

→ SAGE Study Skills

Essential Study Skills

The Complete Guide to
Success at University

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4th Edition

companion
website



7 How to Be Analytical and Critical

One difference between college and university is critical thinking – at university you are expected to be analytical and critical at all times. This chapter explores analytical and critical thinking – with very practical strategies to adopt such that you become an effective and critical student.

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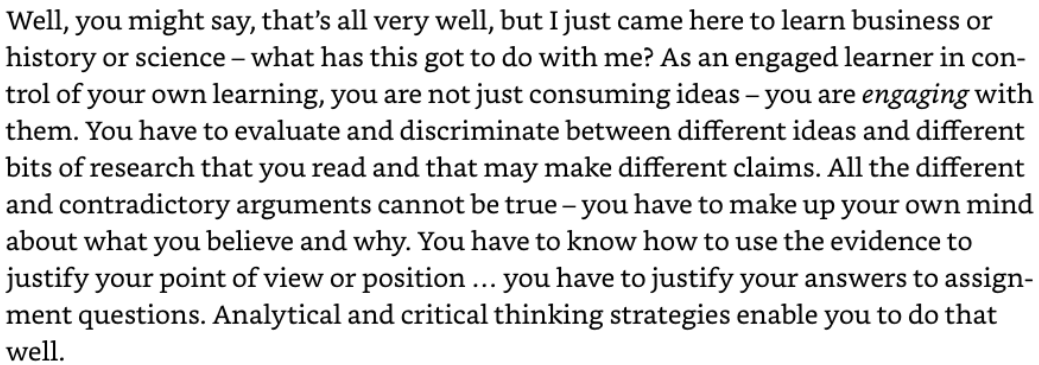
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Introduction

'I kept being told that my work was too descriptive – or that I'm not being analytical or critical enough ... But no one told me what these mean!'

Critical thinking is often placed at the very heart of what it means to be an academic, a professional in the workplace and a student. Critical thinking is the art of making clear, reasoned judgements based on interpreting, understanding, applying and synthesising evidence gathered from observation, reading and experimentation (see: www.criticalthinking.org/pages/defining-critical-thinking/766). One of the key purposes of university, it is argued, is to develop analytical, critical and sceptical abilities: rational ways of viewing and analysing information, knowledge-claims and the world. The student is supposed to use their university time to develop their abilities to evaluate the arguments and evidence that they encounter – and to know the reasons why they have made the judgements that they have. In this way we understand our courses, the reading and our assignments – we know what we are writing and why. This involves nurturing a critical *attitude*: a habit of approaching the world in a questioning and critical way. We move beyond purely instinctive, emotional or belief-based responses and develop the *habit* of analysis, interpretation and evaluation.

Figure 7.1 Critical thinking Wordle™



This is a core employability skill, good for the CV – one of *the* main skills employers want from a graduate.

'When I did my first sports management report in the second year – on Islington Tennis Centre – I had all sorts of trouble identifying the theory at first. Later, when our results came through the main feedback was that I needed to make better use of theory – and be more critical.'

And who and why and how. (Rudyard Kipling)

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critic. Here, being a critic or being critical does not mean finding fault – which is the common sense or everyday meaning of the word – but means weighing up the evidence, looking at all sides of the story and drawing reasoned conclusions. This process is designed to help us move from a sort of passive gullibility where we believe anything that we are told – or that we read – to active engagement so we decide for ourselves – using the evidence.

So criticality is supposed to move us from the norm of accepting one person's account or one perspective or one point of view – to a norm or habit of looking at all sides of the story – and drawing our own conclusions that we could argue for in our assignments – offering solid evidence to prove our arguments.

As a student, it is really useful to use the journalism questions when encountering new ideas, information and knowledge. Get into the habit of always asking: what is this about? Who wrote it, why, when, where? What impact did it have when it was written? What impact or relevance does it still have now? Why? To whom? How will I use this in my assignment?

'After exploding the question to find different resources, I critically analyse the materials found with the five 'W' and 'H' method. I then use them to write, which means an assignment should contain who, what, when, where, why and how reasoning.'

