

# 8.1: Mystery graphs: an introduction to critical thinking

## Teacher's notes

### Background

This activity provides an easy introduction to critical thinking through presenting and supporting ideas. Students simply have to guess what product is represented in constructed sales graphs. This activity can come at any point early in a syllabus, but it is especially relevant as an introduction to writing about trends in graphical data.

### Aims

- to guess what a linear graph represents
- to make suggestions and support them

### Material

Tasksheet with graphs representing the sales of any product that is in any way seasonal (two examples are given here). This could also be displayed as a teacher's visual.

### Procedure

- 1 Elicit from the class what information companies collect about the sales of their products, and how this can be presented in sales reports.
- 2 Present a copy of Graph A and ask groups to suggest a product which fits this sales graph. Groups must be able to give reasons for their suggestions, and other groups may challenge these reasons. Repeat with Graph B.

**Cultural note:** Graphs can be customized for specific cultural contexts reflecting festivals or holidays, for example, or sales of products that vary over 24 hours, or sales in different regions of a country can also be used.

### Follow-up

- Groups can prepare their own mystery graph and challenge other groups to guess the product.
- The key language used for describing sales trends, and for making and challenging suggestions, can be explored.

Classroom material 8.4: *Speculating why*, involves further work on explaining trends.

### KEY

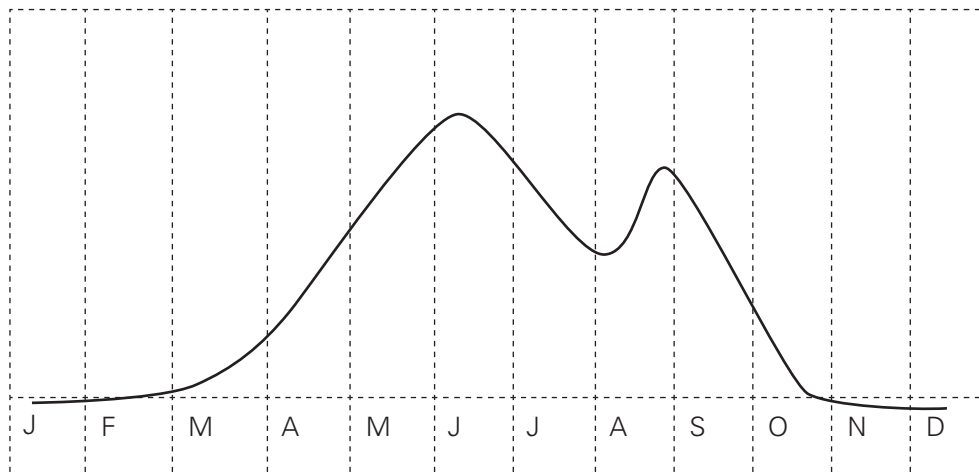
Suggestions:

Graph A ice-cream, beer, sunscreen

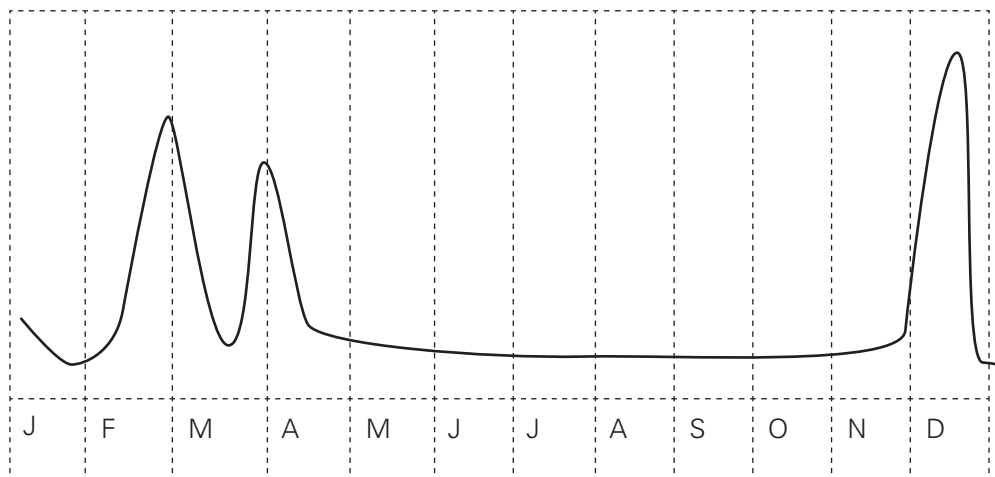
Graph B chocolate (Christmas, Valentine's Day and Easter Eggs) or greetings cards

## Tasksheet: Mystery graphs

Graph A: UK sales of (?)



Graph B: UK sales of (?)



## 8.2: Good and bad examples: relevance in academic explanation

### Teacher's notes

#### Background

There is something irrelevant in each of the, otherwise authentic, text extracts in the task. Students have to think carefully before they can spot the irrelevant example. Then they replace it with a relevant one of their own. The reading level of the material is higher intermediate, but the same task design can be used with simpler reading content. This activity can be used in a lesson which explores a classification, definitions or examples.

