

Critical Thinking

in Reading, Writing & Discussion



Note – This is part of a Booklet on Global Education with a Research and Writing assignment on global issues,

[Global Education: Research & Writing on Global Issues](#)

This includes a student assignment for researching and writing about a global issue, though any particular issue can be chosen. It includes assignment guidelines, learning objectives, class ideas, question and note-taking worksheets, critical thinking questions, writing guidelines and rubric, general objectives and themes in global education, and an extensive outline of global issues for research and study.

from **EducationForWorldSolutions.org**

a non-profit website, free of ads, dedicated to global education on world issues, with hundreds of links to information websites

Inquiry & Discussions

* Group discussions on Global or Humanitarian Issues can also be regarded as *Philosophical Discussion* in a *Community of Inquiry*, involving thoughtful questions and discussion, along with critical thinking and reasoning, assisted by a teacher as the facilitator.

This involves a teaching approach sometimes called *Socratic* or *Dialogic*, emphasizing the development of critical and creative thinking through student inquiry and dialogue, questioning and thinking, rather than just supplying information or answers.

Students ask both practical and ethical questions about critical issues, and they seek rational answers to these real-life issues. Teacher and students collaboratively delve into questions with research, discussion, reasoning and critical analysis. Emphasis is on *open questions* – with open-possible answers, yet there can be rigorous questioning and discussion about answers.

In this dialogic approach, questions and thinking are just as valued as any answers, because the process itself develops reasoning skills and student-acquired understanding, along with social & verbal skills such as cooperation and peaceful dialogue, all useful for vocational purposes and democratic participation. In addition, students become thinking, reflective, critical readers. They also develop self esteem and a self concept as thinkers and learners.

Students become –

Curious thinkers –by asking important and interesting questions

Collaborative thinkers –by engaging in group-shared questions

Caring thinkers –by listening to the ideas and feelings of others

Critical thinkers –by asking for reasons and supporting evidence

Creative thinkers –by building upon ideas and problem-solving

* The Socratic-dialogic approach can be modified for indep studies or research

In a classroom-community of inquiry & discussion

students learn to –

- collaboratively work together to understand complex issues, multiple perspectives, and together think of solutions
- ask questions and raise issues for discussion
- listen to and consider the views of others
- attempt to understand views different than their own
- explore and develop their own ideas, views, beliefs, values
- intelligently share, explain, and argue their point of view
- give reasons for what they think or believe
- share real-life examples or experiences relevant to discussion
- recognize shared experiences and values with other people
- question irrational assumptions, beliefs, and arguments
- rethink about their current beliefs or opinions
- evolve their ideas in the process of discussion and reasoning
- value the shared group rules for intelligent engagement

This class atmosphere –

- gives students an opportunity to self-express their thoughts, feelings and questions, and learn from a process of discussion
- develops student's abilities to question & communicate
- nurtures self-confidence as an intelligent social participant
- gives students a sense of shared goals, questions & concerns
- fosters rational reflection, discussion & self-expression
- develops critical reasoning and nurtures creative thinking

Controversial issues

- Issues are controversial when there are opposing beliefs or opinions about how to deal with them
- Differing views are often based on the person's different enculturation, experiences, interests, values, and learning
- Controversial issues often have a social, political, economic, and personal impact upon people's world-view and lives
- Controversial issues often arouse an emotional response, with sensitive and strong feelings about the issue
- Problematic issues present a real and practical context for developing critical reading and thinking skills
- Studying, discussing or writing about serious or sensitive issues help develop social empathy and thoughtful caring
- Learning about problematic issues is an important part of the educational and developmental growth of students
- Controversial and problematic issues evoke student thinking, reasoning and critical evaluation of different solutions
- Students should be encouraged to reach their own conclusions, based on research, reasoning and discussion
- In a summary or discussion of controversial issues, minority views should be objectively and fairly examined
- In writing about or discussing issues, students can look into the values implicit in any information, analysis, or proposal
- Controversial issues can bring to awareness and into self-reflection one's present values, morals, and conscience
- Controversial and problematic issues can inspire students to make positive actions and work on positive solutions

Discussion & debate

Ground rules

explain to students that the reason for agreeing to rules is to provide a safe and fair environment for all students to express their ideas

