A Critical Thinking Primer

8/27/2009

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Critical Thinking Defined by Edward Glaser:
In a seminal study on critical thinking and education in 1941, Edward Glaser defines critical thinking as follows “The ability to think critically, as conceived in this volume, involves three things: (1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one's experiences, (2) knowledge of the methods of logical inquiry and reasoning, and (3) some skill in applying those methods. Critical thinking calls for a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends. It also generally requires ability to recognize problems, to find workable means for meeting those problems, to gather and marshal pertinent information, to recognize unstated assumptions and values, to comprehend and use language with accuracy, clarity, and discrimination, to interpret data, to appraise evidence and evaluate arguments, to recognize the existence (or non-existence) of logical relationships between propositions, to draw warranted conclusions and generalizations, to put to test the conclusions and generalizations at which one arrives, to reconstruct one's patterns of beliefs on the basis of wider experience, and to render accurate judgments about specific things and qualities in everyday life.

[Edward M. Glaser, An Experiment in the Development of Critical Thinking, Teacher’s College, Columbia University, 1941].

http://www.criticalthinking.org/aboutCT/define_critical_thinking.cfm

Yet other definitions of CT

The following excerpt comes from Dr. Peter A. Facione (1990) "Critical Thinking: A Statement of Expert Consensus for Purposes of Educational Assessment and Instruction."

“We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one's personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon. The ideal critical thinker is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fairminded in evaluation, honest in facing personal biases, prudent in making judgments, willing
to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society."

The last excerpt comes from a statement written by Michael Scriven and Richard Paul, National Council for Excellence in Critical Thinking, an organization promoting critical thinking in the US.

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness. It entails the examination of those structures or elements of thought implicit in all reasoning: purpose, problem, or question-at-issue,
assumptions, concepts, empirical grounding; reasoning leading to conclusions, implications and consequences, objections from alternative viewpoints, and frame of reference.


One way to give students practice at critical thinking is to move activities toward the higher levels of Bloom’s taxonomy.

Elements of Critical Thinking, adapted from Infotrac (Thomson Learning)

You have probably been told that critical thinking is an important skill. The articles in Critical Thinking are excellent at helping you learn to think critically about issues. Critical thinking has been described as "the careful and deliberate determination of whether to accept, reject, or suspend judgment about a claim" (Brooke Noel Moore and Richard Parker, Critical Thinking). More simply, critical thinking is the process of evaluating what other people say or write to determine whether to believe their statements.

Developing the ability to think critically can be difficult because it is easier to make hasty judgments based on opinions and biases than it is to evaluate facts and arguments. For example, your friends might think that the death penalty is just, and you might also think so just because your friends do, without hearing any arguments to the contrary. Your viewpoint, based solely on the opinions of others, would be weak.

Elements of Critical Thinking

1. Distinguishing Fact from Opinion and Bias from Reason
2. Distinguishing Between Primary and Secondary Sources
3. Evaluating Information Sources
4. Recognizing Deceptive Arguments
5. Recognizing Ethnocentrism and Stereotypes

1. Distinguishing Fact from Opinion and Bias from Reason

This skill focuses on distinguishing between a statement based on fact (one that can be proved true) and a statement based on opinion (one that expresses how a person feels about something or what a person thinks is true). The ability to distinguish between these two types of
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statements is the essential first step to critical reading. Whether reading a newspaper or magazine, listening to a disagreement, or preparing for a debate, you can become a more sophisticated consumer of information if you can identify the speaker's viewpoint.

When first learning to assess this skill, you may be tempted to identify statements of fact as "important" and statements of opinion as "irrelevant" or "unimportant." It's important to remember that a factual statement may be false or taken out of context and thus be misleading. Likewise, on some issues, a statement of opinion might be the most important of all. The point is to practice distinguishing the difference between a fact and an opinion, not make evaluative judgments about them.

The hardest statements to label will be those that include statistics or other objective proof, yet are not merely fact. It is fairly easy to recognize that "two percent of all teenagers commit suicide" is a statement of fact. However, by adding another factor--"The high rate of divorce is responsible"--the "factual statement" becomes an opinion. You must be aware of such pitfalls.

2. Distinguishing Between Primary and Secondary Sources

A primary source is original material or information that has not been interpreted by another person. Examples of primary sources are court records, government documents (like the Constitution), letters, some documentary films, memoirs, and position papers of organizations, original research, and editorials. A secondary source is made up of information collected from numerous primary sources that is interpreted by the collector. Examples of secondary sources include histories (such as a history of the Constitution and its framers), many magazine articles, and critical analyses.