#### Aims

- to use critical thinking skills to detect irrelevant examples
- to suggest examples which are relevant

#### Material

A photocopiable tasksheet containing authentic extracts from a first year undergraduate business studies course (there is a Hint section to help weaker students or to use as a first stage key)

#### Procedure

- 1 Ask the class *What are the best ways to learn vocabulary?*  
Write on the board what students say to construct a sentence:  
*Important ways of learning English vocabulary include: reading newspapers, watching films and ...*  
Add an irrelevant example such as: eating chocolate.
- 2 Elicit and explain the terms 'relevant' and 'irrelevant'. Explain that these ideas will be used to complete the task.
- 3 The tasksheet can be completed by individuals, groups or pairs. Hand out the tasksheet. Explain that the sentences come from real academic texts but a mistake has been added to each for them to find. Briefly clarify any key vocabulary that might be unknown, such as cash, but not vocabulary explained in the text, e.g., contingency plans. Offer the Hints box separately, as needed.
- 4 Discuss students' further suggestions in a plenary session.

#### KEY

Irrelevant example ✗	Relevant example ✓
1 a new car ✗	a chocolate bar ✓
2 physics ✗	psychology ✓
3 training programmes ✗	inflation ✓
4 a computer ✗	an email ✓
5 showing changes in output ✗	converting an existing room into a computer suite ✓
6 prices ✗	land ✓

## Follow-up

This task can be customized by collecting definitions from subject disciplines relevant to specific classes. Definitions and examples are usually found in sections of textbooks where a new concept is being introduced.

Students can make definitions with relevant examples from their own subject disciplines. Some may even be able to insert irrelevant examples for others to find.

Key language and sentence patterns for exemplifying can be explored.

## Tasksheet

- a In the sentences below, one of the examples is not relevant. ~~Cross out the irrelevant example.~~

- 1 Cash is particularly useful for small purchases, such as a cup of coffee, a newspaper or a new car.
- 2 Economics is one of a number of social sciences, e.g., politics, physics and sociology, which are concerned with human activity and decision making.
- 3 In order to cope with emergencies, setbacks or uncertain futures, companies develop contingency plans. Contingency plans deal with new situations resulting from changes in factors which the company cannot control. Training programmes, new government safety regulations and technological developments are all factors for which companies draw up contingency plans.
- 4 The message is conveyed through a channel, which could be a note, a memo, a computer, a report, a telephone call or a face-to-face meeting.
- 5 A Gantt chart is a planning and monitoring device showing the project broken down by task in the form of a bar chart, showing the time to be taken for each task. A Gantt chart could be useful, for example, in preparing an exhibition guide for publication, organizing the move to new office premises, or showing changes in output.
- 6 Entrepreneur is the term used to describe an enterprising person who notices opportunities and co-ordinates resources, such as prices, labour, and capital.

- b Go back to the sentences and write in a more suitable example to replace the one you crossed out.

**Teacher's visual**

Hint: Select a relevant example from the box below and write it above the one you have crossed out on the tasksheet.

inflation	email	psychology	chocolate bar
converting an existing room into a computer suite			land

## 8.3: What does the writer think? Identifying writer's stance in an academic text

### Teacher's notes

#### Background

This task uses an extract from an authentic academic text from an EAP course book\* in which the writer's stance can be identified on two levels. The extract is a brief critical review of research, and the writer's attitude or stance is clear from the language used. The material is more difficult than, and should therefore follow, Classroom material 1.2: *Rich Auntie*: an introduction to writer's stance. There are four aims, achieved in sequence. They can all be achieved in a complete lesson or the class can return to the text in subsequent lessons for subsequent aims.

#### Aims

- to identify a writer's stance
- to explore evaluative language associated with stance in an authentic academic text
- to identify the criteria on which a writer bases the stance taken
- to understand how a writer uses stance to structure an argument

#### Material

A short extract from a longer article in a course book\*\* (Tasksheet 1)

A gapped version of this extract as a student self-test (Tasksheet 2)

A table comparing good and bad research as described in the text (Tasksheet 3)

#### Procedure

- 1 Elicit and discuss what the students think is a large class, and what the effects of a large class are on learning.
- 2 Present the two questions on the tasksheet. The text is 144 words. To encourage efficient reading, set an initial time limit of one minute for the students to identify the writer's views on the two questions.
- 3 Allow more time if necessary for students to reread the text and discuss their answers.
- 4 Ask students to find how the writer shows stance. For example, they could highlight the key words and phrases in the text in two different colours, one for positive and one for negative evaluative language.
- 5 Students can test themselves on this language using the gapped text.

\* Slaght, J. (2004) *English for Academic Study: Reading Course Book* Reading: Garnet Education

The extract can be used on its own but is part of a longer text and can be used to scaffold a task in the course book (see page 19, Task 3, of course book), particularly with students who find the whole text difficult.

\*\* Ehrenberg, D. et al. (2001) The influence of class size on academic achievement in Slaght, J. (2004) *English for Academic Study: Reading Source Book* Reading: Garnet Education

- 6 Ask students to read the text closely and list the criteria the writer uses to evaluate research. Good students should then be able to construct a table comparing good and bad research in terms of these criteria, similar to the photocopiable resource table. Weaker students could be given the table, with only the criteria visible, and asked to complete the good and bad columns.
- 7 This text demonstrates the moves argument/counter-argument in a text. Ask students to mark the place where the argument (that many studies show that smaller classes benefit students) ends and the counter-argument (they do not show anything because they are poorly designed) begins.