- everyone is *respected* to express their ideas, opinions, beliefs
- each person is *allowed* to speak without being interrupted
- *time limits* – no one is allowed to dominate the discussion
- ok to ask for a person's *reasons* for having an opinion/belief
- ok to *challenge* ideas, opinions, beliefs, but *not* the person
- use *respectful language*, without put-downs or stereotyping

Facilitation

- be encouraging of student ideas, thoughts, opinions & feelings
- encourage open-mindedness but also rational thinking
- be impartial, fair-minded, and respectful of diverse viewpoints
- protect the climate of respect, fairness, and non-prejudice
- try to be a role-model of intelligent & unbiased objectiveness
- stimulate the discussion with probing and inquiring questions
- keep the discussion focused on one question or issue at a time
- periodically summarize, restate, & write down ideas discussed
- periodically make connections between related ideas
- periodically mention questions or issues still unresolved
- periodically bring forth different or opposing viewpoints
- a facilitator can present information relevant to the discussion
- a facilitator can challenge any beliefs, assumptions or opinions

Elements of critical thinking *

Clarity

understandable, the meaning can be grasped

- ✓ Could you elaborate further?
- ✓ Could you give me an example?
- ✓ Could you illustrate what you mean?

Accuracy

free from errors or distortions, true

- ✓ How could we check on that?
- ✓ How could we find out if that is true?
- ✓ How could we verify or test that?

Precision

exact to the necessary level of detail

- ✓ Could you be more specific?
- ✓ Could you give me more details?
- ✓ Could you be more exact?

Relevance

relating to the matter at hand

- ✓ How does that relate to the problem?
- ✓ How does that bear on the question?
- ✓ How does that help us with the issue?

* Richard Paul; criticalthinking.org

Depth

containing complexities and multiple interrelationships

- ✓ What factors make this a difficult problem?
- ✓ What are some of the complexities of this question?
- ✓ What are some of the difficulties we need to deal with?

Breadth

encompassing multiple viewpoints

- ✓ Do we need to look at this from another perspective?
- ✓ Do we need to consider another point of view?
- ✓ Do we need to look at this in other ways?

Logic

the parts make sense together, no contradictions

- ✓ Does all this make sense together?
- ✓ Does your first paragraph fit in with your last?
- ✓ Does what you say follow from the evidence?

Significance

focusing on the important, not trivial

- ✓ Is this the most important problem to consider?
- ✓ Is this the central idea to focus on?
- ✓ Which of these facts are most important?

Fairness

justifiable, not self-serving or one-sided

- ✓ Do I have any vested interest in this issue?
- ✓ Am I sympathetically representing the viewpoints of others?

Critical questions – *in reading, thinking, and writing*

Questions about inferences or conclusions

- Is this supported by facts, observations or actual experiences?
- Is this absolutely certain, probable, or at least plausible?
- How does this compare with alternative inferences/conclusions?
- If this is a proposed solution, is it useful, feasible, and practical?

As a simple guideline, the following should be differentiated

- actual facts or objective evidence
- reasoned conclusions, inferences or implications
- implicit assumptions (the pre-assumed and unstated beliefs)
- implicit values (in any proposed solution or should-statement)
- the purpose of the inquiry (or what is the problem to be solved)

Examine the basis of your reasoning, conclusions, or opinions

- facts, evidences, examples, observations, or experiences
- your pre-existing beliefs, or unquestioned assumptions
- your values and ethical concerns
- the definitions you have for any key words in an argument
- the generalizations you use in an argument

The kind of question depends on the kind of answer being sought

- questions about the facts or scientific evidence
- questions about someone's experiences or observations
- questions about the reasoning, inferences, or implications
- questions about opinions, proposed solutions or needed action
- questions about the meaning of a key term in a statement
- questions about unstated assumptions implicit in the reasoning
- questions about the values implicit in an argument or reasoning
(assumptions & values are implicit in any perspective or in any bias)

Questions for critical thinking

These are questions to ask a text or a source, others in a dialogue or discussion, and also to ask oneself. One is rationally examining what others say or write about, while also examining one's own beliefs and reasoning.

