Critical Thinking

The Very Basics
(at least as I see them)

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What You'll Learn Here

I. How to recognize arguments

II. How to analyze arguments by
1. Recognizing the ultimate conclusion
2. Determining which other ideas are important
3. Seeing how these other ideas work together to support the ultimate conclusion

III. How to evaluate arguments by
1. Appreciating the structure of the argument
2. Evaluating the premises
3. Evaluating the inferences
4. Assessing the argument as a whole

IV. How to construct arguments by
1. Deciding upon the ultimate conclusion
2. Constructing the chain of reasoning
3. Communicating the argument

The Nature of Basics

- A few, relatively simple, skills
- Sometimes (and mistakenly) unappreciated
- The building blocks for any more advanced activity
- Admit of endlessly sophisticated applications

The Four Big Steps

I. Recognizing Arguments
II. Analyzing Arguments
III. Evaluating Arguments
IV. Constructing Arguments

Note: It's very important to analyze before we evaluate.

I. Recognizing Arguments

An argument is a unit of reasoning that attempts to prove that a certain idea is true by citing other ideas as evidence.

"Is this passage trying to get me to believe something by making a case for its truth rather than by simply asserting it?"

"Yes" = It's an argument.
"No" = It's not an argument.

First example

"Critical thinking is taught at many colleges and universities. Courses devoted to critical thinking are often offered by philosophy departments, but critical thinking skills are taught in every subject, from art to zoology."

Not an argument.

Second example

"Critical thinking helps people to reason more easily and effectively and prevents them from being easily taken in by shoddy arguments. These skills are essential to a happy and productive life, so everyone should study critical thinking."

An argument.

II. Analyzing Arguments

1. Identify the ultimate conclusion
2. Determine which other ideas are important.
3. Determine how these other ideas work together to support the ultimate conclusion.

1. Identify the Ultimate Conclusion

The ultimate conclusion is the main idea that the argument is trying to prove.

Sometimes, it's unstated.

2. Determine What Other Ideas are Important

An idea is important if it helps the argument to establish the truth of the ultimate conclusion.

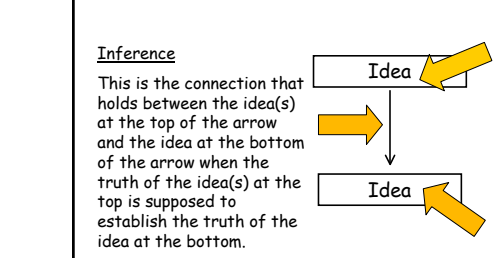
Frequently, some of the sentences in a passage that contains an argument don't convey important ideas.

3. See How these Other Ideas Work Together to Support the Ultimate Conclusion

Four Basic Patterns of Cooperation

Combinations of Basic Patterns

i. Premise / Ultimate Conclusion



(This is an argument diagram.)

For example:

"~~What's your opinion of critical thinking?~~ Critical thinking helps us to understand how other people think. Therefore, critical thinking is important."

Inference Indicator Expression (Conclusion Indicator)

Critical thinking helps us to understand how other people think.

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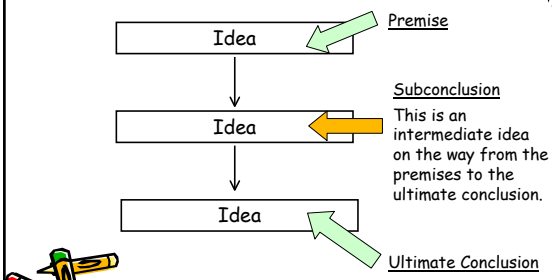
Critical thinking is important.

ii. Subconclusions



For example:

"~~What's your opinion of critical thinking?~~ ~~Look at it this way.~~ Critical thinking helps us to understand the arguments that other people give. Thus, critical thinking helps us to understand how other people think. Therefore critical thinking is important."

Critical thinking helps us to understand the arguments that other people give.

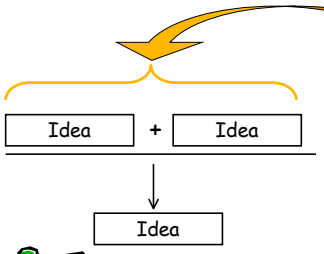
↓

Critical thinking helps us to understand how other people think.

↓

Critical thinking is important.

iii. Dependent Reasons



Dependent Reasons

Neither idea can support the conclusion alone but together they can support the conclusion.

For example:

Inference Indicator Expression (Reason Indicator)

"Critical thinking helps us to understand how we think because in the process of assessing arguments, we clarify our own basic assumptions and clarifying our own basic assumptions helps us to understand how we think. ~~I really enjoy teaching and studying critical thinking.~~"

In the process of assessing arguments, we clarify our own basic assumptions.

