UNIT 1 Writing evaluative reports

In this unit you will practise writing reports and using self-evaluation skills. You will learn how to use an appropriate layout, tone and style for an academic audience. In Part 1, you will consider reports on science investigations, including writing about the strong and weak points of a science project. In Part 2, you will look at writing non-science-based reports.

PART 1 WRITING SCIENCE REPORTS

Activity 1 Understanding a science report

When a road accident happens, the police take statements from eyewitnesses about what they have seen. How important is it that questions about an accident are asked in a neutral way? Do you think it is possible for eyewitnesses to be influenced if the language used to question them is emotive (arouses their emotions)?

1 Alex has been investigating the influence of language on memory. The report below outlines his investigation and includes an evaluation of his research. Before you read it, complete the vocabulary matching exercise.

1	evaluate	a	what was found out
2	hypothesis/es	b	a small part of something that is representative of the whole
3	null hypothesis/es	c	to judge the value or worth of something
4	procedure	d	explanation for something that can be proved to be true
5	findings	e	methods used to carry out an investigation
6	closed questions	f	information that may include facts and measurements
7	data	g	questions that require a yes or no answer
8	outcomes	h	explanation for something that can be proved to be not true
9	sample	i	words which affect people's emotions
10	emotive language	j	final results

2 Now read Alex's report. Notice the headings, which follow the format often used in scientific reports.

Evaluative Report on the Influence of Language on Memory

1 Aim

The aim of the study was to investigate the influence of language on memory.

2 Hypotheses

My hypothesis was that emotive words such as 'crashed' or 'smashed' will make eyewitnesses of a car accident give higher speed estimates of the vehicles involved.

Null Hypothesis
My null hypothesis was that language has no effect on memory.

3 Procedure
Thirty participants were selected for the investigation which was carried out on 15 January. The participants were aged 20–60 and came from a cross section of society.
Participants were shown six film clips of traffic accidents. Each film lasted five seconds. Then participants estimated the speed of the vehicles, using questionnaires.

4 Findings
It was found that the questionnaires which contained emotive language such as 'crashed' or 'smashed' resulted in higher speed estimates. When participants were given questions which used neutral words to describe the accidents, such as 'impact' or 'collision', the participants gave lower speed estimates.

5 Conclusion
My conclusions were that language has an effect on recall because emotive words such as 'crashed' or 'smashed' made eyewitnesses of a car accident give increased speed estimates. (See appendix 1 for data breakdown.)

6 Evaluation of Project
A Strengths
The strengths of the investigation were that:
- The wording of the questionnaires was effective and differentiated well between emotive and non-emotive language.
- I analysed the data accurately and the results were reliable.

B Weaknesses
The weaknesses of the investigation were that:
- For ethical and practical reasons, participants were not eyewitnesses to actual road accidents, but if participants had seen real accidents they might have given different answers. Therefore my results could not be generalised.
- An additional weakness was that the sample was not big enough.

Future Plans
If I do a similar study in future, I will use a bigger sample and observe the effect of language in real-life situations.

Activity 2 Vocabulary check

Find words or expressions in Alex's report which mean the same as the words or expressions in this list.

- the people who take part in an activity
- part of a film
- people who see an event happen in real life
- related to a larger group
- moral
- made a clear difference
- people of different types and backgrounds

Activity 3 Comprehension

Answer these questions.

1 What did Alex want to find out from his investigation?

2 What methods did he use to check his hypothesis?
3 Was his hypothesis proven or not?
4 What were the strong and weak points of his research?

Activity 4 Assessing a report

1 Think about these questions.

- How far do you think people are influenced by emotive language? Consider how doctors or dentists use language to get cooperation from patients.
- Alex identified weak points but also strengths. How easy is it to be objective about your work in this way?
- What are the benefits of self-evaluating your own project work?
- Some people feel uncomfortable evaluating their own work. Is this because they feel any weaknesses are an admission of personal incompetence? Or do they feel that recognising a strength is inappropriate self-praise?

2 Look at Alex's report again and answer Yes or No to these points.

The report:

- has a title
- has a clear aim
- is clearly organised with headings and numbered points
- only contains relevant information
- has a reasonably formal style
- includes suitable vocabulary
- has correct spelling, punctuation and grammar.