Primary sources often have the immediacy of an eyewitness. They can provide details that may not be available to an outside observer or scholar. But they may also present information in a manner colored by the author's personal views or experience. . . . A secondary source may or may not offer information that is more analytical and comprehensive than that found in a primary source. The secondary source author has the advantage of hindsight and, in many cases, access to several primary sources and thus to several perspectives. The author may have more of an objective distance from the events being depicted. But a secondary source is only as factually accurate as the primary sources it uses. And the secondary source author may write an account as colored by personal views as an eyewitness might.

Some sources are not clearly primary or secondary and must be considered carefully. For example, is a television documentary a primary or secondary source? On the one hand, it contains visual presentation of primary sources, such as interviews. On the other hand, the interviews and the presentation of the topic in general are a product of the filmmaker's interpretation of what is important in covering the topic. In this case, the source could be both primary and secondary.

3. Evaluating Information Sources

In addition to identifying whether a source is a primary or secondary source, you must also learn to discern what information is most valuable for completing an assignment or report. You probably have been told that all information, no matter how objectively presented, has a point of view. You should critically examine sources of information to determine point of view and to find out how this point of view affects the accuracy of their coverage. When examining a source of information, check the author's previous writings or his/her relationship to the events
being written about. Is the author a member of a partisan organization involved in a dispute being portrayed? Has the author shown a consistent stand on the topic in previous writings? In addition, you should look at other articles on the topic in the same publications. Is there a consistent point of view? Its point of view can also be discerned by comparing its information with other sources that are known to have opposing views on the same topic. Learn to question a source: What are its intentions? What are its biases? What does it gain by presenting a particular perspective?

A source should also be evaluated for its timeliness. It must give information that adequately reflects the time period of the topic being covered. For example, when writing about a topic such as the protest movement during the Vietnam War, you may consider a variety of sources in order to write on the topic. While you may want to look at histories of the protest movement first, to get an overall impression, you will also want to look at eyewitness accounts of participants in the movement, as well as opponents of it. A mixture of such accounts from both the time period of the war and those written later might also be useful. The sources written after the war may bring some historical distance to their discussion of the topic. But the sources written during the war give direct evidence of why people were opposed to it.

Beyond determining the point of view and timeliness of an information source, you must also judge its usefulness. You must determine whether the source deals with the aspects of the subject needed for the research project. You should know that some sources will be more directly useful for writing about the topic, while some will provide valuable background information, while others will have only marginal value at best.

4. Recognizing Deceptive Arguments

The ability to distinguish between deceptive and logical reasoning is an essential skill in critically analyzing written and oral arguments. The danger of deceptive arguments comes from their misleading nature, which may cause you to reject a valid opposing argument or embrace an argument that has little rational merit. Deceptive arguments often distract people from the vital issues and focus their attention on matters of little importance. Many writers are skilled at using emotional appeals to sway readers in support of irrational arguments.

By reading and evaluating opposing views, you will become more proficient at recognizing deceptive arguments. Many arguments seem reasonable at first reading; however, once students read the opposite opinion, they are forced to decide between two apparently equally plausible arguments. Though opponents may use the same statistics and even the same logic, they may reach different conclusions. There are innumerable types of deceptive arguments. To facilitate discussion, the examples below fall into eight broad headings.

1. Bandwagon--the idea that "everybody" does this or believes this.

Commonly held beliefs are not necessarily correct beliefs. One author, for example, writes: "History shows that when millions of Americans want something (ie., drugs) they'll do anything to get it. " The author attempts to rationalize the legalization of recreational drugs because "everyone is doing it."

2. Scare tactics--the threat that if you don't do or don't believe this, something terrible will happen.

This argument is commonly used during emotional discussions or debates when dealing with topics that concern the public's well-being

3. Strawperson--distorting or exaggerating an opponent's ideas to make one's own seem stronger.
A popular method of creating a strawperson is to distort and exaggerate an opponent's argument and dissect it, thereby ignoring the genuine issues and attempting to invalidate the entire argument through attacking an inflated misrepresentation of its main points.

4. **Personal attack**—criticizing an opponent personally instead of rationally debating his/her ideas.

5. **Testimonial**—quoting or paraphrasing an authority or celebrity to support one's own viewpoint. Testimonials can be used to legitimately further an argument if the person quoted is truly a well-respected authority. Quoting an expert on a given topic may lend more validity to an argument.

6. **Slanters**—to persuade through inflammatory and exaggerated language instead of reason. The adjectives used to describe people or their political positions often reveal the author's prejudiced beliefs. Many authors do not intend to display their bias, but the words they use send a signal to careful readers. Flagrant slanters, however, are relatively easy to spot. Words like "titanic," "shattering," and "menacing" are obvious clues to the author's beliefs.