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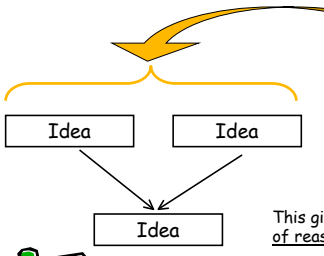
Clarifying our own basic assumptions helps us to understand how we think.

↓

Critical thinking helps us to understand how we think.

iv. Independent Reasons



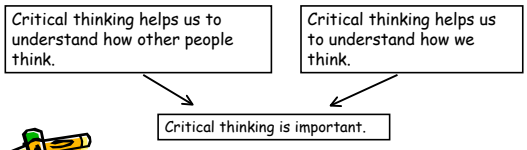
Independent Reasons

Each idea can support the conclusion on its own.

This gives us independent lines of reasoning.

For example:

"Critical thinking is important since it helps us to understand how other people think. It's also important because it helps us to understand how we think."

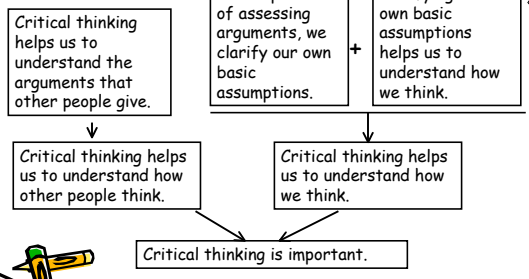


Combinations of the Four Basic Patterns

For example:

"~~What's your opinion of critical thinking? Look at it this way~~. Critical thinking helps us to understand how other people think because it helps us to understand the arguments that other people give. Hence critical thinking is important. In addition, in the process of assessing arguments, we clarify our own basic assumptions, and clarifying our own basic assumptions helps us to understand how we think, so critical thinking helps us to understand how we think. ~~I really enjoy teaching and studying critical thinking~~."

Combinations of the Four Basic Patterns



III. Evaluating Arguments

- A good argument establishes the truth of its ultimate conclusion and gives its audience good reason to think that the ultimate conclusion is true. ☺
- A bad argument either doesn't establish the truth of its ultimate conclusion or else doesn't give its audience good reason to think that the ultimate conclusion is true. ☹

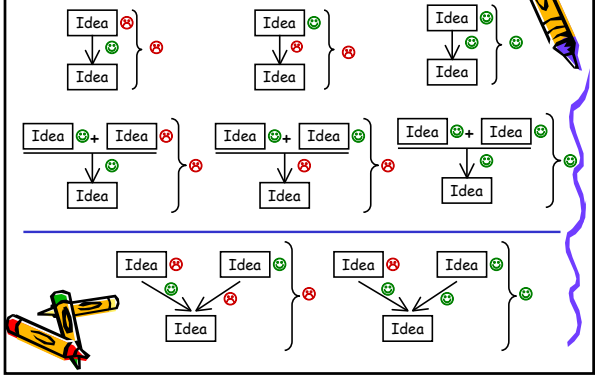
III. Evaluating Arguments

1. Appreciate the Structure of the Argument
2. Evaluate the Premises
3. Evaluate the Inferences
4. Assess the Argument

1. Appreciate the Structure of the Argument

- A good argument must have at least one good line of reasoning.
- A good line of reasoning must have all good premises and all good inferences.

For example:



2. Evaluate the Premises

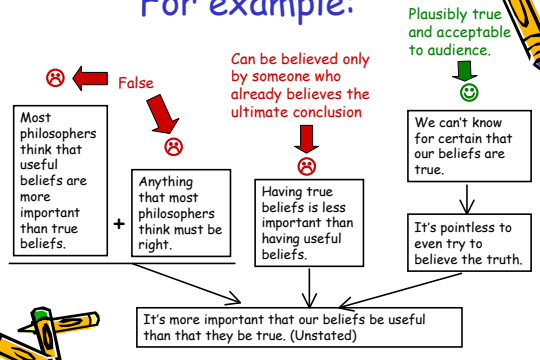
1. "Is this premise true?"
   - Here, we think with our own head.
2. "Would most members of the argument's audience, *including people who don't already believe the ultimate conclusion*, believe this premise?"
   - Here, we try to view the premise through someone else's eyes.
3. "Does the argument's audience have good reason to believe this premise?"

- If one answer is "no," the premise is bad.
- If all answers are "yes," the premise is good.

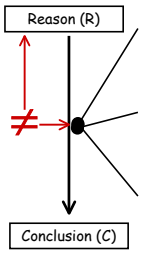
For example:

"Sometimes believing the truth isn't very useful, but many people think that we should try to believe the truth anyway. Such people maintain that it's more important to have true beliefs than useful ones. Are these people right? Well, first of all, philosophers think that useful beliefs are more important than true beliefs and anything that most philosophers think must be right. Second, having true beliefs is less important that having useful beliefs. And finally, since we can't know for certain that our beliefs are true, it's pointless to even try to believe the truth."

