

Critical Thinking Skills

Developing Effective Analysis and Argument

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Chapter 9

Critical reading and note-making

Critical selection, interpretation and noting of source material

Learning outcomes

This chapter offers you opportunities to:

- develop strategies for reading selectively
- understand the relation of theory to argument
- categorise arguments and theories
- check whether interpretations of texts are accurate
- develop strategies for selective and critical note-making

Introduction

Although critical thinking can be used in any context, it is likely that you will apply it most when using written materials. The material presented in previous chapters is relevant to critical reading. This chapter focuses on applying critical thinking skills when reading for a specific purpose, such as writing a report or assignment. It looks at issues such as:

- identifying theoretical perspectives;
- categorising information to assist with its selective use;
- using a critical approach to note-making when reading.

Critical reading is different from other kinds of

reading such as skimming or scanning text. The latter are useful strategies for locating where information is in a text and to develop a general feel for a subject. However, they usually result in a more superficial reading of the material.

Critical reading requires you to focus your attention much more closely on certain parts of a written text, holding other information in mind. As it involves analysis, reflection, evaluation and making judgements, it usually involves slower reading than that used for recreational reading or for gaining general background information. As you develop critical reading skills, these reading skills will become faster and more accurate.

Preparing for critical reading

It is not usually easy to make sense of any information taken out of context. When reading new material, some basic preparation can help you to:

- see how the main argument fits together;
- better remember the overall argument;
- better comprehend specific pieces of information;
- recognise how reasons and evidence contribute to the main argument.

The following sections offer suggestions on actions you can take to orientate yourself to a text, in order to facilitate critical reading.

Books

Preliminary skim

First, skim through the book to get a feel for what it contains. Glancing through as you flick the pages a few times, or scanning each page quickly in turn, can give you an initial impression of what the book is about and where relevant information may be located.



Scan the introduction

Check whether the introduction indicates the author's position or refers to the overall argument. Such information can direct you to the most relevant chapters and help you to make sense of detailed information presented in these.

Scan the final chapter

Look at any conclusions drawn at the end of the book. Check whether the final chapter sums up the argument, reasoning and evidence. If so, this

is invaluable for keeping track of the line of reasoning when reading about the more detailed evidence in other chapters.

Scan beginnings and ends of chapters

Scan the introductions and final sections of relevant chapters: these are likely to orientate your thinking to the material in the chapter.

Articles

- Browse the abstract to see if the article looks relevant.
- If it does, read the abstract slowly, to identify the main argument.
- If the article is about a research project, the research hypotheses sum up what the author is trying to prove. The results will tell you what they found. The discussion indicates what the author considers to be significant about the research and its findings.
- Use the abstract to locate the most relevant information for you. Decide whether you need to know more about the methods used, the results, the discussion of the results, or the recommendations, depending on your purpose.

Find the argument

Once you have worked quickly to locate where the information is in general terms, apply the critical thinking methods covered in earlier chapters in order to identify the arguments:

- Identify the author's position: what does the text want you to do, think, accept or believe?
- Look for sets of reasons that are used to support conclusions.

Once you have located the argument, you are likely to need to read more slowly and carefully, applying further critical thinking strategies.

Identifying the theoretical perspective

What is a theory?

A theory is a set of ideas that helps to explain why something happens or happened in a particular way, and to predict likely outcomes in the future. Theories are based on evidence and reasoning, but have not yet been proved conclusively.

Everyday and academic use of 'theory'

We use the term 'theory' in everyday language to suggest we don't know yet, for certain, either the reasons or the outcomes.

Example

The flight still hasn't been announced. My theory is that a storm is brewing so they think they can't take off.

Everyday use of the word tends to be an expression of opinion, but it shares the characteristics of academic theory in being:

- an attempt to provide an explanation, or a prediction of likely outcomes;
- an idea, or set of abstract ideas, that haven't been fully proved;
- based on the facts as far as they are known at the time, and acknowledging there is still more to find out.

Knowing the theory helps fill the gaps

Most things that we do are based on some kind of theory, but we are not always aware that our opinions fit a theoretical perspective. In Chapter 6, we saw that what we say or write often contains unstated assumptions – which may be unrecognised theories. If we can identify an author's theoretical perspective, we are in a better position to recognise gaps in the reasoning as well as unstated assumptions.