7. **Generalizations**—using statistics or facts to generalize about a population, place, or thing. This argument can be difficult to recognize if the generalization is a statement the reader already accepts. The reader's preconceived ideas about a topic can hinder his/her ability to distinguish between factual statements and generalizations based on personal opinion.

8. **Categorical statements**—stating something in a way implying that there can be no argument. Recognizing deceptive arguments is pivotal to the evaluation of opposing viewpoints. Many writers attempt to manipulate readers through emotional pleas, scare tactics, and other devices. By coming to understand these techniques, you will become more adept at reading and thinking critically.

5. **Recognizing Ethnocentrism and Stereotypes**

   This critical thinking skill will challenge you to question commonly held beliefs and attitudes about identifiable groups. These attitudes—stereotypes—assume that all members of a group share the same set of characteristics. Through recognizing stereotypes and ethnocentrism, you will realize that your perceptions of a group are not always accurate and, in fact, often hinder their understanding of a topic.

   Stereotypes are often difficult to recognize because many are deeply ingrained and widely accepted. Becoming conscious of stereotypes can help you discern between authors who rely on stereotypes and those who do not.

   Ethnocentrism is a specific form of stereotyping which holds one's own nationality, religion, or cultural traditions and customs as superior to others. This attitude emphasizes the differences between one’s own group and others which are considered inferior. Some stereotypes are easy to spot, while others are less obtrusive. It is especially important to recognize stereotypes when reading conflicting opinions or when involved in debates and discussions. Stereotypes and ethnocentric attitudes can prevent sound analysis of a debate because they obscure issues in favor of emotional arguments that may exploit participants' preconceived notions.

   Stereotypes and ethnocentric beliefs are not always negative. However, seemingly positive generalizations can have negative effects. Positive stereotypes can skew arguments and obscure the truth just as negative ones do.
Portland State University Studies Critical Thinking Rubric

www.pdx.edu/media/u/n/unst_rubric_critical_thinking.doc

Score of 6 – Consistently does all or almost all of the following:
- Accurately interprets evidence, statements, graphics, questions, etc.
- Identifies the salient arguments (reasons and claims) pro and con.
- Thoughtfully analyzes and evaluates major alternative points of view.
- Generates alternative explanations of phenomena or event.
- Justifies key results and procedures, explains assumptions and reasons.
- Fair-mindedly follows where evidence and reasons lead
- Makes ethical judgments

Score of 5 – Does most of the following:
- Accurately interprets evidence, statements, graphics, questions, etc.
- {Thinks through issues by} Identifying relevant arguments (reasons and claims) pro and con.
- Offers analysis and evaluation of obvious alternative points of view
- Generates alternative explanations of phenomena or event.
- Justifies (by using) some results or procedures, explains reasons.
- Fair-mindedly follows where evidence and reasons leads

Score of 4 – Does most of the following:
- Describes events, people, and places with some supporting details from the source.
- Makes connections to sources, either personal or analytic.
- Demonstrates a basic ability to analyze, interpret, and formulate inferences.
- States or briefly includes more than one perspective in discussing literature, experiences, and points of view of others.
- Takes some risks by occasionally questioning sources, or stating interpretations and predictions.
- Demonstrates little evidence of rethinking or refinement of one's own perspective

Score of 3 – Does most or many of the following:
- Responds by retelling or graphically showing events or facts.
- Makes personal connections or identifies connections within or between sources in a limited way.
- Is beginning to use appropriate evidence to back ideas.
- Discusses literature, experiences, and points of view of others in terms of own experience
- Responds to sources at factual or literal level.
- Includes little or no evidence of refinement of initial response or shift in dualistic thinking.
- Demonstrates difficulty with organization and thinking is uneven

Score of 2 – Does most or many of the following:
- Misinterprets evidence, statements, graphics, questions, etc.
- Fails to identify strong, relevant counter-arguments
- Draws unwarranted or fallacious conclusions
- Justifies few results or procedures, seldom explains reasons
- Regardless of the evidence or reasons, maintains or defends views based on self-interest and/or preconceptions

Score of 1 – Consistently does all or almost all of the following:
- Offers biased interpretations of evidence, statements, graphics, questions, information or the points of view of others
- Fails to identify or hastily dismisses strong, relevant counter-arguments
- Ignores or superficially evaluates obvious alternative points of view. Argues using fallacious or irrelevant reasons, and unwarranted claims.
- Does not justify results or procedures, nor explains reasons.
- Exhibits close-mindedness or hostility to reason