For example:



3. Evaluate the Inferences

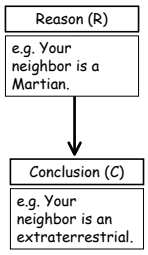


The inference is valid = If R were true then C would have to be true as well. ☺!

The inference is good = If R were true then C would probably be true as well. ☺

The inference is bad = Even if R were true, C could very easily be false. ☹

The Bob Method



Bob is a perfectly gullible, perfectly rational fellow.

Bob believes R.

How likely is Bob to believe C?

- If Bob is compelled to believe C, the inference is valid. ☺!
- If Bob is inclined but not compelled to believe C, the inference is good. ☺
- If Bob is not at all inclined to believe C, the inference is bad. ☹

The Bob Method

Reason (R)

e.g. Your neighbor is a Martian.

Conclusion (C)

e.g. Your neighbor is an extraterrestrial.

Bob is a perfectly gullible, perfectly rational fellow.

Bob believes R.

How likely is Bob to believe C?

The Bob Method helps us to see the world as someone who accepts certain ideas would see it and to evaluate the inferences on those terms.

For example:

Weak inference

Most philosophers think that useful beliefs are more important than true beliefs.

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Anything that most philosophers think must be right.

Having true beliefs is less important than having useful beliefs.

We can't know for certain that our beliefs are true.

It's pointless to even try to believe the truth.

It's more important that our beliefs be useful than that they be true. (Unstated)

Strong inference

4. Assess the Argument

- We evaluate the argument in light of what we've learned about the argument's structure, premises, and inferences.
- If we think that an argument is bad, we should form no opinion about the ultimate conclusion on that basis.
- If we think that an argument is good, we should be inclined to believe the ultimate conclusion on that basis.
  - If we're faced with reasonably good arguments for competing positions, we should believe the position supported by the strongest arguments.

4. Assess the Argument

It's okay to change our mind about an ultimate conclusion as we encounter more and better arguments!

Stubbornness is not an intellectual virtue.

For example:

This argument is bad.

Most philosophers think that useful beliefs are more important than true beliefs.

+

Anything that most philosophers think must be right.

Having true beliefs is less important than having useful beliefs.

We can't know for certain that any of our beliefs are true.

It's pointless to even try to believe the truth.

It's more important that our beliefs be useful than that they be true. (Unstated)

We should form no opinion about the ultimate conclusion on this basis.

IV. Constructing Arguments

1. Decide upon the Ultimate Conclusion
2. Construct the Chain of Reasoning
3. Communicate the Argument

1. Decide upon the Ultimate Conclusion

i. Ask a question.
ii. Consider various answers.
iii. Research answers.
iv. Formulate an answer.

2. Construct the Chain of Reasoning

i. Think of reasons to believe the answer.
ii. Diagram an argument on the basis of these reasons.

2. Construct the Chain of Reasoning

iii. Evaluate the inferences.
- Repair weak inferences by adding dependent reasons.

Logic helps us to avoid believing falsehoods. + It's important to avoid believing falsehoods.

↓

Logic is important.

2. Construct the Chain of Reasoning

iv. Evaluate the premises.
- Repair false premises by changing them.
- Repair premises that might not be believed by transforming them into subconclusions.

v. Repeat until the argument is good.

2. Construct the Chain of Reasoning

- If the argument can't be repaired, construct another argument for the conclusion.
- If no argument for that conclusion works, change the conclusion by opting for another answer to the original question.
- If no answer to that question can be supported by a good argument, reconsider the question. (Does it assume a falsehood?)

3. Communicate the Argument

Write a passage containing the argument.

Ensure that your passage makes the argument easy for your readers to analyze.

That's It!

We've discussed the basics of:

I. Recognizing Arguments
II. Analyzing Arguments
III. Evaluating Arguments
IV. Constructing Arguments

Beyond the Basics

There's more to learn, if you want:

- Recognizing Arguments: Distinguishing between arguments and explanations.
- Analyzing Arguments: Recognizing more inference indicator expressions. Employing various tests to identify dependent reasons. Identifying and summarizing the main points in longer texts that may contain multiple, interrelated, arguments.
- Evaluating Arguments: Assessing special kinds of premises. Assessing inferences by constructing counterexamples, identifying missing subconclusions, identifying hidden assumptions, spotting informal fallacies, and using symbolic logic.
- Constructing Arguments: Employing special subject-specific research techniques.

These extras are are nice but they aren't necessary. The basics are enough to let you recognize, analyze, evaluate, and construct literally *any* argument no matter how complex.

All you need to do is practice.

Have fun.
Be nice. ☺