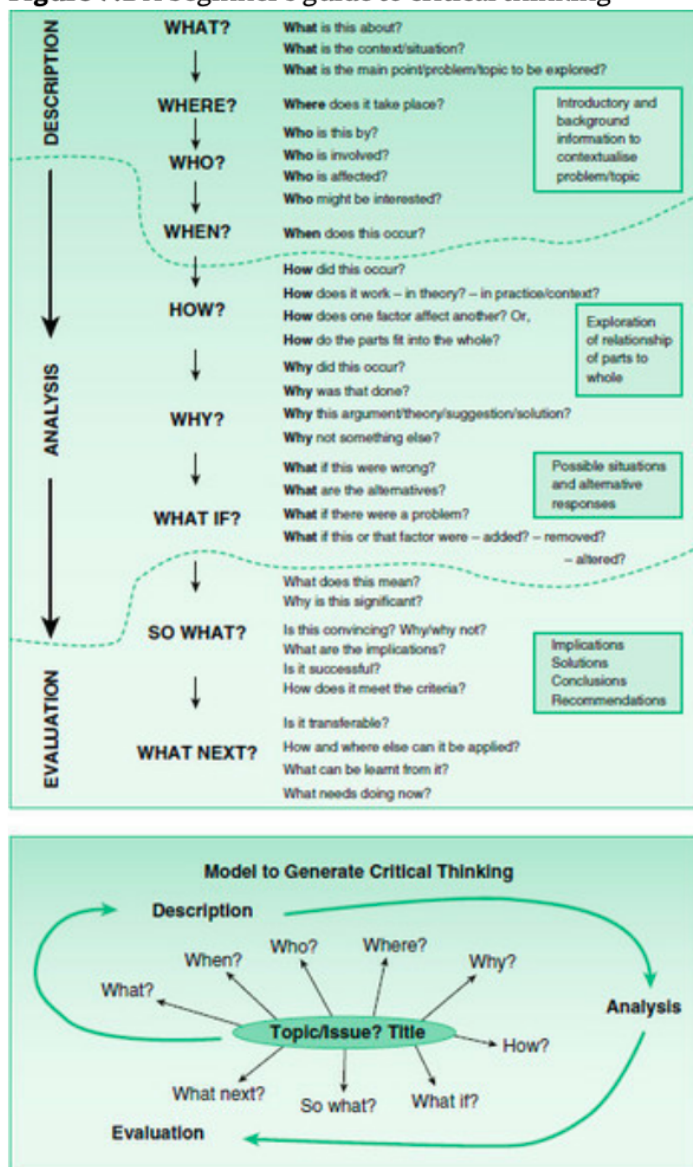
Don't stop at the journalism questions!

John Hilsdon, from Plymouth University, shared the Kipling poem with its six journalism questions: who, what, why, when, where and how; but he argues that a good student should go further and deeper than that. He suggests that on top of the six journalism questions, we get into the habit of also asking: What if ...? So what ...? What next?

- 'What if?' asks, 'What if it were different?' For example in an essay on 'The causes of homelessness' – ask, *What if it were unacceptable in our society to have homeless people?* If we ask this, we might now think that it is not really okay for there to be hundreds of homeless people on the streets. We might start to think – *Why is it acceptable? What could be done differently?* Asking different questions can make us see things differently; it stops us from accepting things as they are: we become more critical.
- 'So what?' asks us to sound out the implications and to judge the evidence generated by our what if ... questions: *If it were unacceptable to have homeless people then ... what? What are the implications for society? What would we in this society have to do differently to change this? And – what are the implications for this essay that I am writing?*
- 'What next?' asks us to think through the implications and draw conclusions about the new information that we have gathered by using our other questions – in reality, that is, in the real world in which we live – and in our assignments. The new questions that we have asked should force us to think differently –

and this should prompt us to draw different conclusions and find different answers to our initial assignment question. Asking: *Is there somewhere where it is unacceptable to have homelessness? How do they achieve that? What does it 'cost'? Is this cost more acceptable than the cost that our society pays for having homeless people? How can I weave this into my essay?* – should mean that we find and think about new information or ideas, which makes our work richer and deeper.

Figure 7.2 A beginner's guide to critical thinking



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All these questions are designed to get us thinking around a subject, thinking in depth, thinking critically and analytically – and this extends our understanding.

‘I now break all my assignments into sub-questions. This is followed by free writing, which I do apply to my assignments.’

