



Middle East Region
Staff College

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Critical Thinking

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Critical Thinking

Objectives:

- X Define Critical Thinking
- X Determine the components of an argument
- X Explore the role of 'values' and 'ethics' in Critical Thinking
- X Cover the reasoning tools used in Critical Thinking

Purpose

Anytime I read an article and find contradictions, half-truths, and twisted facts, they stand out and are easily seen, if I am familiar with the subject. What concerns me is that I am not always able to be well-versed on a subject and question how I can recognize bad information when I see it. As a critical thinker, you need to know what to look for when you read an article, watch a commentator or politician on television, or listen to a speech.

I remember watching a debate between George W. Bush, John McCain, and Allen Keyes in Columbia, SC, during the Republican Primary just prior to the 2000 presidential election. I was annoyed that on a number of occasions Bush and McCain never answered the question, but talked about the point of view they knew was popular in the local viewing area. Allen Keyes was the only one of the candidates that not only repeatedly answered the question that was asked, but did so in the context of the Constitution upon which our government is supposed to be based. And later, I was appalled with the general "herd mentality" at the polls. Maybe there just was not one critical thinker among the bunch, but I see it repeated time and time again.

To discuss being a critical thinker, we will start with talking about a number of subjects that will help us better understand and define this term, and how we can become better thinkers. The subjects we are going to cover to achieve this are as follows:

- Arguments
- Issue
- Conclusion
- Reasons
- Values
- Ethics
- Deductive Reasoning
- Inductive Reason

Everyone thinks. If you ask people where they stand on a particular issue, they will usually tell you what they believe and give reasons to support their beliefs. Many people, however, find it difficult to evaluate a written or spoken commentary on a controversial issue because both sides of the controversy seem to have good arguments.

The critical thinker is able to distinguish high-quality, well-supported arguments from arguments with little or no evidence to back them. This session starts the training of students to evaluate the many claims facing them as citizens, learners, consumers, and human beings; it also helps students become

more effective advocates for their beliefs. This session merely attempts to expose you to the subject and provide you with enough information that you will be more sensitive to formal arguments and help you realize that all that is written and spoken is not law. Your validation is required; you have a responsibility to evaluate what is written or spoken.

Critical thinking is useful in courses such as informal logic, rhetoric, English, speech, journalism, humanities, and the social sciences. It is also an excellent subject for workshops in staff development and business management. The skills that are possible for someone willing to invest in themselves are endless and will be rewarding for a life time.

“When you take charge of your life, there is no longer need to ask permission of other people or society at large. . . . When you ask permission, you give someone veto power over your life.” . . .Geoffry F. Abeert

ARGUMENT

- *A critical thinker understands the structure of an argument, whether that argument is presented by a politician, a salesperson, a talk-show host, a friend, or a child.*
- *A critical thinker recognizes the issue under discussion and the varying conclusions about the issue.*
- *A critical thinker examines the reasons given to support conclusions.*

When critical thinkers speak about arguments, they are referring to a conclusion that someone has (often called a claim or position) about a particular issue. This conclusion is supported with reasons (often called premises). If an individual has a conclusion but offers no reasons why he has come to that conclusion, then he has made only a statement, not an argument. An argument has three parts: the issue, the conclusion, and the reasons.

The Argument

A politician was out of town attending a meeting. He went shopping and admired some material he saw in a store window. The clerk told him he could buy enough material to have a sports coat made. When he took the material home to his own tailor, the tailor suggested, “I think I can also make a pair of pants out of the material, and you’ll get a suit, not just a sports coat.” The politician nodded his approval.

Tailor: “You know I could also make a vest out of the material, and you’d have a nice suit with a vest.”

Politician: “I’m puzzled. When I was out of town, I bought just enough material to get a sports coat made. Now you tell me that I can get a suit with a vest. How could that be?”

Tailor: “Out of town you could just get a sports coat made. But here in your hometown you’re not as big a man as you are when you’re out of town.”

The Issue

The issue is the question that is being addressed. It is easiest to put the issue in question form so that you know what is being discussed. When you listen to a discussion of a political or social issue, think of the question being addressed. Examples of issues are:

- X Should air traffic controllers be given periodic drug tests?
- X Should we have a flat tax rate?
- X Are the salaries paid to professional athletes too high?

The same method of “issue detection” will be useful in understanding commercial appeals (ads) and personal requests.

- X Is Alpo the best food for your dog?
- X Should you marry Leslie?
- X Should you subscribe to the *Wall Street Journal*?

It is important to distinguish issues from topics. Topics are ideas or subjects. Topics become issues when a question or controversy is introduced. In the above examples, the topics would include Alpo, Leslie, and the *Wall Street Journal*.

