Frequently asked questions

1 What general criteria can I use in evaluating evidence?

Critical thinking requires an active approach to checking evidence offered by other people. You may encounter a line of reasoning that is so interesting or relevant that you want to discover more. Alternatively, you may mistrust the evidence cited and wish to check it for yourself.

When considering the evidence presented by a writer, ask yourself some questions:

- Is the evidence what it appears to be?
- Might there be other explanations in addition to the obvious ones?
- Has all the necessary information been given, or are details missing that might lead to a different conclusion?
- Are there any interested parties – people who would gain if the conclusions were accepted?
- Are there any hidden assumptions or hidden agendas?
- Does the evidence come from a reliable, disinterested source?

The higher the level of study or research, the more important it is that you check the key evidence, especially if you have any reason to doubt that it has been reported accurately.

2 Isn't any bias apparent?

Bias is sometimes obvious, but often not – you may need to be paying close attention.

The existence of bias doesn't necessarily mean that the writer is being 'dishonest' or 'prejudiced' – if someone has a strong interest in the survival of a particular hospital, for example, that person may present evidence that is accurate but incomplete.

Think critically about each piece you read, continually questioning in your mind whether it may have been influenced by incomplete evidence, hidden agendas, or biased reasoning. Be especially alert if the evidence appears to point strongly one way rather than the other.

3 Does the source of the writer's evidence matter?

For academic study, evidence may be roughly divided into 'reputable' sources (sometimes called 'authorities') and everything else. A 'reputable' source has these qualities:

- the information is based on research, first hand-knowledge, or expertise
- the source is recognised in that academic discipline as an authority.

Articles in academic or professional journals and accounts in recommended textbooks are usually based on in-depth research. These are usually regarded as more reliable than findings reported in newspapers and magazines – while newspapers and magazines may provide useful introductory reading for some subjects, they seldom include material that can be regarded as academically authoritative.

4 If the writer offers numerical evidence, how can I check it?

It is important to be sceptical about numerical data, and also words that *imply* numerical data, as such data may be misused or misrepresented in order to sway the reader. For example, consider this assertion: 'Most people said that they preferred oranges to apples.' 'Most' is a word that implies

a numerical assessment, yet it is very vague – before trusting this statement one would want to know *what proportion of how many people* preferred oranges to apples. If the argument being put depends on this statement being true, you need to look for further details or another source.

Suppose you read that '60 per cent of people surveyed said they preferred travelling by car, and 40 per cent by train'. The fact that numerical quantities are given makes this statistic seem convincing, but is it reliable? To evaluate it, you would need to know more about the statistic. For example, how many people were asked? If 1000 people were asked and 600 preferred travelling by car, the statistic may be trustworthy; whereas if only 10 people were asked and 6 people preferred travelling by car, the statistic is less persuasive. Even with 1000 people, though, the answers might still be biased in some other way – what if the sample comprised 1000 commuters were surveyed as they left a mainline railway station, for example, or 1000 residents of a scattered rural community 20 minutes' drive from the nearest railway line?

Generalisations can be useful in helping us to see patterns and to look at issues more broadly. To be useful, though, a generalisation must be well-founded, which includes being based on a reasonably large sample.

5 If I trust the writer's evidence, shouldn't I trust the conclusions as well?

No – even if the evidence is reliable, for example based on good research, you should never assume that the writer's conclusion is warranted: you always need to check the logic of the argument yourself. Consider the following example:

- ***Proposition 1:*** The karate champion is a woman. (Verifiable fact.)
- ***Proposition 2:*** My mother is a woman. (Verifiable fact.)
- ***Conclusion:*** My mother is a woman, therefore she is a karate champion. (False conclusion.)

In the above example, the faulty reasoning is based on the false assumption that if *one* woman is a karate champion, then *all* women are karate champions. In this instance, the false assumption is easy to spot, but false assumptions are not always so obvious. Although researchers may try to be objective, it is very difficult for them to stand completely outside of the common-sense views and ideological context of the society in which they are writing.