## KEY

- 1 Does the writer think most of the research on class size reduction is good or bad research?  
Bad
- 2 Does the writer think that research has established that reduction in class size helps students to achieve well?  
No

## Sample exponents

The writer contrasts studies in the field. The language exponents are marked for positive or negative evaluation.

positive:	well-(designed)	independent (evaluation)
	notable exception	distinguished
	one of the greatest ... in ... history	
negative:	unfortunately	poorly (designed)
	too (brief/small/few)	rarely (sufficiently random)

## Criteria for evaluating research

(see table in photocopiable resources)

## Argument structure

The change from argument to counter-argument is at this point:

danger of becoming underachievers. / Unfortunately, most of these studies were poorly

When writers present arguments and counter-arguments, and rebuttal of counter-argument, they tend to end with the view that they agree with, as in this case.

## Follow-up

Students could be asked to write, from memory, a summary of this brief critical review of research on whether small class size benefits students. To help them, they could be allowed to note and use five key words from the text.

Whenever possible, when an authentic text is put before the class, exploit it for evaluative language and evidence of writer's stance.



## Tasksheet 1

- 1 Does the writer think most of the research on class size reduction is good or bad research?  
Good / Bad
- 2 Does the writer think that research has established that reduction in class size helps students to achieve well?  
Yes / No

Basically, demographic shifts make it very difficult to assess the effect of reductions in pupil–teacher ratios. Well-designed experiments attempt to cancel out the influence of those other factors by randomly assigning students and teachers to different class sizes and by including a large sample. Over the past 35 years, hundreds of studies and analyses of existing data have focused on class size. Most found evidence that smaller classes benefit students, particularly at the youngest level, and especially children in danger of becoming underachievers. Unfortunately, most of these studies were poorly designed. Teacher and student assignments were rarely sufficiently random; a number of studies were simply too brief or too small; and too few had independent evaluation. The notable exception was the Tennessee study. The distinguished Harvard University statistician, Frederick Mosteller, has called it ‘one of the greatest experiments in education in United States history’.

144 words (Time for reading: one minute maximum)

## Tasksheet 2

### Self-test

Put one word in each gap.

Basically, demographic shifts make it very difficult to assess the effect of reductions in pupil–teacher ratios. \_\_\_\_-designed experiments attempt to cancel out the influence of those other factors by randomly assigning students and teachers to different class sizes and by including a large sample. Over the past 35 years, hundreds of studies and analyses of existing data have focused on class size. Most found evidence that smaller classes benefit students, particularly at the youngest level, and especially children in danger of becoming underachievers. \_\_\_\_\_, most of these studies were \_\_\_\_\_ designed. Teacher and student assignments were \_\_\_\_\_ sufficiently random; a number of studies were simply \_\_\_\_\_ brief or \_\_\_\_\_ small; and \_\_\_\_\_ few had independent evaluation. The notable \_\_\_\_\_ was the Tennessee study. The \_\_\_\_\_ Harvard University statistician, Frederick Mosteller, has called it ‘one of the \_\_\_\_\_ experiments in education in United States history’.

Predict your score \_\_\_\_/10 and then compare with your actual score.

### Tasksheet 3: Criteria for evaluating research

	good	bad
1 Research design		
a assigning teachers and students to classes	random	not random
b size of studies	large long-term	small brief
2 Evaluation	independent	not independent

## 8.4: It's in the genes: preparing to fit new information into what is already known

### Teacher's notes

#### Background

This activity consists of two pre-reading tasks for two authentic reading texts which relate to the debate about the effects of genetics and environment (the nature–nurture debate).

The first task involves thinking critically about different meanings for key items of vocabulary that will appear in the texts.

The second is a classification task which activates students' background knowledge, and relates this to the new information that will come in the reading texts. It demonstrates the important role of making links between familiar and new ideas, as discussed in Chapter 8: *Critical thinking*.

#### Aims

- to prepare students to read a text by getting them to think about what they already know about the topic
- to analyze meanings critically

#### Material

Tasksheet 1: two pre-reading tasks

Tasksheet 2: two reading tasks (A and B)\*

#### Procedure

- 1 Elicit from the class what they know about genes. It is not necessary to have a longer lead-in as the two tasks themselves are lead-ins to reading tasks.
- 2 Elicit meanings from the class for the terms nature and environment, and record them on the board.  
  
‘Environment’ is likely to be understood only as  
the air, water, and land on Earth and around us  
  
and is very similar to ‘nature’  
everything in the physical world that is not controlled by humans
- 3 Do not introduce any other meanings, unless students present them at this stage. Ask if they can explain any difference between the two words.
- 4 Task 1: Present the three sentences from the two authentic academic texts and ask students, in groups, to sort the highlighted words and phrases into two groups (as instructed on the photocopiable tasksheet for Task 1).

\*Text A is from Atkinson et al. (1996) *Hilgard's Introduction to Psychology*, 12<sup>th</sup> edn. in Slaght, J. (2004) *English for Academic Study: Reading Source Book* Garnet Education: Reading.

Text B is adapted from a second year undergraduate text on *Marketing* entitled *Consumption and Identity*, Heriot-Watt University Management Programme.