Tip

See *The Three Little Pigs* story in the downloadable Digital Literacy PDF from the Sage website that accompanies this book <https://study.sagepub.com/burnsandsinfield4e/>.

Tip

John Hilsdon developed a range of critical thinking resources for staff and students, and we have reproduced his questions cycle to help you move from *description* to *analysis*. If you want to go a bit deeper into this topic go here: www.plymouth.ac.uk/uploads/production/document/path/1/1710/Critical_Thinking.pdf, or search online for *critical thinking + Plymouth*.

Critical questions for reading and writing

Just as we can apply a critical questioning approach to our assignment questions, critical questions can also help us to shape our reading and our writing. The tip is to make the process a habit – something that we do without even having to think about it.

Reading in this critical way means that you are actively engaging in an analytical fashion with information as you go. This is a very good thing!

When writing, try to answer those questions as you go – this helps your writing to be analytical and critical. As always, we recommend that you do not try to answer all the questions at once; leave gaps as you write – knowing that you will review and revise your work. So, as you write, try to answer those questions, but write *blah* or *need an idea here* when you run out of ideas – and follow that up with more reading. Writing to answer those questions gives you structure, you can ‘go with the flow’ and avoid writing blocks – and you can read more to fill those gaps later. Adopting this approach means that you will find yourself constructing critical, argumentative paragraphs. Drafting and re-drafting gives you the time and space to read more – to review and improve your writing.

‘As with any type of work, practice makes perfect. To be a good writer one must practice writing. I have learnt a valuable lesson here and I am now more aware of what is expected from me. I have come to appreciate how to analyse and be critical of the resources I use for my assignments.’

Reading Tips

When reading – for every paragraph you read – ask critical questions:

- What is this paragraph about?
- Where is the author 'coming from'?
- How does this impact on their argument?
- What evidence are they offering? How valid is it?
- Who would agree with this? Why?
- Who would disagree with this? Why?
- How could I use this in my assignment?

Writing Tips

When writing – for every paragraph you write – answer the critical questions that a reader might ask:

- What is this paragraph about?
- What exactly is that?
- What is your argument?
- What is the evidence – and what does it mean?
- How does this relate back to the question?

Challenge yourself

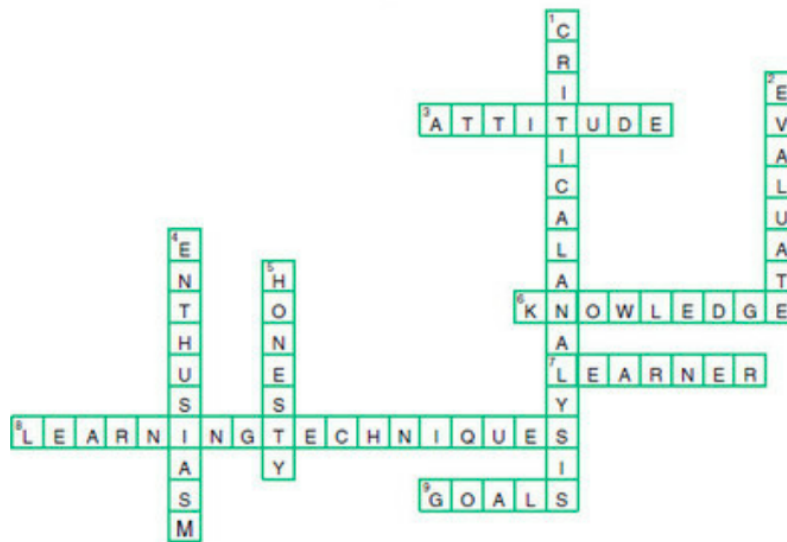
Students wrestle with critical thinking – here's something that one of our students sent us:

'I was thinking about this topic, critical thinking. In order to become a critical thinker one must be honest and deal with your own assumptions, prejudices and pre-conceptions ... The word 'challenge' popped into my head. A student must challenge themselves in order to become critical thinkers. I produced this crossword for you.'

Figure 7.3 Challenge crossword puzzle

CHALLENGE

Being Critical



ACROSS

- 3 You need the right one of these to be critical
- 6 You will develop this over time
- 7 It helps to be creative
- 8 You need to develop these to be critical
- 9 Set these for each assignment

DOWN

- 1 Be more critical
- 2 You must do this in order to make a judgement
- 4 Be curious and engage with the material
- 5 Appraise your own prejudices

Flawed logic

'I really like the *yourlogicalfallacyis* website.'