Issues can be about facts, values, or policies. Factual issues concern whether something is true or false, as in the following examples:

- X Does aspirin prevent heart disease?
- X Are smog control devices effective in preventing pollution?
- X Do we have enough money to buy a new car?

Issues about values deal with what is considered good or bad or right or wrong, as, for example:

- X Is there too much violence on television?
- X Is marriage better than living together?
- X Are salaries of executives of major corporations too high?

Policy issues involve taking action; often, these issues emerge from discussions of fact and values. If we find that, in fact, smog-control devices are effective in preventing pollution and if we value clean air, then we should continue to support policies to enforce the use of these devices. If aspirin prevents heart disease and we value a longer life, then we should ask a doctor whether we should take aspirin. If we do have enough money for a new car and we value a car more than other items at this time, then we should buy the new car.

Every decision that we need to make, whether it involves public or private matters, will be made easier if we can define exactly what it is that we are being asked to believe or do. Discourse often breaks down when two or more parties get into a heated discussion over different issues. This phenomenon occurs regularly on talk shows.

For example, a recent television talk show featured the general topic of spousal support, and the issue was, “Should the salary of a second wife be used in figuring alimony for the first wife?” The lawyer who was being interviewed kept reminding the guests of this issue as they proceeded to argue instead about whether child support should be figured from the second wife’s salary, whether the first wife should hold a job, and even whether one of the wives was a good person.

Exercise

From the following questions identify the ‘issue’, the ‘topic’, and determine if the issue is about facts, values, or policies or about values dealing with good or bad or right or wrong.

- X *Should all motorcycle drivers and riders be required to wear helmets?*
- X *Do we need more federal oversight of our larger corporations?*
- X *Is the incarcerated population in our country being rehabilitated?*

The Conclusion

Once an issue has been defined, we can state our conclusion about the issue. Using some examples previously mentioned, we can say ‘yes’ or ‘no’ to the issues presented: Yes, I believe air traffic controllers should be tested for drug usage; Yes, I want to subscribe to the *Wall Street Journal*; No, I will not marry Leslie at this time; and so on. We take a stand on the issues given.

The conclusion can also be defined as the position taken about an issue. It is a claim supported by evidence statements. These evidence statements are called reasons or premises.

We often hear the cliché, “Everyone has a right to his or her opinion.” This is true, in the legal sense. North Americans do not have “thought police” who decide what can and cannot be discussed. When you are a critically thinking person, however, your opinion has substance. That substance consists of the reasons you give to support your opinion. Conclusions with substance are more valuable and credible than are conclusions offering no supporting evidence.

Critical thinkers who strive to have opinions with substance exhibit two important qualities as they try to understand the truth of a matter:

1. They realize their own personal limitations. They know that they have a lot to learn about different areas and that they may need to revise their thoughts on issues as new information comes to light.
2. They strive to be discerning about what they read and hear; they look for good evidence and are open to hearing all sides of an issue. When they make up their minds about something, they have solid reasons for their decisions.

“Never doubt that a small group of thoughtful committed citizens can change the world; it’s the only thing that ever does.” ... Margaret Mead

Conclusions are the positions people take on issues. Other words used to mean conclusions are claims, viewpoints, opinions, and stands. How can we locate the conclusion of an argument? Try the following methods when you are having trouble finding the conclusion:

1. Find the issue and ask yourself what position the writer or speaker is taking on the issue.
2. Look at the beginning or ending of a paragraph or an essay; the conclusion is often found in either of these places.
3. Look for conclusion indicator words; therefore, so, thus, hence. Also, look for indicator phrases: My point is, What I am saying is, What I believe is. Some indicator words and phrases are selected to imply that the conclusion drawn is the right one. These include obviously, it is evident that, there is no doubt (or question) that, certainly, and of course.
4. Ask yourself, “What is being claimed by this writer or speaker?”
5. Look at the title of an essay; sometimes the conclusion is contained within the title. For example, an essay might be titled “Why I Believe Vitamins Are Essential to Health.”

Find the conclusion or conclusions to an argument. Ask yourself what position the writer or speaker is taking on the issue.

Exercise

Read the following excerpt carefully.

The most crucial link is the doctor. Thus, many pharmacists told U.S. News that when the same doctor prescribes two interacting drugs, they are less likely to question his judgment. “If the prescriptions came from two different doctors, that would warrant a call,” say pharmacist Gordon Tom of San Francisco. “But if it’s the same doctor, we assume he’s aware of the interaction.” Recent studies show that such trust is often misplaced. The Seldane-erythromycin interaction (which can cause irregular heartbeat, cardiac arrest, and sudden death) is a case in point: Despite widely disseminated warnings by the drugs’ manufacturers and the federal Food and Drug Administration, 3 to 10 percent of doctors last April still were prescribing the two drugs together.

