Frequently Asked Questions

What does 'being critical' mean in academic studies?

In academic work, being critical means being sceptical about towards the claims that others make. As a reader or listener, you develop the habit of checking whether the claims they make in their arguments are adequately backed up by enough evidence, of an appropriate kind, to make these claims convincing – rather than just accepting everything they write or say.

Having made your checks, you reflect on how convincing you found these claims, and why you have come to your own judgement. Often, you then write down your own argument, say, as part of an essay, or an article intended for publication. There you evaluate the others' argument. You make your own claims about how convincing their claims are. You also give your reasons why you have come to your conclusion, as evidence to convince your readers why you judge that these claims are convincing, or not.

Critical Reading and Writing for Postgraduates provides an outline in the introductory section 'How to Read this Book' of what critical reading and self-critical writing means. It also shows how guidance is developed throughout the book on how to engage critically with others' claims in one or more texts within a literature review. Chapter 1 contains a more extensive discussion of what being critical means in academic studies.

The structures look very complicated and time-consuming to apply – why do you recommend a structured approach for developing the ability to be critical in academic studies?

Understanding and applying all the guidance in a structured approach is often hard work at first, but it soon pays off. The structured approach to *reading* that is adopted in *Critical Reading and Writing for Postgraduates* is designed to help you develop the habit of making a series of checks to deepen your understanding of what authors of a text are trying to achieve, and whether they have provided adequate evidence of an appropriate kind to make their claims convincing to you. To begin with, you will be conscious of how you are having to learn how to make lots of checks. But the more you do so with different texts, the more it will become a habit, and the more automatically you will apply all the checks as you read. Once you have learned to make these checks automatically, you will no longer need to rely consciously on the structures. They will have become absorbed into your way of thinking as a critical reader.

The guidance on structures for your own *writing* for assessment is designed to help you develop the habit of describing and evaluating what you have read, having applied the series of checks, and so making your evaluatory claims convincing to sceptical readers who evaluate your writing. You build the results of your checks into your own evaluatory argument. While you will be conscious, at first, of having to plan and write each step of your argument, the more you do it, the more structuring your argument in this way will become a habit, and the more automatically you will plan your writing to cover the sequence of steps needed to describe and evaluate what you have read. Once you have learned to include these steps automatically, you will no longer need to rely consciously on the

structures. They will have become absorbed into your way of thinking as a self-critical writer.

When is the best time to learn critical reading and self-critical writing?

We have many years of experience presenting these techniques to undergraduate, Masters and PhD students. Here are a few observations that we have:

- In undergraduate studies, the full set of critical reading and writing skills might be too much for many students. This is why we direct this book at postgraduate level, even though we know it is used with some undergraduates. All undergraduates can certainly benefit from working through Part One of the book. In our experience, most are also be able to apply the five evaluatory Critical Analysis Questions introduced in Part 2, and some successfully learn to carry out a whole in-depth Critical Analysis.
- A taught Masters programme, and especially one that aims to prepare students for PhD study (or the taught years of a PhD programme) is an obvious time to introduce the techniques in Parts 2 and 3 of the book. It's possible within one or more taught modules to work methodically through the ideas and develop the skills with support from the class teacher. However, it's a lot to take in, before one is really engaging with the research literature for oneself as part of the PhD. As a result, some students find that they don't get the full benefit from the technique at the time that they first encounter it, and that they need to revisit it later.
- We have presented these ideas at many workshops for PhD students and early- (even mid- and late-) career researchers. The most common response is *I wish I'd know about this before!* That is sometimes said even by students who encountered the book during their Masters. This tells us that there is a 'sweet spot' when these techniques are neither too early nor too late:
    - To avoid being too early, it's useful to already be engaging with the research literature in a major way as part of a project, whether for a Master's dissertation or a PhD thesis. That's because you are trying to work out what, and how much, to read, and the ideas in the book will help you structure your approach so that you can navigate the literature in the best way, and have interesting things to say about it.
    - To avoid being too late, it's useful to not yet have drafted your literature review. A literature review that is drafted without using techniques and structures such as those exemplified in the book (there are, of course, many other approaches which will work as well) risks being descriptive, rambling and inconclusive. In addition, there is a risk that the empirical work will not be adequately shaped and justified by a critical evaluation of what is already known. When workshop participants tell us that they wish they had known earlier about how to engage in a constructively critical way with the literature and structure their dissertation or thesis, they are saying that they now realize they will have to go back and retrofit their literature review to match what they need (e.g. a justification for their research questions; an indication of where the gaps in knowledge are; a rationale for showing how their findings contribute to knowledge).
- For the reasons just given, we recommend that if you are a PhD student – even if you have already encountered the ideas at undergraduate or postgraduate level –

you dedicate some time during the first few months of your PhD to working through the techniques, in conjunction with developing the first draft of your literature review. Many students find this early work in the PhD rather tedious, because they would like to be out collecting their own data but have been told to do the literature review first. By applying critical reading and self-critical writing techniques at that stage, the process of doing the literature review will be clearer and thus more enjoyable, and the point of doing it first will be much more evident.