Activity 5 Active or passive constructions

Traditionally, science-based investigations were always written about using the passive.
For example:

Three grams of sodium carbonate ***were weighed*** *using a chemical balance.*
or
15 participants ***were identified*** *for the control group.*

Over time, however, this strict rule has been relaxed, and you may see an active voice being used.
For example:

I weighed *three grams of sodium carbonate using a chemical balance.*
or
We identified *15 participants for the control group.*

It is important to know how to use both constructions, so you can make your own choice.

The passive is formed with the object of the sentence, plus the verb *to be* in the correct tense and the past participle of the verb required.

1 Put these sentences into the passive. Be careful with irregular verbs. The first one has been done for you.

a I used exact procedures.
Exact procedures were used.
b I took precise measurements.
Precise _____.

c I tested small groups.
d I told the participants about the aims of the investigation.
e I obtained valid results.
f I set up the apparatus correctly.
g I took the participants into a separate room.
h I drew conclusions from the data.
i I generalised the results.
j I checked the validity of the observations.

2 Look at Alex's report again. Some of his constructions are in the active voice e.g. *The participants gave lower speed estimates*. Some are in the passive e.g. *Participants were shown six film clips of traffic accidents*. As he is mainly describing a finished activity, the tenses are normally in the past. Use coloured pens, pencils or highlighters to identify passive constructions in his report.

Activity 6 Self-evaluation skills

When we evaluate our own work, we often say what we will do better in the future. For example:

My sample was not big enough. If I do this investigation again, I will use a bigger sample.

Krysia has carried out some research into language development in young children. The research involved observing children playing in a park.

1 Here are the notes she made for her self-evaluation. Write out the notes in full sentences.

Strengths
- Park – right environment for obs. Future – use similar playground environment – children feel at ease.

Weaknesses
- Individual interviews – too time consuming! One hour per child! Similar investigation – interview children in pairs.

2 Here are some notes for self-evaluations. Write out the notes in full sentences.

- Experiment – Stopwatch broke down! Spare equipment available next time!
- Temperature of liquids – measured at 30 minute intervals. Too infrequent. If repeat, measure temp. every ten minutes!
- Sodium chlorate ran out halfway through. Next time check stock levels in advance.
- Observers using different methods. No reliable conclusions. Future – all observers trained in same methods.

3 Now think about your own project work. Write a few sentences identifying the weak points and say what you could do to improve in future.

Activity 7 Academic style

Highly emotive language or idioms are avoided in academic style. Neutral language is usually preferred.

Circle the most appropriate word or expression for an academic report in each group below.

1 smash up, pile-up, traffic accident, carnage on the roads
2 mugger's paradise, crime-ridden area, high-crime area, trouble hot-spot
3 adverse circumstances, ups and downs of life, tough time, sea of troubles
4 risky, dodgy, chancy, a gamble
5 villain, criminal, crook, mugger, cheat
6 inform, drop a hint, tip off, word in the ear
7 enemy, foe, no friend, backstabber
8 a tall story, a web of deceit, an unbelievable account, a load of rot
9 gang, mob, pack, crowd, throng
10 talking, gossiping, chattering, gabbling

Activity 8 Reorganising a report – working styles

Do you think men and women have similar working styles? For example, are men happier to work alone and women happier to work with others?

Monika carried out an investigation into male and female behaviour in the library.

1 These headings and sub-headings provide a suitable format for her report. Number them in the correct order for the report.

Evaluation
Strengths
Weaknesses
Conclusions
Hypothesis
Findings
Aim
Procedure

2 On page 6 are some sentences from Monika's report, but they are jumbled up. First decide which heading each sentence belongs to. Then, decide on the order of the sentences.

The first sentence has been done for you:

My objective was to investigate the behaviour differences between male and female students in the library. ***Aim (1)***

Report on male and female behaviour in the library

I carried out a valid investigation and the results matched the hypothesis.
The checklist included a way of recording male and female behaviour during my observations.

I believed that females would be more likely to work together, whereas males would work alone.

My objective was to investigate the behaviour differences between male and female students in the library.

I spent six hours using a specially devised behaviour checklist to observe male and female behaviour in the university library on 10 May.

If I do another observation, I will work with a group of observers so that we can observe interaction in the Learning Resources room and the Multimedia Suite.

As I was working alone, I was only able to observe a small area of the library.

Females are more likely than males to actively seek out peer group support while studying.

The checklist and data breakdown are available in the appendix.

It was found that females were twice as likely as males to work in pairs or small groups.