Questions about questions & purposes

- What is the purpose of your question?
- What are you seeking to know or understand?
- Why is this question important?
- What would be different parts or aspects of your question?
- What are a few similar questions?
- How can someone find answers to your question?

Questions about information & evidence

- What kind of information would be helpful to know?
- Is this information relevant? important? useful?
- Why do you believe this information is correct?
- Is this good enough evidence? Is it sufficient evidence?
- Is there any reason to doubt this evidence?

Questions about ideas & solutions

- What are some important ideas in this issue or topic?
- What are the main ideas?
 - principle ideas? value ideas? truth ideas? solution ideas?

Questions about values & concerns

- What are your concerns in relation to this topic/issue?
- What are your values in relation to this topic/issue?
- What values or concerns are explicit or implicit in the info?

Questions about clarification & meaning

- How can you make your insights and ideas better understood?
- Could you explain further about what you've said or written?
- Could you say it in another way?
- Could you give an example?
- What is your main point? main argument? main concern?
- How does this relate to the discussion, problem, issue?
- What is your definition for key words?

Questions about assumptions & beliefs

- What are you assuming?
- What are the assumptions in how this issue is discussed?
- What assumptions are involved in the conclusion?
- What believed-truths are inherent in your reasoning?
- Are your beliefs/assumptions/presuppositions justified?

Questions about generalizations

- What are the generalizations used in this argument?
- Is the generalization supported by actual evidence?
- Are exceptions or counter-examples being considered?
- Is this merely an assumption, cliché, stereotype, or bias?

Questions about reasons & justifications

- What are your reasons for saying that?
- Why do you believe that?
- What are some examples (or evidence) that this is true?
- What are some reasons for believing that A is a cause of B?
- What are some reasons for believing an implication of A is B?

Questions about implications & consequences

- What are some consequences or implications of this?
- If A occurs, or if A is true, then what results from this?
- What are some of the effects resulting from this problem?
- What consequences are fairly certain?
- What consequences are probable?
- What consequences are plausible?

Questions about inferences & conclusions

- What conclusions can you make from studying this issue?
- How did you (or someone) reach this conclusion?
- What facts and reasoning support this conclusion?
- What alternative conclusions can be made?
- How can one comparatively evaluate possible conclusions?
- What would be an alternative plausible conclusion?

Questions about viewpoints & perspectives

- Are there other ways to view this issue or problem?
- What would be another perspective or point of view in this?
- How is another perspective the same, and how is it different?
- What groups of people might disagree with you? Why?
- What do those in disagreement say and what is your answer?

Critical thinking questions

(here is another set of questions for critical thinking & discussion)

Facts & Ideas

- What are some important ideas in this issue or topic?
- What are the main ideas?
- What are the main parts of this argument?
- What is the issue, problem, concern, or proposal?
- What are some facts learned about this?
- What do we still want to know?

Summary

- Can anyone summarize some of the discussion so far?
- What do we understand so far from our study or inquiry?
- What are some main points of this issue, problem, question?
- Can someone outline the main ideas learned so far?
- What are the main problems?
- What are the proposed solutions?

Open questions

- Does anyone have a question about this?
- Does anyone have information or knowledge about this?
- Does anyone have an opinion or some thoughts about this?

Purposes of questions

- What is the purpose of your question?
- What are you seeking to know or understand?
- Are there different parts of your question?
- How does this relate to the discussion, problem, issue?

Clarification

- Can you explain that?
- Can you elaborate on that?
- Can you say it in another way?
- Can you give an example of that?
- What is your main point? main argument? main concern?

Meaning of key words

- What are some key terms in this reading, and explain these?
- How is that word being defined in this reading?
- What's another word that means about the same?
- What is your definition for the key words in your argument?
- How do you define that word?
- What does that word mean to you?
- Can you give me an example of that key word you used?

Solutions

- What is the reasoning in this reading?
- How do you think this problem can be solved?
- What are some possible solutions?
- Does anyone have a solution or an answer to this?
- What do we still need to do, in order to help solve this?

Comparisons

- How does does this information compare with other info?
- How does this view compare with other views?
- How does this solution or proposal compare with others?
- How are those viewpoints different?
- How are those viewpoints similar?
- Comparing 2 positions, what are their shared beliefs & values?

