

Introduction to Critical Thinking



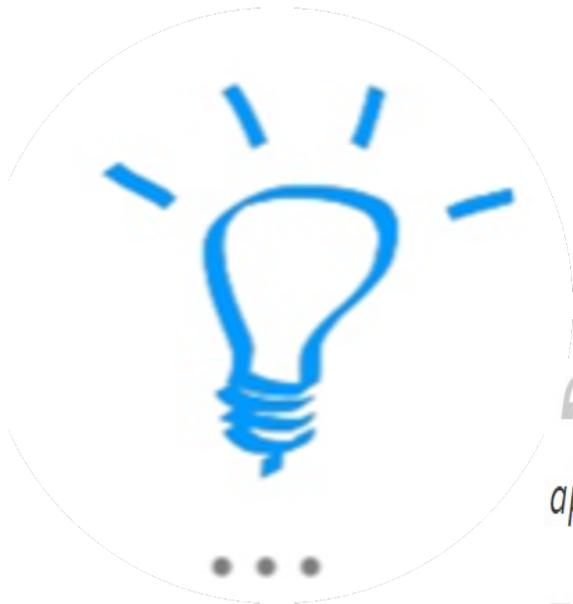
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Quarterly Topic 2021

Objective of the topic

- Outline what is critical thinking
- Provide guidance on how to apply critical thinking
- Will be most suited to A level and university students, but GCSE students may benefit too
- A detailed presentation with handouts/guidance worksheets for students will be provided
- Delivery from July-September 2021



What is critical thinking?



“ Critical thinking is the art of making clear, reasoned judgements based on interpreting, understanding, applying and synthesising evidence gathered from observation, reading and experimentation. ”

— Burns, T., & Sinfield, S. (2016)

Essential Study Skills: The Complete Guide to Success at University (4th ed.) London: SAGE, p94.

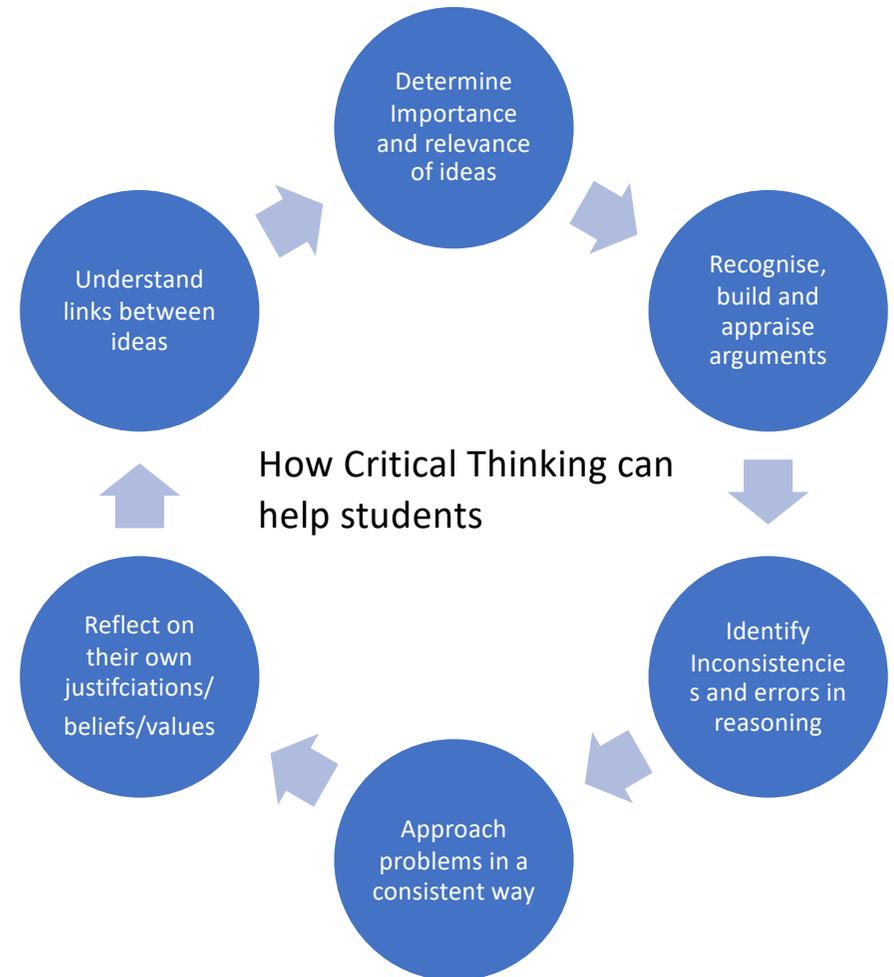
Purpose of covering Critical Thinking

University Students commonly produce descriptive work

- Have not reflected critically on the material
- Have not evaluated and constructed an argument

Critical thinking is important in all subjects and disciplines – in science and engineering, as well as the arts and humanities.