Well, that's the theory, anyway!

Theory in research and academic life

In professional research and academic thinking, a theory is usually an elaborated system, or 'school', of ideas, based on critical analyses of previous theories and research. Much research sets out to test or further refine existing theories so that they are more useful in providing explanations, and for creating models for future action.

Finding the theoretical position

In the best research and texts, the theoretical position will be stated by the author in an explicit way to assist the reader. In books, this is usually outlined in an early section, or at the beginning of chapters. In articles, reports, dissertations and theses, the theoretical position will be indicated by the following:

- The research hypothesis: this should be stated near the beginning of the research and provides the key theoretical position that the research sets out to prove.
- The literature that has been selected for the literature search: authors' analysis of this should draw out the theories which have influenced the research.

The relation of theory to argument

Arguments can be based on theories

A theory may be used as the basis of an argument.

Example

Marx's theory of economics argues that wealth will become concentrated into a few hands. This research project is based on an interpretation of Marx's theory, and argues that although the denationalisation of public services in Britain led to more companies being set up in the short term, over a few decades, mergers and buy-outs have resulted in many smaller companies closing. As a result, the wealth of those industries is now in the possession of a small number of 'super-companies'. The research hypothesis is that after three decades, 75 per cent of the wealth of former British nationalised industries will, in each case, be in the hands of three or fewer super-companies.

In the example above, the main argument is that after a few decades, industries that were once nationalised but were later sold to private companies, will become part of a few 'super' companies. The author is explicit that the argument is based on an interpretation of a particular economic theory. Here, the theory is used to develop the research hypothesis.

The inclusion of numbers and proportions helps to make a general theory more specific and measurable. However, the general argument and theory could be valid, even though the specific timing and amounts were not met, if the trend was clearly in the direction predicted.

Theories as arguments

Theories can also be arguments in their own right if they offer reasons and conclusions and attempt to persuade. However, you may find that when theories are used as the basis of an argument, as in the example above, the author refers only to the conclusions or key aspects of

the theory. To examine the line of reasoning behind the theory, it may be necessary to return to the original text rather than using second-hand accounts.

An argument is not necessarily a theory

Note that arguments are not always theories. In the example below, the argument for going into town is supported by two reasons, but does not represent a theory.

Example

I know you are keen to return home quickly, but it would be a good idea to go to the shops first. We need to buy a present for Serina's birthday. We also need to get some food for tonight.

Activity: Identifying theory

Identify which of the texts on pp. 201–5 have an explicit (openly stated) theoretical position.

State what the theoretical position is in each case.

The answers are on p. 165.

Subject-specific schools of thought

There will be specific theories, usually organised into schools of thought based around a few key researchers or approaches, for your own subjects. These might be clustered around broad theoretical approaches such as: nativism, humanism, chaos, catastrophism, functionalism, psychodynamics, systems, constructivism, Marxism, feminism, postmodernism and so on.

Activity: Schools of thought

What are the main schools of thought for your own areas of interest?

Categorising and selecting

Critical choices

Research tasks, including reading for reports and assignments, can require us to cover a great deal of information. We can only make active use of a proportion of what we read, but it may seem that everything is useful and interesting. Critical thinking requires us to make decisions about:

- where to allocate available reading time
- where to focus our critical thinking
- what to note for future reference
- what material to use in our own report or assignment, and what to leave out.

Critical choices involve selection, and selection is made easier if we are skilled at categorising information. Practice in categorising information was provided in Chapter 2.

The importance of categorising information

It is easier to make critical choices when we have organised information not simply in files, but within our thinking. Categorising information is an essential process that helps us to recognise links between different kinds of information. This enables us to:

- compare information more easily
- contrast information more easily
- refer to sets of information as a group, so that our account is more succinct.

Categorising theory

We saw, above, that identifying the theoretical position helps us to fill in gaps in a line of reasoning. If we can categorise texts according to their theoretical position, we will be better able to:

- Sort the information required for our analysis of the literature.
- Track how one piece of research builds on previous research.

- Better understand why further research into a subject has been undertaken, as we will understand how it fits into a bigger picture. Often, a piece of research can only examine part of the picture.
- Group information under headings that help to clarify our understanding. This also helps us to remember the information.