- 5 During class feedback, ask students to compare the meanings of nature and environment in these sentences with those they knew before. It is important for students to realize that many words in academic English have more than one meaning.
- 6 Task 2: Ask students to classify the features in the box according to whether they result from heredity, environment or both (as instructed on the photocopiable tasksheet for Task 2).

## KEY

### Task 1

#### List 1

‘nature’

heredity

inheritance

genetic difference

genes

#### List 2

‘nurture’

environment

upbringing

environment

### Task 2

eye colour H      intelligence B\*      ability to swim E  
 first language / mother tongue E      height B      blood group H  
 ability to win an Olympic swimming medal B

\* This is a controversial area of discussion, but most of the disagreement is about (a) what is meant by intelligence and (b) what proportion is genetic and what proportion is environmental.

## Follow-up

- Reading comprehension based on the authentic texts, e.g., jigsaw reading
- Exploitation of the texts for academic language (cause and effect, argument and research)
- An exploration of how the *Jim Twins* text is actually used on a course can be found in Case study B, *The Jim Twins: same topic, different approach*, in Chapter 3: *Course design*.

## Tasksheet 1: Pre-reading

### Task 1

Study the highlighted words and phrases in the following three sentences, and put them into two lists according to their meaning.

- i The question of whether **heredity** ('**nature**') or **environment** ('**nurture**') is more important in determining the course of human development has been debated through the centuries.
- ii By studying separated twins, scientists can remove the influence of a common **upbringing** in a family in studying the effects of **inheritance** and the **environment** with respect to personality formation.
- iii In twins that are **genetically identical**, one would expect that any differences in behaviour would be due to the **environment**.

List 1

List 2

### Task 2

In the box below are several variable characteristics of human beings. Put them into three groups, according to whether they are determined by our heredity (H), by our background, education and environment (E), or are influenced by both genes and environment (B). Write the appropriate letters in the spaces provided.

eye colour \_\_\_\_\_ intelligence \_\_\_\_\_ ability to swim \_\_\_\_\_  
 first language / mother tongue \_\_\_\_\_ height \_\_\_\_\_ blood group \_\_\_\_\_  
 ability to win an Olympic swimming medal \_\_\_\_\_

## Tasksheet 2: Reading

### A Interaction between nature and nurture\*

The question of whether heredity ('nature') or environment ('nurture') is more important in determining the course of human development has been debated through the centuries. For example, the seventeenth-century British philosopher John Locke rejected the prevailing notion of his day that babies were miniature adults who arrived in the world fully equipped with abilities and knowledge and who simply had to grow in order for these inherited characteristics to appear. On the contrary, Locke believed that the mind of a newborn infant is a 'blank slate' (tabula rasa). What gets written on this slate is what the baby experiences – what he or she sees, hears, tastes, smells and feels. According to Locke, all knowledge comes to us through our senses. It is provided by experience; no knowledge or ideas are built in ...

Today most psychologists agree not only that both nature and nurture play important roles but that they interact continuously to guide development ...

## B The 'Jim Twins'

Social scientists are especially keen to study monozygotic (identical) twins which have been separated from birth. As such twins are genetically identical, one would expect that any differences in behaviour would be due to the environment. By studying separated twins, scientists can remove the influence of a common upbringing in a family in studying the effects of inheritance and the environment with respect to personality formation.

The 'Jim Twins', Jim Lewis and Jim Springer were twins who had been adopted from birth by separate families. They first met in 1979 after they had been separated for thirty-nine years. Apart from having the same first names, they had many other things in common, including their wives' first names and a number of vocational and consumption preferences. They each drove Chevrolet cars, chain-smoked, had a preference for beer and had vacationed on the same beach on the Florida Gulf Coast.

The study of the 'Jim Twins' seems to indicate that inherited characteristics play a key role in determining identity and consumption behaviour. However, one must be cautious in interpreting such findings. For example, just as the fact that both boys were called 'Jim' is not an effect of heredity, so it is not at all unusual for middle-aged men from the USA to drive Chevrolets and drink beer.

Fascinating coincidences about their lives do not link in any conclusive way to any contemporary theories about inheritance. In other research, twins have adopted quite different behaviours, for example, one twin in the same study grew up to be a proficient pianist in a non-musical family while her sister who was adopted by a piano teacher did not take to the instrument.

(278 words)



## 8.5: Seeing beyond the text: assumptions and implications

### Teacher's notes

#### Background

These activities require students to look beyond the literal meaning of a text to identify hidden assumptions about meaning in a claim, implications from information presented in a text, and an underlying assumption in an argument.

#### Aims

- to recognize that the writer and reader can have different understandings of meaning in a text
- to extend information by using what students know about the world
- to identify unstated information by using what students know about the world

#### Material

Three tasksheets for visual presentation or handouts  
One set of suggestions (Teacher's visual)

#### Procedure

##### Tasksheet 1: Doctors should be honest

- 1 Elicit from the class some statements that everyone can agree with.
- 2 Present Tasksheet 1: *Doctors should be honest*. Ask whether the whole class agrees with this statement.
- 3 Ask students to work in groups to complete the sentence for b.
- 4 Elicit a list of possible meanings of *honest*.
- 5 Use the Teacher's visual: *Doctors should be honest* suggestions to reveal and explore possible meanings of *honest*.
- 6 Ask students to discuss in groups which interpretations of the statement they agree with. What do they think the writer meant? Point out the ambiguity in the sentence (for example, it could mean that doctors never tell lies or that they never steal money from their patients). An academic writer needs to say what they mean, i.e., to specify meaning unambiguously.