How do I know when I've read enough to cover a theme in my literature review?

The first thing you must do is accept that you *cannot* read everything that is potentially relevant to your theme. There is simply too much out there, and plenty more you don't even know exists. So, you are definitely in a situation where you need to draw a line. Imagine you have accumulated 200 articles that might be useful to your theme, which is just one of several your broader literature review, so 200 is too many. How do you know how many, and which ones, to read?

You could of course, just start at the top of the (physical or electronic) pile and read until you run out of time (or energy). But there's no guarantee that the most important stuff is in the part you will get to read. Instead, we recommend two techniques, both of which are covered i *Critical Reading and Writing for Postgraduates*:

- Write yourself one or more *review questions*. These are questions that capture what you need to find out, if you are to move your work forward. Answering questions helps you to determine whether or not a particular article is relevant – at all, or in part. If it isn't relevant to answering one of your questions, you can set it aside. For more on what a review question is, see p.35 in the book and follow up by checking out the other references to it in the index, under *questions*.
- Use the abstracts to work out how useful articles are likely to be for answering your review questions. For guidance on how to do this, see Chapter 3 of the book.

Between them, these two techniques will give you confidence that you are reading the right things. And when you can see you have a full and adequate answer to your review question, you will know you can stop. You can, of course, add more to your review if you encounter new research that's relevant, but you'll only need to do so if this new material offers something new to your answer.

How do I evaluate a figure (diagram)?

Most of what we explore in *Critical Reading and Writing for Postgraduates* relates to the arguments in the text of a research article. However, claims can also be made in figures (diagrams) which, as noted in Chapter 20, can be used to capture relationships between ideas, in a manner that may not need to be fully articulated in the text. When evaluating a figure, look for key features that capture relationships:

- List the elements that are presented as being comparable (e.g. in boxes of the same shape and size, or written in the same font and text size, or joined by the same sort of line). If some elements are presented as smaller than others, or contained within others, do those relationships work?

- Look at any indications of directionality, where one element precedes or causes another (is it clear which?). Where there is dual directionality (e.g. double-headed arrows, or two arrows in opposite directions) think through the implications of each direction and the existence of both. Is there a risk of a perpetual circularity (A→B→A→B→A etc)? If elements are linked but *without* directionality, what is the nature of that link if it's neither causal nor sequential? Or if there is implicit directionality, not shown, why have the authors chosen not to focus on it, and are they right to do so?

How do I evaluate a statistical claim?

A great deal of weight is often put by authors on statistical results, such as *the hypothesis was confirmed, $t\ (28) = 2.6$, $p < .05$).* For guidance on how to interpret such reports, you need a statistics textbook. But there are more fundamental questions that you can ask as a critical reader that are not always directly addressed in statistics books, even though, if you can make a point of asking them, you can often find the information you need there. The sorts of questions you might ask include:

- What is the test they have used, and why was it appropriate for the research question?
- Was the sample large enough for this test to be suitable?
- How much variation was there in the patterns of data, and how does this impact on the interpretation of the analysis? Statistical tests take into account the difference between a group having a mean score of 8 because they all have scores between 7 and 9, versus having a mean score of 8 because they have scores that are mostly much lower than 8, while a few that are much higher have levelled the average at 8. In the latter case, it's much harder to predict what any new participants might score and how they, had they been included, would have affected the score of the group. Although statistical analyses accommodate this, it's still important to look at the data, and recognise what sort of pattern underlies the claim.
- Correlation tests are often used to demonstrate the relationship between factors (e.g. Higher test scores correlate with a more positive attitude towards learning). However, authors sometimes make the assumption that a correlation (which simply says there is a link) indicates a causal relationship. In this example, there are at least three different possible explanations:
    - those who have a more positive attitude to learning perform better (a causal relationship in one direction).
    - those who get better scores develop a more positive attitude towards learning, because they like getting good scores (a causal relationship in the other direction).
    - those who are better at the tasks being tested (a) get better scores and (b) like learning better because they are good at it (a third factor is causing both of the observed factors)

  Given that all three are possible, a critical reader will be looking for which one the authors favour and why. Possible reasons for favouring one over the others include:
    - Previous research already supports that explanation
    - They have a particular set of values or assumptions that have focussed them on one explanation to the exclusion of others
    - Their ideological position has led them to interpret the relationship in one way rather than another.

A critical reader may agree or disagree with what the authors have done. The key thing is having noticed it, so that the critical reader can comment appropriately on the plausibility of the claims, bringing into the picture, if appropriate, other evidence, from other sources that help warrant the conclusion drawn.