CRITICAL THINKING

What is critical thinking?

Critical thinking, sometimes referred to as Higher Order Thinking (HOT), is a concept that is growing in popularity in higher education. There are various definitions and models of critical thinking (e.g. Bloom's taxonomy, De Bono's thinking hats), but a constant theme within them all is a "capacity to work with complex ideas whereby a person can make effective provision of evidence to justify a reasonable judgement" (Moon 2005). It involves the ability to:

- distinguish between reliable and unreliable information
- be objective
- see patterns and relationships
- create and present arguments

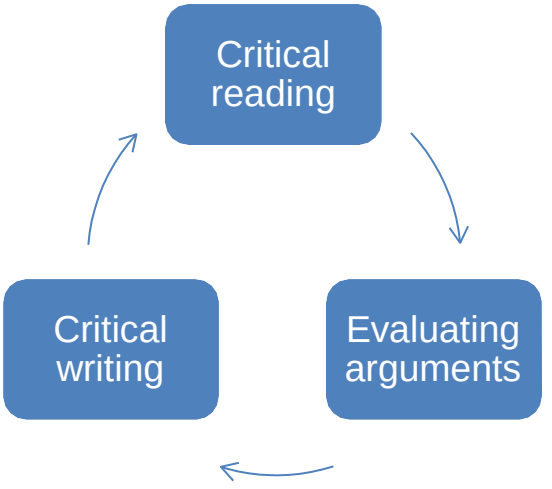
N.B. Critical in this context does not mean criticism in a negative way, but critical defined as: '*Involving or exercising careful judgement or observation'* (OED Online 2017)

Why is it important?

Being a critical thinker enables you to evaluate information and use it appropriately to develop, justify and communicate your own arguments. This type of thinking is expected within higher education and is key to getting a good mark in assessments. Beyond university it is a skill that employers seek and expect from graduates.
From a learning perspective, critical thinking ensures that you fully participate in higher education study and enables deep rather than surface learning. This helps you to engage with your studies, facilitating greater enjoyment of the topics and the learning process. It is a key element of collaborative learning, where you are working with the lecturer to develop your knowledge of a subject, rather than expecting to be 'spoon fed' information.

How to think critically

Critical thinking is a process that is developed gradually over time and, like all skills, needs practice. The University of Sussex identifies three areas for development: critical reading; evaluating arguments; and critical writing. (Wilson, 2009).



Critical reading involves evaluating the information that you find or are provided with. You need to discover and think about **who** wrote or produced it, **when** and **why**. This will help you to put the work into context, alert you to any potential bias and the reasons for this. Has the work been well researched? Is the bibliography made up of relevant, quality sources? Is the methodology for the research appropriate?

As you actively read through the work (remembering the purpose of your reading), ***evaluate the argument.*** Are the arguments backed up with strong evidence or are they just conjecture? Do the arguments make sense? If not, why not? Is the data used reliable? Remember that the same set of statistics can often be used in both positive and negative ways. Have different views to the author been taken into account or have they simply been ignored? Use your own growing knowledge of a topic to question and challenge the argument. Your confidence to do this will grow over time, as your knowledge deepens through your critical reading.
You may also find it useful to use the CRAAP test (on the back of this advice sheet) to evaluate your reading.

To demonstrate that you have been thinking critically, you then need to complete the cycle by ***writing critically***. To do this you need to organise your own arguments logically, ensuring that you back up any assertions with appropriate evidence and demonstrating that you have taken other points of view into account. All evidence and points of views should be properly referenced in the appropriate citation style. The writing style should be even tempered and balanced – no dramatic, strong language or jargon. To check that you have been successful in your aim, don't forget to critically read your own writing!

Use the checklist on the following page to help you practise critical thinking for your studies.

Critical Thinking Checklist

Identify what's important:

- ✓ What are the key ideas, problems, arguments, observations, findings, conclusions?
- ✓ What evidence is there?
- ✓ Distinguish critical from other types of writing (eg descriptive); fact from opinion; bias from reason

Evaluate what you find:

- ✓ Explore the evidence - does it convince?
- ✓ What assumptions are being made and inferences drawn?
- ✓ Is there engagement with relevant, up to date research?
- ✓ How appropriate are the methods of investigation?
- ✓ Is there a consistent and logical line of reasoning?
- ✓ Do you agree with what's being said? Why?
- ✓ How is language being used (emotive, biased etc.)?

Look beyond what you're reading/hearing:

- ✓ What other viewpoints, interpretations and perspectives are there? What's the evidence for these? How do they compare?
- ✓ How does your prior knowledge and understanding relate to these ideas, findings, observations etc.?
- ✓ What are the implications of what you're reading/hearing?

Clarifying your point of view:

- ✓ Weigh up the relevant research in the area
- ✓ Find effective reasons and evidence for your views
- ✓ Reach conclusions on the basis of your reasoning
- ✓ Illustrate your reasons with effective examples

References:

Moon, J. (2005) *Critical thinking*. Bristol: Escalate. Available at: http://escalate.ac.uk/2041 [Accessed 4 September 2017].

OED Online (2017) *Critical* [online] Available at: http://www.oed.com/view/Entry/44592? [Accessed 4 September 2017].

Wilson, M. (2009) *Critical thinking*. (Study Success at Sussex S3) Available at: http://www.sussex.ac.uk/s3/?id=87 [Accessed 4 September 2017].

The CRAAP test

You can use the CRAAP test to help evaluate the accuracy and reliability of a resource when doing your reading.Each element offers insight on how to assess the resource on:

Currency	• What is the date of publication? • Does the source use recent information? • Are the references and/or links current? • Does currency matter for this topic? Why or why not?
Relevance	• What aspect of your research question(s) does this source answer? • Is the intended audience appropriate for academic research? • Does this source provide a new perspective or piece of information? • Is this source too technical or too general?
Authority	• What credentials related to the topic at hand does the author have? • Does the author have any relevant affiliations with a respected university or organization? • What can you find about the author online? • Has the author published on this subject before? • Is the publication reputable?
Accuracy	• Does the source contain any false information or errors? • Does the source use reputable sources to support the claims made? • Has the source gone through peer review? • Are any research methods used well-designed and are conclusions from the research supported by the evidence? • Does this source align with other sources that discuss this topic? • Does the information seem complete, or are facts missing?
Purpose	• Is this information clearly biased in one way or another? • Why did the author or creator decide to share this information? • Does this source present multiple points of view on the topic? • Is the language used meant to evoke a strong, emotional response?

Further reading:

Cottrell, S. (2011) *Critical thinking skills : developing effective analysis and argument.* 2nd ed. Basingstoke : Palgrave Macmillan. 370.152/COT (also available online via the Library Catalogue)

Fisher, A. (2011) *Critical thinking : an introduction.* 2nd ed. Cambridge : Cambridge University Press. 160/FIS (also available online via the Library Catalogue)

McMillan, K and Weyers, J.D.B. (2013) *How to improve your critical thinking & reflective skills,* Harlow : Pearson. 378.170281/MAC