When we study and encounter new ideas and knowledge-claims, we have to look out for false arguments and logical fallacies – things that look okay at first glance, but that crumble when you really interrogate them. We need to be aware of these when we are reading – and when we are writing. The 'yourlogicalfallacyis' website provides examples of flawed reasoning, false premises, inappropriate comparisons, drawing conclusions on too few examples and false cause and effect. Check out this website and all the different examples of false reasoning and flawed arguments that they offer – this will provide you with another excellent set of tools with which you interrogate ideas when you encounter them in your reading – and it will help you to avoid constructing your own flawed or false arguments in your own writing.

Tip

See <https://yourlogicalfallacyis.com/appeal-to-authority> – and use the navigation arrows to investigate all the examples of flawed argumentation that they offer.

Summary

In this brief chapter we have linked analytical and critical thinking to active learning habits. We explored in detail how to use the extended journalism questions to help you approach ideas, knowledge-claims and arguments with scepticism and a critical eye. Applying the nine questions (who, what, where, when, why, how, what if, so what, what next) is a practical way to apply critical thinking to help you unpack your assignment. When you turn an assignment into a question matrix (see below), you generate questions to investigate and answer on your way to answering a whole assignment question. Although this can feel like 'yet more hard work', smile – do it with good grace – it will develop your understanding and improve your grades! We also demonstrated how to read and write with a questioning approach; putting these strategies into practice will make you critical as a habit – and this will save you time in the long run. Finally, we recommended the 'yourlogicalfallacyis' website which demonstrates the ways that bad arguments can look convincing. Exploring this site will give you yet more tools with which to analyse and criticise that which you see, read and hear. This chapter is deceptively short. Do not be fooled by that. These strategies will radically alter the quality of your research, your thinking and your writing. It is now up to you to try these things for yourself and see.