**Cultural awareness note:** Prepare for any issues around the use of this example, e.g., 'government officials'.

##### Tasksheet 2: The international effects of global climate change

- 1 Start a discussion on the effects of climate change – what effects are evident now; what are other likely effects in the future? They are unlikely to know the possibility outlined in the text.
- 2 Distribute Tasksheet 2. Students discuss the question in groups.
- 3 Offer the key as appropriate.

### Tasksheet 3: Customs unions\*

- 1 Elicit the possible meanings of a customs union – do not allow dictionaries at this stage – and help the class by shaping the response with hints and clues. For example, it's a union between countries.
- 2 Distribute Tasksheet 3. Allow time for students to read the text. The text is difficult in terms of language, but the task is achievable without fully understanding the text – in fact, the task helps the student to see the main point of the text.
- 3 Direct students to the key sentence, which is highlighted.
- 4 Students should discuss the questions in pairs.

## KEY

### Tasksheet 1: Doctors should be honest

Suggestions (also available as visual)

The statement *Doctors should be honest* might mean any or all of the following:

- 1 Doctors should not take bribes.
- 2 Doctors should speak out against bad health policies from government.
- 3 Doctors should tell patients everything, even when the news is very bad.
- 4 Doctors should tell government officials about the health problems of their patients.
- 5 Doctors should tell insurance companies about the health problems of their patients.

Do the students agree with all or only some of these statements?

### Tasksheet 2: The international effects of global climate change

Suggestions: fishing / shipping; there may be others

### Tasksheet 3: Customs unions

- 1 up    2 beneficial

## Follow-up

- Always take the opportunity to identify the key language in the texts that has helped students to achieve the tasks. For example, Text 3 is rich in cause–effect and evaluative language.
- Keep looking for assumptions and implications in reading texts when planning lessons as these are rarely exploited in course books.

\*Adapted from a first year undergraduate text on International Economics entitled *International Economic Integration*, Heriot- Watt University Management Programme

## Tasksheet 1

### Doctors should be honest

- a Doctors should be honest.

Do you agree with this statement?

- b Complete the sentence below in as many different ways as you can.

A doctor who is honest should ...

**Teacher's visual****Doctors should be honest****Suggestions**

The statement *Doctors should be honest* might mean any or all of the following:

- 1 Doctors should not take bribes.
- 2 Doctors should speak out against bad health policies from government.
- 3 Doctors should tell patients everything, even when the news is very bad.
- 4 Doctors should tell government officials about the health problems of their patients.
- 5 Doctors should tell insurance companies about the health problems of their patients.

Do you agree with all or only some of these?

## Tasksheet 2

### The international effects of global climate change

While the USA is suffering hurricanes, some South Pacific Islands are being claimed by rising sea levels and Beijing has sandstorms, many people in Britain are enjoying the effects of global warming. They have warmer weather in winter, longer summers, and the chance to grow exotic fruits such as grapes. However, scientists are warning that conditions in the UK could, in fact, get much colder.

The reason for this gloomy forecast is that the expected climate change is likely to alter the world's sea currents in ways that are at present difficult to foresee. The relatively warm sea currents that surround the UK, keeping the worst of the continental winter at bay, could swing away, leaving the citizens of Edinburgh to face winters resembling those of Moscow, with which Edinburgh shares its latitude.

### Question

The writer mentions that the world's sea currents could alter, but does not mention any international effects of this. Which industry or industries could be directly affected by this change?

## Tasksheet 3

### Customs unions

What could also be argued is that the most beneficial aspect of a customs union is that, with the enlargement of the market, there is an overall increase in the opportunities in the market, which acts as a stimulus to the pace of change. It is a one-off injection into the economy, which has long term if not permanent repercussions. **It can have significant effects on the rate of investment and on the level of research and development.** Even if the short run costs outweigh the benefits, i.e., trade diversion is greater than trade creation, the long term benefits, some of which are not directly measurable, more than compensate the short run costs.

### Questions

- 1 Does the writer assume that the rate of investment and the level of research and development will go up or **down**? \_\_\_\_\_
- 2 Is the main point of the text that customs unions are **beneficial** or **harmful**? \_\_\_\_\_

## 8.6: What's wrong with these claims? Faulty reasoning and counter argument

### Teacher's notes

#### Background

This group or class activity generally causes amusement at first. It presents some easily identified faulty reasoning, but students find it very difficult to articulate what is wrong with the claims so that they can counter-argue. The task was actually devised as scaffolding for an essay: 'Statistics should be interpreted with caution as they can be misleading: they can both lie and tell the truth; discuss'.\* But it does not need to be linked to an essay.

#### Aims

- to identify and argue against faulty reasoning

#### Material

A visual of six claims which exemplify faulty reasoning  
A visual of model answers

#### Procedure

- 1 Present the six statements and wait for a reaction – usually laughter.
- 2 Ask the students in groups to work out a response to show how the claims are based on faulty reasoning. Assign claims to groups according to the time available.
- 3 Groups can compare written answers with each other and with the model answers – written by an EAP class in the UK.