Activity 9 Expressing consequence

In reports, *so* can be used to express consequence. For example:

The case study focused on the experiences of one individual, ***so*** *my results cannot be generalised.*

Note that in a long sentence a comma is used to separate the introductory clause from the main clause.

Write these sentences from notes. The first one has been done for you.

1 Two blood pressure readings out/87 taken/be anomalous/these readings be/ignored.
Two blood pressure readings out of 87 taken were anomalous, so these readings were ignored.
2 The equipment/be/contaminate/be/destroy.
3 The records be/confidential/access/be/deny.
4 The statistics/be/out of date/these/not use.
5 The solution be/reheat during the experiment/results cannot be/guarantee.
6 Many participants/leave/trials early/conclusions/not/be/drawn.
7 Needle stick injuries/common among medical students/additional training/require.

Activity 10 Phrasal verbs

You may have noticed that a good knowledge of phrasal verbs increases your general fluency.

Phrasal verbs are formed from a verb + particle (often a preposition or adverb). For example:

Recalling the incident ***brought up*** *strong emotions.*

Note that some phrasal verbs have more than one meaning. For example:

I was ***brought up*** *by my aunt after my parents died.*

Some phrasal verbs are in three parts. For example:

My biology exam was the first one I had to take, so I decided to ***get on with*** *revising for biology before revising for my other subjects.*

Complete the sentences choosing a phrasal verb from the box.

put forward	take in	put on	run out of
set up	put up	looked into	gave up
put away	took up	broke down	went through

1 The accident victim found it difficult to _____ what the ambulance man was telling him.
2 When I checked the stock cupboard, I saw that we had _____ printer paper.
3 The college _____ the reasons why students did not use the sports facilities.
4 My projector _____ during my presentation, but despite this setback, I gained high marks for my talk.
5 The equipment for the experiment was _____ before the participants arrived.
6 After the experiment, Oscar tidied the laboratory carefully, washed up the glassware and _____ the apparatus.
7 He _____ several useful ideas in the meeting.
8 Zainab _____ her research proposal with her tutor and made a few changes to it.
9 Although they enjoyed delicious meals on holiday, no one _____ weight.
10 He felt he needed a new hobby so he _____ golf at weekends.
11 Steve took his doctor's advice and _____ smoking.
12 To help people find their way, a big location map was _____ in the reception area.

Activity 11 Useful structures for reports

Here are some examples of structures that can be used for different sections in a report.

Aim/Objective

The aim/objective was … to find out/establish/determine/calculate … the effect of caffeine on concentration/whether exercise helps maintain weight loss.

Hypothesis/Hypotheses

My hypothesis was that …

I predicted/believed/thought that …

It was predicted/believed/thought that …

… this drug would have an effect on blood sugar.

… the solution would dissolve on heating.

… a vitamin-enriched diet would raise IQ results.

My null hypothesis was that …

I predicted/believed/thought that …

It was predicted/believed/thought that …

… this drug would have no effect on blood sugar.

Procedure/Methods

(what/who/when/where)

Fifty volunteers were interviewed/selected.

I interviewed fifty volunteers between the ages of 18 and 40 in a local shopping centre.

Ball-passing skills were demonstrated.

The solution was poured into a flask using a small funnel.

Findings/Results

My findings were that …

My results were that …

I found/identified that …

…11.7% of medical students surveyed had been exposed to needle stick injuries.

It was found/shown/established/identified that …

… IQ results improved by 4.5%.

… men's spatial ability was better than women's.

… 80% of those taking part in the study found the non-smoking support groups helpful in giving up smoking.

Conclusions

My conclusions were that …

I concluded that …

It was concluded that …

… non-smoking support groups would be a practical means of motivating smokers to give up smoking.

Evaluation

The strength(s) was/were that …

The weakness(es) was/were that …

My first idea was to measure obesity by calculating participants' body mass index (BMI), **but** this produced anomalous results, **so** I calculated waist-to-hip ratios.

Overall, the investigation/experiment …

… was (un)successful.

… produced/provided (in)valid data/(in)accurate results.

Future plans

If/(When) I do a similar investigation in future, I will record all responses.

If I repeat this experiment, I will modify my procedures.

If I carry out a similar project in future, I will measure the temperature more carefully.

Activity 12 Proofreading

Before you complete a report you should always proofread it, checking it for errors. For example:

Exercise will be help weight loss.

should be

*Exercise **will help** weight loss.*

In the next report, there is *one* mistake in each complete sentence. Find the mistake and correct it. The first two have been done for you.