Generic types of theory

There are some generic headings that are useful as points of reference when starting to group information. It is worth checking whether theories or arguments are primarily:

- **aesthetic**: related to an appreciation of art
- **cultural**: related to the ideas, customs and artefacts of a particular society
- **economic**: related to an economy
- **ethical**: a question of right and wrong
- **financial**: considerations of money
- **legal**: related to the law; what the law says
- **historical**: resulting from past circumstances
- **humanitarian**: with the interests of mankind at heart
- **philanthropic**: acts of kindness to others
- **philosophical**: related to the study of knowledge
- **political**: related to government or state
- **scientific**: resulting from a systematic and/or experimental approach that can be repeated
- **sociological**: related to the development or organisation of human society
- **sophistical**: arguments that seem clever but are misleading

Activity: Categorising arguments

Read through the texts on pp. 201–5. Each text contains one or more types of argument. Categorise these using the generic themes listed above. More than one may apply to each text, or 'none of these' might apply.

Answers are on p. 166.

Accurate interpretation when reading

Reading style and accuracy

Accurate interpretation is particularly important to critical thinking. Donaldson (1978) found that people often get questions wrong because they do not adhere closely enough to what is asked or stated.

Incorrect interpretations can arise because reading is either over-focused on small details or it pays insufficient attention to details. Some common mistakes are:

- **Over-focused reading:** the reading is too slow, focusing excessively on individual words and sections of the text. Although close reading is a necessary part of critical reading, it is also important to interpret specific details in the wider context of the argument and the theoretical perspective.
- **Insufficient focus:** the reading is too superficial, taking in the big picture but lacking a sense of how the main theories and arguments are supported by specific details and evidence.
- **Insufficient attention to the exact wording:** missing out essential words such as 'not', or not following the exact sequence closely
- **Failing to draw out correctly the implications** of what is stated.

It follows that, in order to interpret texts accurately, it helps to vary the focus of attention when reading, alternating between:

- the big picture and the fine detail;
- a consideration of the exact words and unstated implications and assumptions.

Activity

Read the interpretations given in the passages below of specific texts given on pp. 201–3. In each case, decide whether the passage:

- A makes an accurate interpretation of the writer's overall argument
- B misinterprets the writer's position.

Give reasons for your response, identifying the overall argument.

Passage 9.1

(about Text 1, p. 201)

The author is a true artist who is offering a service to smaller artists who cannot find distributors.

Passage 9.2

(about Text 2, p. 201)

The author argues that as giving garden cuttings is regarded as acceptable and little concern is shown for royalty issues, then downloading music without paying should also be regarded as acceptable.

Passage 9.3

(about Text 3, p. 201)

Piracy is not usually acceptable and most customers should be prepared to go without an item if they are not willing to pay for it.

Passage 9.4

(about Text 6, p. 202)

When people make free copies of music they put the future of distributors of independent artists at risk.

Passage 9.5

(about Text 7, p. 202)

This argues that Plants Breeders are only likely to take action against large companies, so the important issue for gardeners is that they are safe from prosecution.

Passage 9.6

(about Text 10, p. 203)

Individuals should stand up for what they believe is right and stop obeying the law, as it is undemocratic.

Answers are on p. 166.

Making notes to support critical reading

Why make notes?

Note-making is a good idea. It has several benefits over simply reading without making notes:

- If done properly, it breaks up a continuous reading task into many shorter reading sessions alternated with note-making. This rests the eyes and the parts of the brain involved in reading. This is especially useful given the intense reading activity used for critical reading.
- Writing involves the motor memory, making it easier to remember information.
- Many people find it easier to recall information that is written in their own handwriting.
- Selecting what to write, rather than writing everything, means greater interaction with the material, which helps us to recall it in the future.
- Making notes draws together the information that is relevant on the subject, so you have less to read over than all the material contained in the various source materials.
- You can make notes on a copy of the text if it is your own copy, but this doesn't help draw the key ideas into one place.

How do you make notes to support critical reading?

The notes you make should support your main purpose. Avoid making notes on related topics just because they are interesting or might be useful one day. It is possible to write notes to fulfil several different purposes, such as to support a current project and to contribute towards a future project or assignment. If you do this, either use separate sets of notes for each project, or use clear headings in your notes to help you find what you need easily for each. It is worth making a conscious effort to reflect on what you have read.

