

Critical Thinking



Typical Comments

'I'm not sure what they expect when they ask us to 'critically evaluate'

'The word 'critical' sounds so negative, as though you have to undermine everything'

'The word 'analysis' always sounds like something difficult and technical'

'I really don't feel sure what these terms mean'

'How can I be 'critical' of something when I don't know much about it?'

Aims of the leaflet

- Show how you are already a 'critical thinker'
- Clarify key terms
- Outline a critical approach to lectures, essays and reading
- Look in more detail at critical reading of academic texts

Critical Thinking – an everyday activity

We tend to receive knowledge passively at many stages of education, although we can be highly critical in other aspects of life. Critical thinking and analysis is an everyday activity, even if we don't think of it as that. Every time you have to make a decision, the process you go through involves critical thinking, and this process can become almost automatic.

A useful example of a situation where you think critically is buying a second-hand car. Hardly anyone would buy a car on 'face value'. Instead, regardless of your knowledge of cars, you would go through a rough process of '**critical analysis**'. This might involve looking at things like the tyres, brakes, paintwork, lights.... and for each of these you would have '**criteria**', a rough idea of what constitutes good brakes, good lights and so on.

After thinking critically about each element, you might ask for extra **evidence** (record of services, MOT). You can then do your own initial **evaluation** by weighing up the good and bad points, and decide whether or not the car meets your needs and is a good buy. If necessary, you can call in expert opinion to give further **detailed analysis** on aspects you are not sure about, and you can then make your final evaluation and decision. With experience, you get a better idea of what to look for and what questions to ask.

With most second-hand purchases, we would have a general idea of what to look for because we know what the item should do, and what we want to use it for. This gives us a rough set of criteria for a critical analysis and evaluation.

With **critical analysis and evaluation** in academic study, the key is to start developing ideas about what makes up a 'good' or 'sound' **argument** in a piece of reading, or our own writing, and what **criteria** we need to apply to test this.

Key Terms

Critical thinking

Critical thinking is a general term that covers all thinking processes that strive to get below the surface of something: questioning, probing, analysing, testing and exploring. It is not a negative term as such, although it can sound it. Critical thinking requires detective-like skills of persistence to examine and re-examine an argument, in order to take in all the angles and weigh up evidence on every side.

To think critically is never to take something on 'face value' but to question and think independently about an issue, however 'authoritative' a writer or thinker may be.

Analysis

Analytical thinking involves particular processes, in particular breaking down the 'parts' and looking at them more closely. (Think back to the second-hand car)

It involves:

- Standing back from the information given and examining it carefully from different angles
- Checking the accuracy of statements
- Checking the logic – whether points follow each other logically
- Spotting flaws or 'jumps' in the reasoning
- Identifying 'gaps' – arguments or information that might be relevant but has been left out
- Checking for persuasive techniques, which encourage you to agree

Evaluation

To evaluate, or 'critically' evaluate is to reach a conclusion, through a process of critical thinking, about the value, or 'soundness' of an academic argument. Critical analysis is a key activity in evaluation. Evaluation is about weighing up the strengths and weaknesses of an argument in order to decide how much it contributes to a particular body of knowledge in your subject.

Developing a critical approach: First steps

You don't need to have detailed knowledge of your subject to think critically. The guide below gives some initial critical questions to start asking in different study contexts. It can help to start with very basic critical questions, which become more detailed and in depth as your knowledge and confidence increase.

Lectures

- Is this clear? Am I understanding this? If not, why not?
- What is the overall theme and idea here? Any aspects I don't understand? Why? Terminology/language?
- How might I use this? What notes are available?
- Any idea I want to follow up later? Find related reading?

Reading

For detail, see 'Active Reading' leaflet.

- What do I want to read? How would I select?
- What type of reading is this? Is it difficult? Why?
- What is generally being said? Clear points? Worth reading?
- How does it compare to similar texts? How might use it?
- Are the ideas backed up with evidence? Convincing?
- Are there similar views to support this idea? Alternatives?
- Is anything not covered here that I expected? Why not?

Academic essays and assignments

You need to develop 'critical depth' in your academic writing over time by practising critical questioning of your own and other work.

- Examine theories and evidence from authors you use— don't just state ideas, but examine strengths and weaknesses
- Question evidence – what's missing? Any gaps?
- Explore other options for, say, a treatment, rather than accepting the first one you find – and look at evidence
- Show the implications of an idea, don't just state it
- Think about different angles – read to find these

The detailed critical reading approach outlined next will help in all stages of researching and writing an academic assignment.

Critical analysis of academic writing

An effective piece of academic writing will have:

- A clear and logical line of reasoning, a
- A lack of prejudice or bias in examples, evidence and points
- Relevant and recent data,
- Enough appropriate and reliable evidence
- Conclusions that are supported by the argument and evidence overall

This gives you an idea of criteria to use when you are asked to critically evaluate or analyse academic writing. The stages below are a general guide to this process.