Investigation into the effect of exercise on maintaining weight loss

Aim

The investigation aimed to find out to what extent an exercise programme **it** helps to maintain weight loss.

Hypothesis

The hypothesis is that 45 minutes of exercise per day will **be** make a significant difference in sustaining weight loss.

Procedure

- Twenty male student volunteers were recruiting. All volunteers there followed a calorie-controlled diet for six weeks. They made 45 minutes of daily exercise.
- The volunteers they were weighed and measured weekly.
- At the end of the programme, half the volunteers (Group A) resuming a normal eating pattern. They were also on asked to do 45 minutes of exercise every day. The remaining volunteers (Group B) returned to their usual eating pattern but were them not given special instructions about exercise.
- Since three months, volunteers in Groups A and B were weighed and measured again.

Findings

- At the end of the six-week programme, the volunteers who had lost between 4 and 6 kilos. They had reduced waist measurements buy up to seven centimetres.
- After three months, none of the volunteers in Group A had put on their weight. All the volunteers which in Group B had regained up to three kilos.

Conclusion

- Following a daily Exercise programme of 45 minutes per day will help maintain weight loss.

Evaluation

Strengths

The feedback received from the volunteers showed that they:

- had been highly motivated to the programme
- would be when willing to take part in further research.

Weaknesses

- The timescale for the follow-up period it was limited to three months. I felt this was to short. I will use a more longer timescale in future.
- The sample were not representative enough. In future, I will recruit volunteers coming from a wider cross section.

Activity 13 Writing concisely

It is important to write concisely in a report so that the reader can identify the key points you are making.

Choose a word or phrase from the box to replace the words in italics.

rodents	cravings	shapes	defendant
withdrawal symptoms	habitat	bush	discrepancies
containers	amphibians	synopsis	insects

1 All the chemicals were clearly labelled in *bottles, jars, packets and boxes.*

2 Scientists kept *hamsters, rats and mice* in cages in the Animal House.

3 He found it useful to express his ideas by drawing *circles, triangles and squares* on the whiteboard.
4 *Dragonflies and wasps* do not belong to the same class of animals as *frogs and toads*.
5 Rather than telling the audience everything about her research, she gave a *brief outline of the key points*.
6 We travelled through the *undeveloped part of the country where few people live and which has little vegetation* to see the wildebeest's *natural surroundings*.
7 There were many *conflicts and differences* in the accounts of the accident given by eyewitnesses.
8 The judge ordered the jury to listen very carefully to the evidence of the *person accused of committing the crime*.
9 Is it true that you can give up smoking without experiencing *unpleasant side effects such as headaches* or *strong urges to light a cigarette*?

Activity 14 Writing your own reports

For each of the scenarios below, write a short report of your investigation, with the results and your conclusion, under appropriate headings. At the end of the report, include a short evaluation of the strengths and weaknesses of your investigation.

Write a first draft and then check it against the report checklist in Activity 4. Write at least 250 words. Then rewrite the draft making any necessary corrections.

Scenario 1

Imagine that your college is situated in large grounds with little natural shade. This is a matter of concern to you because you have been studying the effects of exposure to ultraviolet radiation.

You get permission to have temporary coverings erected, which will increase the shade in parts of the college grounds. The shaded areas could be a way of reducing students' exposure to ultraviolet radiation, if they are used.

You have permission to observe students to find out if they use the shaded areas. You keep a count of the use of the shaded areas at certain times, over a period of time.

Scenario 2

Imagine that you have carried out an investigation to find out whether group support is more effective in helping smokers give up smoking than cigarette substitutes such as nicotine gum and nicotine patches.

You organise your investigation by recruiting volunteer smokers who want to stop smoking. They are divided into two groups:

- One group receives health advice and tips on ways to manage any cravings and withdrawal symptoms. The smokers also meet regularly as a group to give each other moral support.
- The other group receives nicotine gum and patches but does not get health advice or group support.

Activity 15 Reviewing existing reports

1 Review reports you have written for other subjects. Can you see how the reports could be improved? For example, could your headings be clearer? Would it be appropriate to add or improve an evaluation section?

2 Make any improvements to your reports from Activity 14 and then show what you have done to one or two friends, asking for their suggestions. Make any further improvements if you think these would be helpful.