- What does this really mean?
- Do the reasons support the argument?
- Is there any supporting evidence?
- Does this match what I know about the subject already?
- Does it fit what other people say about the subject?
- Is this relevant and useful to my current purpose?
- How does this add to previous research on the subject?
- Are there any flaws in this?



TIP

Read without a pen in your hand. This helps to avoid writing lots of unnecessary notes that you haven't thought through.

Reading and noting for a purpose

Making notes for analysing argument

If your main purpose is to keep notes to analyse an argument, use headings or a pro-forma such as that on p. 155, to note:

- Details for finding the source again easily.
- The author's position/theoretical stance.
- The main argument, or hypothesis.
- The conclusion(s).
- A list of the reasons used to support the conclusion. Number these. If the author repeats a reason in different words, make sure you include it only once on your list.
- Your evaluations of the strengths and weaknesses of the line of reasoning and supporting evidence.

Notes for assignments and reports

When making notes from a book, there is a danger of losing critical focus by taking down information indiscriminately, rather than selecting the most relevant points.

TIP

If you like to make lots of notes about facts and supporting details, keep these on separate sheets from your notes for critical analysis, or write them on the reverse side. If your critical analysis pages remain empty and your background information pages begin to mount up, this will alert you that you are neglecting to evaluate the information for relevance and to select the most salient points. It may also indicate that you have slipped into copying from the text.

The pro-forma on p. 156 provides a model for critical note-making when reading books. It may not suit all your purposes. However, it is structured so that there is, deliberately, very little space for general background. It is rare that you can use more than very minimal background information on any one source material for either academic or professional purposes.

Note-making when reading journal articles

The main difference in note-making when reading from research articles is that you are more likely to make a close analysis of the particular contribution that the research findings or methodology make towards advancing knowledge within the subject area. Such articles tend to be based on a single piece of research and you may be especially interested in the methodology and the discussion of findings. The pro-forma offered on p. 157 puts the emphasis on your analysis rather than on background information.

Choose quotations carefully

Use few quotations and keep them short

Avoid long quotations as they eat into the word limit without providing any additional marks. Select a few short quotations that:

- in a secondary source, sum up a point well in a few words;
- in a primary source, provide direct evidence for your argument;
- are relevant and the best. Use sparingly.

Make quotations stand out in your notes

Develop the habit of using a particular coloured pen, such as red, blue or green, for any copied text such as quotations. This will make it immediately obvious to you, when you read your notes at a later date, what you have copied and what are your own words and ideas.

Note the source of quotations

Note down exactly where the quotation comes from. See pp. 162–3.

Concise critical notes: Analysing argument

Names of author(s)/source		
Title of book/programme		
Web-site address	Date downloaded	
Date and/or time	Edition	
Publisher/channel	Place published	
Volume of journal	Issue	
Author's position/ theoretical position?		
Essential background information		
Overall argument or hypothesis		
Conclusion		
Supporting reasons	1	5
	2	6
	3	7
	4	8
Strengths of the line of reasoning and supporting evidence		
Flaws in the argument and gaps or other weaknesses in the argument and supporting evidence		

Concise critical notes: Books

Names of author(s)	
Full title of book	
Author of chapter	
Chapter title	
Year published	Edition
Publisher	Place published
Theoretical position or type of theory?	
Essential background information	
Key arguments	
Reasons and evidence to support the arguments	
Strengths of the arguments	
Weaknesses in the arguments	
Comparison or contrast with other sources	

Concise critical notes: Articles and papers

Names of author(s)	
Full title of article	
Full title of journal	
Year published	Month
Volume number	Issue number
Hypotheses: What is the paper setting out to prove? Are research hypotheses supported?	
What is the theoretical position underlying the research? Type of theory?	
What is the key literature used as background to the article or paper?	
Which research methods are used?	
What kind of sample is used?	
Key results	
Key conclusions or recommendations	
Strengths of the research: • How does it advance our understanding of the subject or how to research it? • Are there appropriate hypotheses, methods to test the hypotheses, sample sizes or types, controls for variables, recommendations? • Consideration of ethics?	
Weaknesses of the research: • In what ways is it limited? When and where would it not apply? • What are the flaws in the research, in the hypotheses, research design and methods, sample size and type, conclusions drawn on the basis of the results?	