Remember!
This is only one detailed way of reading a text.
For more ideas for developing effective reading skills, see leaflet:
Active Reading

There are several stages involved in critical reading:

- 1. Identifying the author's line of reasoning**
- 2. Critically evaluating the line of reasoning**
- 3. Identifying evidence in the text**
- 4. Evaluating the evidence**
- 5. Questioning surface appearances and assumptions**
- 6. Identifying the writer's conclusions**
- 7. Deciding whether the evidence supports the conclusions**

1. Identify the line of reasoning

Most academic writing you will read as a student will contain an argument. In academic writing, an argument is:

- A line of reasoning
- An angle or point of view
- A position that is being defended
- A case that is being made, backed up by evidence and examples, and leading to conclusions

When reading, you need to keep asking 'what are the main things this writer wants me to accept? What are the main reasons given for me to accept this?'



2. Critically evaluate the line of reasoning

Check whether the argument contains:

- Points and reasons in favour of the argument that are relevant, and contribute to it
- Points that follow each other logically
- False premises: a starting point that is not proven or backed up with evidence
- Flawed reasoning: false connections between points

3. Identify evidence in the text

This is usually straightforward. Evidence can be in the form of:

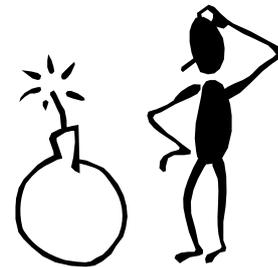
- Statistics, examples, case histories
- Findings from experiments or surveys, questionnaires or case studies
- Anecdote – personal stories and experiences

4. Evaluate the evidence

Some evidence is strong, but a lot can be weak when examined.

Be careful to:

- Check the date of any research (recent? Old so less useful?)
- Check the sources of information – do they seem reliable?
- Check possible bias in the sources, organisation agendas
- Check that statistics are convincing – percentages can be used to make inadequate data look impressive
- Beware of words that sound like statistics
- e.g. ‘Most people are concerned about child safety’ – ‘most’ is a very vague amount and not evidence of anything
- Look out for emotive language and ‘persuader’ words which try to convince you of something e.g. ‘Obviously..’, ‘We can see that..’ ‘Surely..’



5. Question surface appearances

As you study and re-read a piece of writing, keep trying to look ‘below the surface’, and question the agenda of the writer.

- Is the evidence all it appears to be? Is it relevant?
- What is the purpose of the writing? To persuade? Inform? Entertain? How can you tell?
- Is all necessary information given? Do there seem to be ‘gaps’?
- Does the evidence come from a neutral source, or is it biased?

6. Identify the writer's conclusions

- Conclusions are usually at the end, but can be stated at the beginning, or even in the middle, which makes them harder to spot
- Conclusions are usually indicated by 'trigger' words – 'therefore, so, hence, thus, it is clear that...'
- Or by imperatives – words indicating that something has to be done – 'must, should, need to...'

7. Evaluate whether the evidence supports the conclusions

- Do the conclusions follow on logically from the evidence and reasoning given?
- Does the conclusion make too big a 'jump' away from the evidence?
- Do the conclusions use false reasoning, or twist the evidence to suit a general premise?

Critical thinking questions – quick summary

- What is the main point/argument?
- Is it convincing?
- What evidence is given? Is it strong/weak? Why?
- What's the conclusion?
- Does it follow on from the rest?
- What's the aim? Purpose? Agenda?
- Any gaps/information you think should be given?

Developing the skills

- Bear in mind you do not have to have a lot of subject knowledge before you think critically. Even without a developed knowledge of a subject, you can still start to detect a line of argument, a conclusion, and whether or not evidence is in place to support these.

- Talking about a lecture, essay title or piece of reading with other students is a useful way to develop critical analytical skills – some students develop informal study groups to practise reading journal articles critically and find their skill and confidence progresses fast through group discussion.
- Try thinking more critically when you watch a TV documentary or film, or read a newspaper article:
Not just: ‘What do I think of this? Is it good? Not?’
But also: ‘What makes it good? How was it put together? What were the strengths? Weaknesses?’
And: ‘What was not included? What might have been useful? Why was it excluded? What were the assumptions made?’
Try to think from different angles, so that you get a more objective view and don’t cling to your first impressions.

Using critical thinking to develop your own writing

- Be clear about your argument or standpoint
- Be clear about your conclusions
- Have a clear line of reasoning
- Use evidence to support your reasoning
- ‘Critically’ read and reflect on your own writing

Finally.....critical thinking

- is about asking questions, getting under the surface, finding out what’s really going on, testing things out
- is a key skill in academic study
- helps make you a deep, rather than a ‘surface’ thinker - able to think and argue independently, explore issues in depth, make connections between ideas, relate them to real life
- improves memory, as you engage more closely with ideas
- helps you develop your own opinions