Evaluation

- Is this information relevant? important? useful?
- Is this information true? Are the facts reasonably true?
- What's important to know in this reading?
- What are some questionable statements in this reading?
- What are some arguments against this being totally true?
- Are there at least some partial truths in this position?

Values & concerns

- Why is this important?
- What are your concerns in relation to this issue?
- Do you have any ethical concerns after reading this?
- What are your values in relation to this issue?
- What concerns can you see in the information?
- What values are implied in this reading?
- What values are at the foundation of this position?

Recognizing values

- What do you think is the right action?
- How do you feel about this?
- What do you feel is a problem that needs a solution?
- What is most important in this?
- How important is this information, this idea, or this moral?
- What can you or we do about this?
- What are your own values?

Common values

- Are there common values shared by these two perspectives?
- What are the values we can agree on, or not agree on?
- What values do you think are common for all people?
- What can we agree is vitally important as a step forward?

Consequences

- What are some consequences of this?
- Are these consequences positive or negative?
- What consequences are fairly certain?
- What consequences are probable?
- What consequences are plausible?

Cause-effect

- What will result from this?
- What are some of the effects resulting from this problem?
- What are some related problems?
- What are some causes of this problem?
- What causes stand out as changeable?
- What can we do to make positive effective changes?
- How can we be a cause for positive solutions?

Causal reasoning

- What are your reasons for believing that A is a cause of B
- What are your reasons for believing that B is an effect of A?
- What are your reasons for believing that A is implied by B?

Implications

- What are some implications of this?
- What reasonably follows from this?
- So if this is true, what then logically follows?
- If that is true, then what results from this?

Inferences

- What is the reasoning in this reading?
- What causes can we reasonably infer from these facts?
- What predicted effects does the author infer from the causes?
- What do you think are some effects of this?

Conclusions

- Can we make any reasonable conclusions so far?
- What can we conclude so far?
- What conclusions can you make from studying this issue?
- How did you (or the readings) reach this conclusion?
- What facts and reasoning support this conclusion?
- What alternative conclusions can be made?
- What would be an alternative plausible conclusion?

Alternative views

- Is there another possible viewpoint?
- What other viewpoints are there?
- Any different views on this?
- What might be a disagreement about that view?

Perspectives

- Is this belief a cultural perspective?
- How did this perspective come about?
- What are your reasons for this perspective?
- Are there other ways to view this issue or problem?
- What would be another perspective or point of view?
- What could be the perspective of those who disagree?
- How is the other perspective different?
- Are there any similarities in these perspectives?

Challenges

- Does anyone have a *counter-argument* to that?
- What is a *counter-example* of that?
- Are there other facts or examples that contradict this view?
- Is this evidence sufficient to show the *plausibility* of the claim?
- Is this evidence sufficient to show the *probability* of the claim?
- Is there a fallacy in how this conclusion or belief is derived?

Reasons for believing

- *Why* do you believe that?
- Why do you believe this information is correct?
- What are some reasons for believing that is true?
- Why do you think that is true?
- What are your reasons for thinking that?
- *How* do you know that's true?
- Why do you think that is right?
- What are some reasons for believing this is right?
- *How* do you know that's right?
- What are some reasons to believe this is *not* true?
- What could be an argument for *not-believing* this is all true?
- What is an argument for *not-believing* this is morally right?

Evidence

- What facts or examples can support this claim or this belief?
- What are some examples that this is true?
- What are the evidences for believing this?
- What evidence is there to support what you are saying?
- How does all of the evidence, facts and examples add up?
- Is this evidence sufficient enough?
- Is there any reason to doubt this evidence?
- How could you test or verify whether that is true?

Generalizations

- Can we find any generalizations used in this argument?
- Can we think of a general rule or principle for that?
- Is this generalization supported by actual evidence?
- Is this generalization merely a stereotype or a cultural bias?
- Is this generalization true most of the time?
- Are counter-examples and exceptions being considered?
- What might be an exception to this generalization?
- What can we agree is generally true?
- What can we agree is generally a good action to take?