It involves synthesising, analysing and evaluating what you have learned to develop your own argument or position.



Subtopics covered

Reading with purpose

Developing an argument

Critical Thinking

Academic writing

Understanding exam question terminology

Features of critical thinking

Critical thinking is a complex process. Features the skills listed in the table below help you break down the stages of the process.

Task	Checklist/n
Identify a range of positions on a particular issue. Compare and contrast opposing views.	
Judge the credibility of the sources. Is there any bias, prejudice or self-interest?	
Evaluate the opposing arguments, based on the evidence presented.	
Synthesise – bring together a range of evidence to make your point.	
Draw conclusions based on your own line of argument.	
Present your argument clearly in a manner to persuade others.	

Building an argument as you go

Thinking, reading, thinking, writing – repeat... You can develop the steps of your argument identifying the points you want to make:

- Analyse the essay title or assignment brief**
 - Get an overview
 - Text book
 - Lecture not
 - Introducer reading
- Create a working hypothesis**
 - Write an initial response offering a few essay title or assignment brief. Stick to **You will change and develop it as you go**.
- Test your hypothesis with questions**
 - Step one: Pretend you disagree – why would you disagree?
 - Step two: Pretend you agree totally – and add something else to support.
 - Step three: Agree to some extent, but point out weaknesses.
- Modify and develop your arguments**
 - How far – if at all – does each text con... Which parts? In what way? Can you use...
 - How far – if at all – does it contradict... Do you need to modify your answer? Will you keep your response and conclu... Does it suggest new questions/issues... How will you build these into your argu...

Getting your ideas in order: 1

Getting some order

In any written assignment you will be expected to structure information from a range of sources up with a list of notes and bits of writing you:

- What should you select?
- What are the relationships between ideas?
- How can you reorganise these in response?

These are suggestions – experiment

There will more than possible or experiment (the order).

Aim to get a list of sections for your writing.

Highlight and group

Take the floor

Shuffle your key ideas around

- Putting material into groups makes it easier how you might link the material together.
- Playing around with the order can help you at a line reasoning that will convince the re...
- Your readers will be able to follow your arg more easily if you have thought about the order to use.

Getting your ideas in order: 2

Post up your ideas

Put key ideas on sticky notes or cards

Use a table or a wall

Visualise

You can try spider diagrams formally.

Critical reading form method

Creating a critical reading form is a way of interrogating a source using a set of questions. This helps you to focus on the most important aspects. It also helps you to avoid taking bits of detailed notes you might not use.

Start with the bibliographic details. Author, title, date and so on. You'll need to cite your sources accurately. Add the location (e.g. main library comment). You might want to find it again!

Create your reading form

- Create a sheet for use as a template.
- Open and answer your set of questions for each separate text you read.
- Save these documents with names that include the author's surname or subject.
- Organise and file so you can find them again.

A suggested list

- Full reference.
- Who is the author?
- What is this work about?
- What are the main findings of this work?
- How is this work relevant to my course and/or assignment?
- What are the limitations of this work?
- Useful quotations.

What questions would you ask?

- What's the main point being made?
- What's the main line of reasoning?
- What's the main evidence?
- Does the evidence support the conclusions offered?
- Adapt to suit you:
 - Have a checklist on a postcard and make handwritten notes using it.
 - Use printed paper forms.
 - File by author's surname in a ring binder.
 - Use a notebook and type up a summary later.

How can I use my notes?

- To make a point
- To advance an argument
- To test an idea
- To make comparisons
- To develop my own view
- To draw my own conclusion

Reading notes record sheet

Title:	Author(s):	Full reference in the format of your subject/assignment*
Date read/accessed:	Published date (online or in-print):	Subject:
How is this related to my course/topic/lecture/assignment?	Main point(s):	Additional areas covered:
My opinion: agree/disagree/unsure?	Why do I agree/disagree? Why I am unsure?	Do any other author(s)/pieces of work have the same opinion as me?
Who does the author work for? Who funded this work? Who are their affiliations? Do they have an agenda/ are they biased? Is this a trusted source?	Are there any holes within this article/work/method? How does this affect the results/argument/conclusions?	What is the one point I remember from reading this? What other questions has this reading stimulated?

* Check your course/programme information for the correct referencing format to use.

