

## 英語上級者への道～Listen and Speak

### 第7回 米国における科学と教育

#### Script

#### ■Dialogue for Introduction

T: Again, time for us to say goodbye to some delightful students.

E: True. Many young people are bidding university life adieu and are set to enter the work force.

T: Indeed they are! I hope they are ready to be active members of our society. They will be asked to make many decisions about the government as well as their private lives.

E: You are talking about the fact that we in Japan live in a democracy! That is a great freedom but it carries equally great responsibility.

T: Yes it does! In a democracy people must be informed. They must have good reasoning skills and be able to discern fact from opinion.

E: I agree completely! It really is strange how unscientifically or unrealistically people can think. Personal opinions and scientific reasoning are different. Some people actually feared that the world would end based on changes predicted in the Mayan calendar.

T: Yes! And the strangest thing is that archeologists and anthropologists stated clearly that the Mayans actually never predicted the end of the world. They predicted a great shift of some type. People just did not think scientifically. Opinions colored the truth.

E: Ah! I think we have scientifically moved into the realm of today's topic!

T: We have! Let's begin, shall we?

#### ■Listen to the passage and answer the two questions that follow

#### Science and Education in the U.S. 【2012-1 Pre1st】

The American Association for the Advancement of Science recently concluded that science education teachers have been failing to teach scientific reasoning, an essential part of science education. The association believes teachers have been putting too much emphasis on simple memorization of facts. The result, it says, is that important skills such as observation and analysis have been neglected.

The association claims the current style of teaching has had a dramatic effect on society. It says the problem is that many people do not understand the difference between personal opinion and scientific reasoning, so they are unable to judge the validity of what they hear or read in the media. As a result, on major issues such as climate change, people are often misled by arguments that have no scientific basis.

#### 【Questions】

Answer the following 2 questions, spending 30 seconds on each.

No.1 Why does the American Association for the Advancement of Science criticize science teachers?

No. 2 What does the association say is true of American society today?

(The choices below are just for reference)

- No.1
- 1 They do not grade students strictly enough.
  - 2 They focus too much on teaching students facts.
  - 3 Their knowledge of science is less than in the past.
  - 4 Their teaching methods have made science unpopular.

- No.2
- 1 The media is covering more science issues.
  - 2 People believe scientifically unsupported arguments.
  - 3 The public is demanding more debate on global warming.
  - 4 People are unfamiliar with school curriculums.

**■Let's study vocabulary and expressions**

Listen to my Japanese and repeat after Edward.

1	～と結論を出す	conclude
2	～を強調する	put emphasis on～
3	分析	analysis
4	なおざりにされている	neglected
5	主張する	claim
6	～に影響を与える	have an effect on～
7	妥当性、正当性	validity
8	科学的推論	scientific reasoning
9	誤った方向に導く	mislead
10	科学的根拠	scientific basis
11	大変な、主要な問題	major issue

**■Listen to the passage and once more answer the two questions that follow**

**Science and Education in the U.S. 【2012-1 Pre1st】**

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**【Questions】**

Answer the following 2 questions, spending 30 seconds on each.

- No.1 Why does the American Association for the Advancement of Science criticize science teachers?
- No.2 What does the association say is true of American society today?

## ■ Repetition and Interpretation Drill

The passage is read with pauses and Japanese interpretation.

- 1) Repeat during each pause. Practice again and again until your repetition becomes perfect.
- 2) Listen and interpret during the pauses. You should finish your interpretation before the model interpretation starts. Practice again and again.
- 3) Shadowing and Interpretation. While listening to English, shadow the part in English. During the pauses, interpret into Japanese.

## Science and Education in the U.S.

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The result, it says, /  
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have been neglected.

The association claims the current style of teaching /  
has had a dramatic effect on society. //

It says the problem is /  
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As a result, on major issues such as climate change, /  
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that have no scientific basis.

## ■ Model Answers

Listen to the models and compare with your answers

T: Now Edward, what are your answers? No.1, 'Why does the American Association for the Advancement of Science criticize science teachers?'

E: They say that science teachers have been over-emphasizing the memorization of facts and failing to teach scientific reasoning.

T: Thank you. How about No.2. 'What does the association say is true of American society today?'

E: They say that many people do not know the difference between fact and opinion, which has led to their inability to make good judgments about information found in the media.

T: Thank you.

## ■ Challenge 1

T: Now, Edward is going to make a statement about the article. Please express your agreement or disagreement with this statement. You should continue to speak for at least 30 seconds.

E: Thanks to the development of ICT, we don't have to carry out chemical experiments in class. We can show students videos of these dangerous experiments. And skills in carrying out experiments are not required in any college entrance exams. Teachers should avoid spending time on experiments that sometimes end in failure. What do you think?

E: Model

Now, let's listen to Tets. He will show you a model. Listen and compare with your answer.

T: I don't think so. To observe experiments first-hand will nurture important abilities. Even if they fail, they can analyze what went wrong with their experiments. Such a process is very important for students to acquire the skills and abilities to analyze and observe the world around them. That is an important benefit of experiments.

## ■ Challenge 2

E: Please listen. Disagree with the following statement for at least one minute. Your statement should include some points introduced in the passage that you have listened to. Ready?

T: I am an English teacher. I think learning vocabulary and expressions and also grammar by rote is very important. Without enough knowledge of grammar, one can not speak, write, read or listen. However, recently, more teachers seem to be placing importance on communicative activities. The result is that students are slow in learning skills needed to get higher scores on college entrance exams.

T: Model. Now let's listen to Edward. He is going to show you a model. Listen and compare with your statement.

E: First, you should be aware of which abilities and skills are being evaluated by questions given on college entrance exams. They assess students' reading and writing abilities. For example, a student who can give a beautiful summary of a passage they have finished reading, will make fewer mistakes in choosing answers from options on some reading comprehension questions. Of course, as you said, some knowledge of grammar is important. But with only that knowledge, they cannot nurture good reading and writing abilities. More thought should be given as to how students learn grammar and vocabulary. In addition to giving them such opportunities, we should also give students opportunities to develop their reading and writing abilities. To summarize, grammar is actually best taught when it relates to something meaningful which is reflected in the sentences you are focusing on.

## ■ Closing Dialogue

E: I really hope all our listeners enjoyed today's lesson!

T: Me too! I also hope they will enjoy reading my new book.

E: Uhhh... You have a new book? What's it about?

T: Well... I've done a great deal of research on the fabled ツチノコ! From many interviews with local people I have proved that they actually exist!

E: Well... I'd like to meet these people. Also, I hope they have good documentation of their sightings of these mythical critters and... Wait a minute! You're kidding me, aren't you!

T: Ho Ho Ho! Yes I was! I must say, you passed my little test with flying colors. You seem to have a good sense of how to reason scientifically!

E: With you, my friend, I must always be careful! And on that note we shall say:

T&E: See you next time!