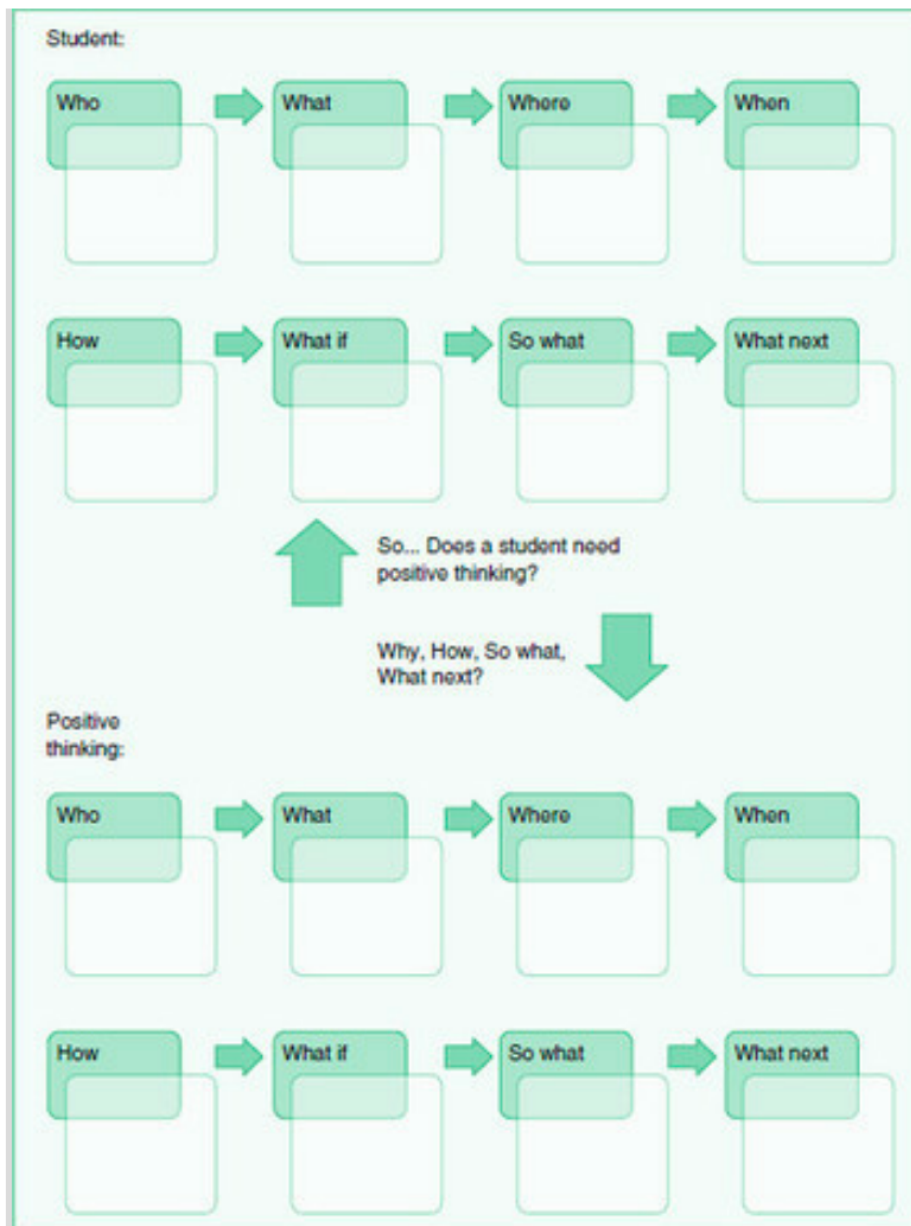
Activity

Use the question matrix

We have argued that you can use the nine questions, the question matrix, to open up a question – and to think more deeply and widely about your assignment questions. A big problem with assignments is that when we see a question, we think we need to produce an answer. This often leads us to think 'small', making snap judgements and not really investigating a topic in depth. This stops us from seeing the potential breadth and richness of our assignment questions – and it means that we will not discover enough information to produce a decent answer. When generating our smaller questions it is useful to apply the journalism questions: five Ws and an H plus the extensions, What if...? So what? What next? – to each part of the assignment:

- Who?
- When?
- What?
- Why?
- What if...?
- How?
- Where?
- So what?
- What next?

Figure 7.4 Preparing a question matrix



Prepare a question matrix

Now we would like you to take a few minutes to put this questioning approach into practice. Use the nine questions above to unpack the question, below, using the question matrix template in [Figure 7.4](#). Then compare your results with our example ([Figure 7.5](#)).

- Write the whole question out in the middle of a very large sheet of paper.
- Underline the key words.
- Write questions for all the key words.
- When you have finished compare your version to ours.

The question:

Evaluate the usefulness of positive thinking to a student.

We suggest that you spend five or ten minutes on this before moving on to compare your effort

Many students we know do find this approach intimidating at first. All it seems to do is produce yet more hard work. It feels exhausting – and they return to the method of looking at a question and just writing a quick answer – even though this has never worked well for them before. Old bad habits can be comfortable and familiar; they feel easier – even if they don't work.

```

graph TD
    A[Evaluate the usefulness of positive thinking to a student] --> B[what is useful (to a student)?]
    A --> C[what is positive thinking?]
    A --> D[What is a student?]
    B --> B1[why?]
    B --> B2[when?]
    B --> B3[where?]
    B --> B4[who says so?]
    B --> B5[how would pos thinking help?]
    B5 --> B5a[why says so?]
    B5a --> B5b[how would it help me?]
    C --> C1[what does it mean?]
    C --> C2[when is it done?]
    C --> C3[by who?]
    C --> C4[where?]
    C --> C5[why?]
    C --> C6[how?]
    D --> D1[why pos?]
    D --> D2[What does a student do?]
    D2 --> D2a[when?]
    D2 --> D2b[where?]
    D2 --> D2c[why?]
    D2 --> D2d[how?]
    D2 --> D2e[need?]
    
```

The mind map is centered on a box labeled "Evaluate the usefulness of positive thinking to a student". It branches into three main sections:

- what is useful (to a student)?**
 - why?
 - when?
 - where?
 - who says so?
 - how would pos thinking help?
 - why says so?
 - how would it help me?
- what is positive thinking?**
 - what does it mean?
 - when is it done?
 - by who?
 - where?
 - why?
 - how?
- What is a student?**
 - why pos?
 - What does a student do?
 - when?
 - where?
 - why?
 - how?
 - need?

Figure 7.6 Our notes on one of John Hilsdon's sessions on critical thinking