Skills needed for critical thinking

observation

analysis

interpretation

reflection

Evaluation

Inference

Explanation

Problem
solving

Decision
making

Specifically we need to be able to:

- ✓ Think about a topic or issue in an objective and critical way.
- ✓ Identify the different arguments there are in relation to a particular issue.
- ✓ Evaluate a point of view to determine how strong or valid it is.
- ✓ Recognise any weaknesses or negative points that there are in the evidence or argument.
- ✓ Notice what implications there might be behind a statement or argument.
- ✓ Provide structured reasoning and support for an argument that we wish to make.

Critical Reading

How to critically read

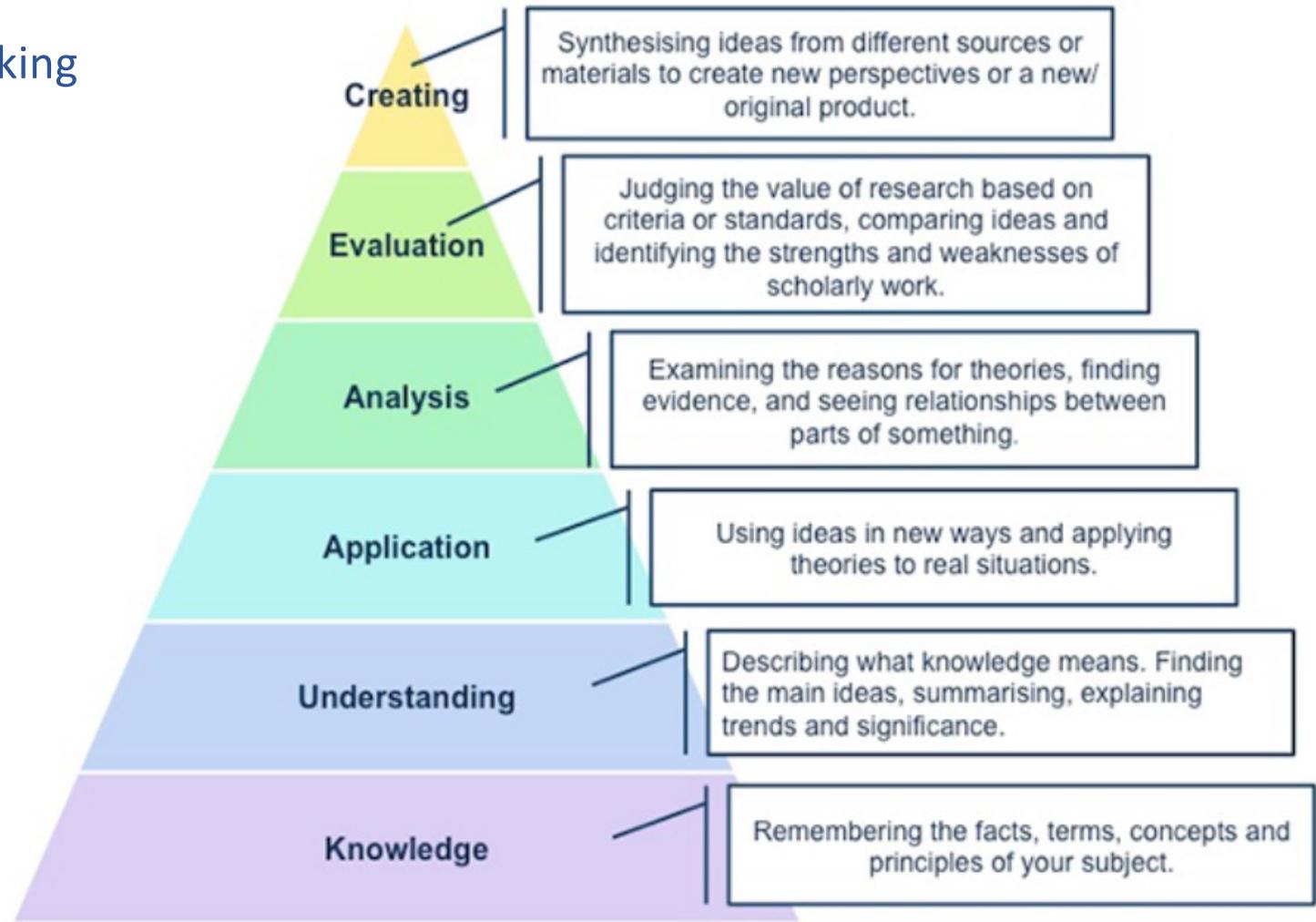
1 – Point being made	2 - Evidence	3 - Conclusions	4 - Purpose	5 - Opinion
<ul style="list-style-type: none">• What is the main point or claim being made?• What subsidiary points/claims are being made?• Do the subsidiary points/claims connect logically with the main one? Are all the points/claims linked together? Are they in an order which aids understanding?	<ul style="list-style-type: none">• Is there appropriate evidence for each point/claim?• Have any steps/information/evidence been missed out of an argument?• Has information/points/claims not relevant to the main point/claim been included?	<ul style="list-style-type: none">• Do the conclusions follow from the points/evidence/claims? Have the judgements been made about the topic or information?	<ul style="list-style-type: none">• When and why was it written? Has the context changed since it was written?	<ul style="list-style-type: none">• Do you agree with the conclusions/what does it add to our knowledge/why is it useful?