#### Follow-up

- Ask students to identify useful language for counter arguing from the model texts.
- Ask students to identify argument moves, such as claim and counter-argument, in authentic academic texts. These are often found in textbooks where historical discussions are outlined,\*\* and in the discussion section of research reports.

\*Pallant, A (2004) *English for Academic Study: Writing*. Course book, page 32. Garnet Education: Reading

\*\*For example, see Classroom materials 8.5, Text A.

**Teacher's visual 1****What's wrong with these claims?**

- 1 Bed is the most dangerous place in the home: over 90% of people die in bed.
- 2 Air travel was much safer in the 1920s than it is today. Many more people are killed every year in plane crashes now than in the early days of air travel.
- 3 Bread should be banned: more than 90 per cent of violent crimes in the UK are committed within 24 hours of eating bread.
- 4 Prison doesn't stop crime: 35% of prisoners commit another crime on release.
- 5 Crimes are related to the number of police in an area: the more police there are, the more crimes there are.
- 6 Smoking increases your chance of dying.



## Teacher's visual 2

### Model answers

These are authentic suggested answers from an undergraduate class.

- 1 This argument ignores the underlying assumption that all people die. Just before people die, they get ill and usually go to bed, so it follows that most people die in bed. However, the bed could also be in a hospital and not at home.

The argument also compares things which are not similar and therefore should not be compared: dying from dangerous accidents or murder, and dying naturally.

- 2 The argument is based on an incorrect use of statistics/ numbers. Many more people fly now than in the 1920s. In order to compare these two time periods, we need to use proportion/percentages to express the data. We will then see that a very small proportion of people die in plane crashes now compared to the 1920s.
- 3 The problem with this argument has to do with correlation, i.e., if two things happen together they are linked together. In this case, the two events are not related. Eating bread is very common so it is likely that most of the population will have done this in a 24-hour period. However, most of the population do not commit violent crimes.
- 4 This statement is too general. Prison doesn't stop all crime but it does stop some crime: 65% of people do not commit a crime when they are released and the 35% who do re-offend cannot do this while they are in prison.
- 5 This argument confuses cause and effect. If there are large numbers of crimes (cause), more police will be drafted in to solve them (effect).
- 6 This argument ignores the same underlying assumption as 1, i.e., that everyone dies. Your chance of dying is 100%. But smoking increases your chance of dying early/young.

## 8.7: Critical analysis: evaluating dictionaries

### Teacher's notes

#### Background

Critical analysis or critical evaluation is a very common type of assignment for undergraduate students in English-medium university courses. This activity is a simulated critical analysis based on evaluating a familiar classroom resource. It is best run over two lessons. First, the students devise criteria to evaluate dictionaries, and then these are applied to the range of dictionaries available to them. It can be used with most groups at most levels as the criteria that emerge can vary in sophistication.

#### Aims

- to work through the necessary steps for critical analysis

#### Material

Teacher's visual for the lead-in

A suitable range and number of dictionaries that are likely to be used by students in the class – whether good or bad

#### Procedure

- 1 Ask students what kind of assignments they think they will have to do at university (if they are in-sessional, they can give an accurate list). Introduce the idea of a critical analysis assignment through the student's comment on the teacher's visual. Explain that they are going to do one too. However, the topic is not farm management – it is dictionaries.
- 2 Elicit or ask students to brainstorm what they think they want from a dictionary. These will be the criteria for evaluation. Allow all reasonable suggestions.
- 3 Ask students to organize the suggestions into groups and subgroups. For example, one class who did this had a category *Convenience*. Another useful criterion is a test to see if adequate information is given for one or two key academic words that students can choose. Elicit whether any of the criteria are more important than others.
- 4 Jointly with the class, collate the criteria, organized under suitable category headings with the most important ones first, into a list for the whole class.
- 5 Next lesson, divide the class into groups of three or four, and let each choose one dictionary to evaluate according to the criteria from the previous lesson.
- 6 Bring the groups together for a report back, and see if you can get a consensus about which dictionaries are most useful and why.  
**Cultural note:** Allow students to be co-researchers with you in this activity; too much direction as to what is good or bad is counter-productive.

#### Follow-up

- Ask groups or individuals to write up their critical analysis, using a model format from a real student text. (Be careful as these vary from department to department.)
- Get students to suggest other subjects for this type of critical analysis.

**Teacher's visual**

Critical evaluation means looking for good points and bad points weighing them up that sort of thing. If you critically analyze something you weigh up its good and bad points and maybe compare it to other similar things or methods. Recently I had to do a critical analysis of a conservation management plan format. I had to say how easily this format could be applied to a local farm.

*Final year native English-speaking student: BA Environmental Conservation*

Discuss how you would evaluate the dictionaries that you regularly use. What criteria would you use?

## 8.8: EAP pills: setting up and testing a hypothesis

### Teacher's notes

#### Background

This activity simulates a research project. Can vocabulary learning be improved by taking EAP pills? Students work together to design a test for a manufacturer's claim. This task is actually the most abstract and advanced of the thinking tasks – the basis of all research – but is simple in terms of language and information load. Students usually complete it in 15 minutes or so. Older students are generally much quicker than younger ones because they are already familiar with the concepts and only have to re-present them in English. The outcome is an outline experimental design. It is a fun way to introduce the topic of research or to start preparing students for a small research project.