Exaggeration

- Could this be an exaggeration of the situation?
- Could this be an exaggeration of the problem?
- Could this be an exaggeration of the importance?
- Could this be an exaggerated over-estimate of the effect?
- Could this be an exaggerated under-estimate of the effect?

Simplification

- Is this an oversimplification of the situation?
- Is this an oversimplification of the problem?
- Is this an oversimplification of the cause?
- Is this an oversimplification of the solution?

Assumptions

- What are you assuming?
- Is there a preconception in this?
- What are the presuppositions in this position?
- What assumptions are inherent in your reasoning?
- What presuppositions are involved in your argument?
- Are any of these assumptions open to debate?

Implicit beliefs

- Is there an implicit assumption in that?
- Is there an implicit bias in that?
- Is there an implicit prejudice in that?
- Is there an implicit intention in that?
- Is there an implicit meaning implied in what was said?

Consistency

- Does that agree with what you said earlier?
- How does that relate with other beliefs you have?
- Do you have beliefs or values that contradict this?
- How is the consistency and coherence in this reading?
- Are there any contradicting values in this?

(front page of worksheet)

Critical Thinking Worksheet

(Facts, Conclusions, and Reasoning)

IMPORTANT – Students must First Read the Lesson on *Facts, Conclusions, and Reasoning*.

Assignment – from an article or website, write down one of their conclusions and related fact(s), then make an attempt to explain their reasoning. Do this as best you can, because the author may not have explicitly stated their connective reasoning. Then, think of and write down a different possible conclusion – based on these same facts.
In the narrow columns, write down your 'rating' [a, b, c, or d] (*see back-page for what a 'rating' is*)

<p>Conclusion <i>or inference, implication</i></p> <p>-----</p> <p>Conclusion 1 –</p> <p>-----</p> <p>Conclusion 2 –</p>	<p>Fact (or facts) <i>to support the conclusion</i></p> <p>-----</p>	<p>Connective Reasoning <i>how does this conclusion follow from the facts? OR explain how it does not follow from the given facts</i></p> <p>-----</p>	<p>Alternative Conclusion <i>give a different possible conclusion – based on these same facts</i></p> <p>-----</p>	
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(back page of the Critical Thinking Worksheet)
[Lesson on Critical Reading]

Facts, Conclusions, and Reasoning

In articles, news, or in other media communications the author will state a number of conclusions, or inferences, which can appear to be facts, but these statements are only the author's opinion, or what they believe is true, as based upon certain facts or evidence. So in critical thinking the reader needs to distinguish between facts and the author's conclusions (or their opinions about what is true). The reader needs to identify each stated fact and also identify each stated conclusion that the author believes is 'true' (or is telling you 'this is true'). Then, once the reader has separated facts and conclusions, the next step is to critically examine the reasoning of each conclusion (ie., 'this is true'), to see if the stated facts reasonably lead to the author's conclusion, or see if the author's conclusion is truly based on the stated facts.

Thus, the reader is asked to identify and distinguish **three basic parts** in any article or webpage of information:

(1) facts/evidence **(2)** conclusions/beliefs **(3)** reasoning/logic which connects these facts with these conclusions.

Also, the reader must remember that the connective-reasoning (between facts and conclusions) is often hidden or unstated, and this is sometimes because there is no connective reasoning or the conclusion is deceptive. The critical reader needs to think about whether a certain conclusion is reasonable (and based on the facts) or not, and this is the most difficult part of critical thinking.

The reader will need to decide (or judge) whether a stated conclusion (or implication, or prediction, or inference) is either:
(in the worksheet one of the following [a, b, c, or d] will be your 'rating' for the reasoning behind any stated conclusion)

(a) reasonable and sufficiently supported by the facts, **(b)** unreasonable (not sufficiently supported by the facts), **(c)** partially plausible (or possible) but not very probable, or **(d)** not necessarily true; because an alternative conclusion is equally plausible or more plausible. Note that in critical thinking it is useful to think of 'plausible alternative conclusions' based on the stated facts, for these alternatives will prove that a conclusion is not *necessarily* true.

Also remember that a stated fact might not be a *real* fact; for it could be *false, made-up, or hearsay*. Thus, the stated 'facts' may need to be verified by checking its source. But in this assignment, students can assume the truth of stated facts.