\_\_\_\_\_\_ (immerse) environment.

4. By delivering the content in a meaningful way, this new approach \_\_\_\_\_ learning manage to engage students’ interest and enhance learning \_\_\_\_\_\_\_\_\_\_ (efficient).

5. Treatments of anxiety and drug \_\_\_\_\_\_\_\_\_\_ (addict) are other valuable and \_\_\_\_\_\_\_\_\_\_\_ (成本低廉的) application of VR.

6. There must be some barriers \_\_\_\_\_ the development of VR.

7. Just trying to figure out how to do what we want \_\_\_ \_\_\_\_ \_\_\_\_ (就...而言，从...角度) technology will prove challenging in some areas.

8. Frank, you \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (work) at the forefront of developments in virtue reality for many years.

Answers: 1. equipped, sensory 2. accordingly 3. immersive 4. to, efficiency

5. addiction, cost-effective 6. to 7. in terms of 8. have been working

Step 8 Homework