#### Aims

- to understand the concepts that underpin controlled experiments in science and social science
- to clarify the language needed to discuss these concepts

#### Material

A pack of EAP pills, i.e., any tablets or sweets, e.g., throat sweets

Teacher's visual of manufacturer's advertising claim

Tasksheet showing suggested answer

#### Procedure

- 1 Elicit a general discussion of what helps you to study; move the discussion to vocabulary. Do not pre-teach any key vocabulary, but let the students find it themselves, or supply it to groups who are struggling.
- 2 At a suitable point, show the class your pack of EAP pills. Explain that the manufacturer claims they help to boost academic vocabulary if taken once a day for two weeks. Present the visual showing the manufacturer's claim.
- 3 Ask the students in groups to discuss how they would test the claim, and ask them to write their research design on a visual for class discussion. Alternatively, students could compare their texts with the suggested key to identify any points they have missed.

Younger students sometimes miss the point and give shallow answers such as 'analyze the pills'. Probe such students with questions to lead them towards a better understanding of what is involved in testing a hypothesis.

#### Follow-up

- Study the suggested answer for key language for research.
- Read about classic experiments in the subject disciplines relevant to the students, for example, all Management students read about the Hawthorne experiments. Ask students to find out at least one classic experiment in their field of study, and be prepared to describe it in the next lesson. If they have not yet begun their university studies, they can look in introductory text books on first-year reading lists.

**Teacher's visual**

**Boost your memory with  
EAP pills**

**Take one of these every day**

**In just three weeks you'll notice the  
difference**

**Your EAP vocabulary will be  
improved 100%**

Discuss how you would find out if this claim is true.

## Tasksheet: EAP pills

### Suggested answer

#### You need:

- enough EAP pills for 15 people for the length of time specified by the manufacturer
- two reliable and valid EAP vocabulary tests, A and B

#### Procedure

- 1 Give all 30 volunteers Test A and divide them into two groups of 15, matched for vocabulary test scores (you can do this by making sure each group has the same average score).
- 2 Give one group, E (experimental), the pills to take as instructed by the pharmaceutical company and the other, C (control), no pills (or 'placebos' – check in your dictionary).
- 3 After the specified length of time, give Test B. Use statistics to find out if there is a significant difference between the two groups.

Another possibility: instead of matching the two groups, assign people randomly to E and C. Then measure their improvement between Tests A and B, and check whether any difference between average improvement in E and average improvement in C is statistically significant.

## 8.9: Should teachers do your washing?

### Controversial views in the classroom

#### Teacher's notes

##### Background

In this activity, students simulate the moves in academic argument. They learn to anticipate counter-arguments in order to rebut them.

##### Aims

- to understand and produce some simple moves in an argument

##### Material

Tasksheet showing controversial views

##### Procedure

- 1 Elicit from the whole class what they think could be done to help them study more effectively. What do they think you could do to help – wash their clothes? Use their reactions to illustrate the term *controversial*.
- 2 Divide the class into groups of five to seven. Each group selects a controversial view from the list.

Half the group works together to find support for the view (the Fors), and the other half works on support for a counter-argument against the view (the Againsts).

Go round suggesting ideas if necessary. The two halves of the group should not confer.

- 3 At a suitable point, the Fors present an argument for the view and the Againsts have to counter with a relevant counter-argument. The Fors can then challenge the counter-argument or go on to a different argument in support of the view. This can be done with groups working simultaneously, or one by one in front of the class. However, it should be as spontaneous as possible.
- 4 Monitor the exchanges for key language exponents.

**Cultural note:** How successful these particular items are at stimulating discussion depends on the relationship between you and the students. You should feel free to change any or all of the items to suit your situation.

##### KEY

1 is done here as an example.

**For:** If you don't understand and you can't answer the teacher's questions, you can hide behind the others. [argument]

**Against:** But working in groups lets you see lots of different ideas from different people, so you learn more. [counter-argument]

**For:** But some of the ideas are no good. [rebuttal]

**Against:** But working in groups helps us to learn how to choose the good ideas for ourselves. [counter-argument]

## Follow-up

The whole group could review and write down the best exchanges on a visual. You can then get the whole class to help you to shape the exchanges into the moves in an argument text.

## Model

- 1 Working in groups is bad because it encourages weak students to let the others do the work.

### For

Working in groups is bad. It encourages weak students to let the others do the work because if you don't understand and you can't answer the teacher's questions, you can hide behind the others. Although working in groups lets you see lots of different ideas from different people, some of the ideas are no good.

### Against

Although working in groups can encourage weak students to let the others do the work, this method of working lets you see lots of different ideas from different people, so you learn more. It is true that some of the ideas are no good, but working in groups helps us to learn how to choose the good ideas for ourselves.



## Tasksheet: Controversial views

Your group should select a controversial view.

Then half the group should give arguments in support of each of these claims (the Fors), and the other group should give arguments against each of these claims (the Againsts)

- 1 Working in groups is bad because it encourages weak students to let the others do the work.
- 2 The internet provides students with valuable information for their degree studies.
- 3 Students need to study away from their home country to really understand what international means.
- 4 Students would not waste their time playing computer games if they were not allowed to have computers in their rooms.
- 5 Students would have more time to study if the teachers did their washing for them.
- 6 It is an important part of a university teacher's responsibility to report regularly on each student's progress to the parents.
- 7 Students who go home at weekends do not spend enough time on their studies. They should only go home for national holidays.
- 8 It would help students to improve their speaking skills if teachers had their lunch with them.