★ Use [IAD critical reading form](#) to help practice and Reading Notes record sheet to help summarise your reading

Developing an Argument

Developing an argument

6 steps of critical thinking



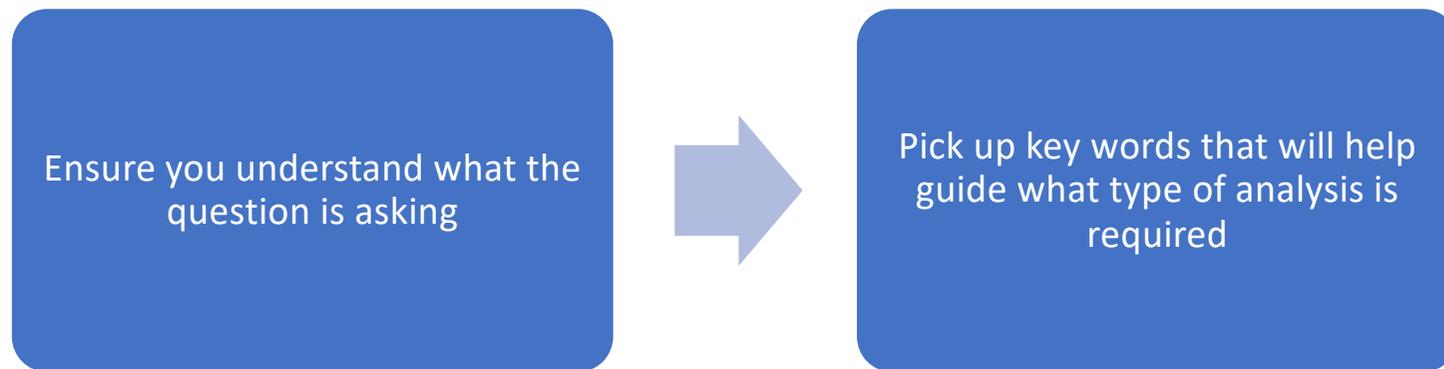
Taken from
<https://fatimahys.wordpress.com/2016/06/09/critical-thinking-pyramid/>

- ★ • Use the [IAD features of critical thinking checklist](#) provided to think through how to develop and articulate your position on a subject/topic
- ★ • Use the [IAD building an argument guideline worksheet](#) to help build an argument

Developing an
argument –
checklist

Critical Writing

How to write a critical response



The next slide provides a list of key words often found in questions – with an explanation of what the examiner is looking for from the analysis

★ Use worksheet [IAD Getting your thoughts in order](#) to help plan your response

Question key word	What is meant by the key word
clarify	identify the components of an issue/topic/problem; identify the main points; make the meaning plain; remove ambiguities or misunderstandings, restate something in your own words
analyse	break information into constituent parts; examine the relationship between the parts; question the information
be critical	identify what is good and bad about the information and why, probe, question, identify inaccuracies or shortcomings in the information, estimate the value of the material
evaluate, weigh up	as above but also – come to a conclusion (see below) about the information
compare	consider the similarities or dissimilarities; implies evaluation (e.g. which aspects of two or more topics/subjects are most valuable)
identify trends	identify patterns/changes/movements in certain directions (e.g. over time or across topics/subjects)
argue	put the case for/against a view or idea giving evidence for your claims/reasons; attempt to influence the reader to accept your view
conclude / draw conclusions	the end point of your critical thinking; what the results of an investigation indicate; arrive at a judgement by reasoning
develop a view	decide what you think (based on an argument or on evidence)
justify	make a case for a particular view; explain why something is like it is; give reasons; show adequate grounds for something
give evidence	evidence from your own work or that of others which could be checked by a third party to prove/justify what you say
summarise	briefly identify the main points or aspects of the information, remove unnecessary detail
review	similar to summarise (see above) but usually includes evaluation, an overview, a reconsideration of something

Critical academic writing tools

- You should also consider the language you will use to introduce a range of viewpoints and to evaluate the various sources of evidence.
- This will help your reader to follow your argument.
- To get you started, the University of Manchester's Academic Phrasebank has a useful section on Being Critical.
- <http://www.phrasebank.manchester.ac.uk/>