## 8.10: Smoking twins: Exploiting a text for critical thinking tasks

### Teacher's notes

#### Background

These materials are a suggested answer to Task 12 in Chapter 8: *Critical thinking*.

#### Aims

- to exploit a text for critical thinking tasks

#### Material

Photocopiable tasksheet 1: *Pre-reading task*

Photocopiable tasksheet 2: *Reading*

Photocopiable tasksheet 3: *Critical thinking tasks*

Photocopiable key

#### Procedure

- 1 If you know the class well, ask the smokers in the class to confess. Is there a gender/ age difference in smokers in their countries? Give the pre-reading Task 1b from Classroom materials 8.5, *It's in the genes*. This asks students to reflect on and organize their own relevant knowledge.
  - Tasksheet 1, a pre-reading task to activate knowledge in relation to the text.
- 2 Elicit what students know about the effects of smoking. They are unlikely to know the effect examined in the text. Distribute the text *Smoking Twins*, and allow one minute for them to find the effect discussed in the research.
- 3 Give out Tasksheet 3 for students to complete individually or in pairs or groups. Ask them to read the text closely to complete:
  - Task 1, which asks students to give a reason in their own words
  - Task 2, to explain an unstated implication or assumption in the text
  - Task 3, to think of other possible reasons for the results
  - Task 4, to identify a problem with the evidence or source of information
- 4 The class should compare their ideas before studying the key and clarifying the suggested answers.

## KEY

### Suggested answers

#### Tasksheet 1

eye colour H    intelligence B\*    first language / mother tongue E  
height B    blood group H    ability to swim E  
ability to win an Olympic swimming medal B

\*This is a controversial area of discussion, but most of the disagreement is about (a) what is meant by intelligence and (b) what proportion is genetic and what proportion is environmental.

#### Tasksheet 3

##### Task 1

Identical twins have exactly the same genes. This means that any differences between them, for example, skin thickness, are caused by environmental factors such as lifestyle, and not by differences inherited from parents. Identical twins allow the researcher to control for genetic difference.

##### Task 2

If we assume that females are concerned not to look older than they are, they will be more likely to give up smoking if they know that smoking makes them look older. This could be the basis for an advertising campaign.

The writer also implies/assumes that women are more vain than men.

##### Task 3

There are many possibilities including: diet, amount of exercise, alcohol consumption, type of job, urban or rural location, whether married or single.

##### Task 4

It is not clear in the text whether smoking was the only difference between the twins. For example, perhaps smokers take less exercise because they get out of breath quickly, and it is lack of exercise that makes their skin look older. It is possible that non-smokers are more health-conscious and eat healthier food than smokers. However, the researchers did have an explanation that directly linked smoking to skin condition in terms of the blood supply to the skin, and this strengthens their conclusion.

## Tasksheet 1: Pre-reading task

In the box below are several variable characteristics of human beings. Put them into three groups, according to whether they are determined by our heredity (H), by our background, education and environment (E), or are influenced by both genes and environment (B). Write the appropriate letters in the spaces provided.

eye colour _____	intelligence _____	ability to swim _____
first language / mother tongue _____	height _____	blood group _____
ability to win an Olympic swimming medal _____		

## Tasksheet 2: Reading

### Smoking twins

Doctors at a teaching hospital in London in the early 90s set out to investigate the health effects of different lifestyles, such as choosing to smoke or not to smoke, on skin, bones and joints. The best way to control for the effects of genetic difference is to use identical twins, because in this type the twins have exactly the same genes. The researchers gathered data from 25 pairs of identical twins who had agreed to take part in the survey. In each pair of twins, there was one smoker and one non-smoker.

The twins underwent skin thickness tests using ultrasound. In addition, photographs were taken showing microscopic details of the skin surface. In the results, the smokers had considerably thinner, drier and less supple or elastic skin than their non-smoking twins. The results demonstrated conclusively that smoking has an aging effect on the skin. The experts who carried out the research believe that chemicals released in the body when a person smokes break down skin tissue. The blood supply to the skin is also known to be affected by smoking and the reduced blood supply leads to the destruction of tissue in the top layer of skin.

The effect of these changes on the appearance of the skin can be a noticeably more aged look with more obvious wrinkles. In the UK, where male smoking is in decline but female smoking is still increasing, this new finding could have implications for future government anti-smoking campaigns.

(250 words)

## Tasksheet 3: Critical thinking tasks

### Task 2

#### Giving reasons

Explain in one or two sentences why identical twins were used in this survey.

### Task 3

#### Explaining implications

What do you think are the implications mentioned in the last paragraph, reprinted here?  
Write one or two sentences.

The effect of these changes on the appearance of the skin can be a noticeably more aged look with more obvious wrinkles. In the UK, where male smoking is in decline but female smoking is still increasing, this new finding could have implications for future government anti-smoking campaigns.

### Task 4

#### Presenting your own/alternative ideas

Suggest factors other than smoking that could have contributed to the results.

### Task 5

#### Evaluating

In the text you have read, there is a problem in drawing the conclusion about the effect of smoking from the evidence found. Can you say what it is?