Determine the issue.

Determine the topic.

What is the issue about? (Value, policy, fact, good/bad, right/wrong)

Is there a conclusion?

The Reasons

Reasons are the statements that provide support for conclusions. Without reasons, you have no argument; you simply have an assertion, a statement of someone’s opinion, as evidenced in the following limerick:

I do not like thee, Doctor Fell
The reason why I cannot tell
But this I know, I know full well
I do not like thee, Doctor Fell

Reasons are also called evidence, premises, support, or justification. You will spend most of your time and energy as a critical thinker and responsible writer and speaker looking at the quality of the reasons used to support a conclusion. Here are some ways to locate the reasons in an argument:

1. Find the conclusion and then apply the “because trick.” The writer or speaker believes _____ (conclusion) because _____. The reasons will naturally follow the word because.
2. Look for other indicator words that are similar to because: since, for, first, second, third, as evidenced by, also, furthermore, in addition.
3. Look for evidence supporting the conclusion. This support can be in the form of examples, statistics, analogies, reports of studies, and expert testimony.

Exercise

Short Answer

1. *What is the difference between a topic and an issue?*
2. *What are some indicator words for a conclusion?*
3. *Cite three ways to discover the reasons used to support a conclusion.*

True or False

4. *Everyone's opinion about an issue, though different, has equal substance.*
5. *Traits such as fair-mindedness and empathy are helpful to critical thinkers.*
6. *A critical thinker is someone who uses specific criteria to evaluate reasoning and make a decision.*

Values

- *A critical thinker understands the value assumptions underlying many arguments and recognizes that conflicts are often based on differing values.*
- *A critical thinker is familiar with ethical standards and tests of ethical decision making.*
- *A critical thinker can compare and contrast ideals with actual practice.*

Assumptions

Assumptions are ideas we take for granted; as such, they are often left out of a written or spoken argument. Just as we can look at the structure of a house without seeing the foundation, we can look at the structure of an argument without examining the foundational element. To truly understand the quality of a house or an argument, we need to understand the foundation upon which it is built.

Assumptions made by speakers and writers come in two forms: value assumptions and reality assumptions. Value assumptions are beliefs about how the world should be, and reality assumptions are beliefs about how the world is.

Value Assumptions

Value assumptions are beliefs about what is good and important that form the basis of opinions on issues. These assumptions are important for the critical thinker because:

1. Many arguments between individuals and groups are primarily based on strongly-held values that need to be understood, and, if possible, respected.
2. An issue that continues to be unresolved or bitterly contested often involves cherished values on both sides. These conflicting value assumptions can be between groups or individuals or within an individual.

When you read or hear the words should or ought to, you are probably being addressed on a question of value. Understand that different values form the basis of many arguments and those conflicts are often based on differing values.

Have you ever noticed how some issues are really interesting to you while others are not? Your interest in a particular question and your opinion about the question are often influenced by your values – those ideals, standards, and principles you hold dear.

Ethical Decision Making

Ethical concerns are central to any message. Those who seek to influence votes, sales, or the personal decision of others need to:

- X Be honest about their conclusions and reasons
- X Not leave out or distort important information

- X Have thoroughly researched any claims they make
- X Listen with respect, if not agreement, to opposing viewpoints
- X Be will to revise a position when better information becomes available
- X Give credit to secondary sources of information

“Every man takes care that his neighbor shall not cheat him. But a day comes when he begins to care that he does not cheat his neighbor. Then all goes well.” . . . Ralph Waldo Emerson, “Worship,” *The Conduct of Life* (1860)

Common Rationalizations

1. **“If It’s Necessary, It’s Ethical.”** Based on the false assumption that necessity breeds propriety. Necessity is an interpretation, not a fact. But even actual necessity does not justify unethical conduct. Leads to ends-justify-the-means reasoning and treating assigned tasks or desired goals as moral imperatives.
2. **“If It’s Legal and Permissible, It’s Proper.”** Substitutes legal requirements (which establish minimal standards of behavior) for personal moral judgment. Does not embrace full range of ethical obligations, especially for those involved in upholding the public trust. Ethical people often choose to do less than they are allowed to do and more than they are required to do.
3. **“I Was Just Doing It for You.”** Primary justification of “white lies” or withholding important information in personal or professional relationships, especially performance reviews. Dilemma: honesty and respect versus caring. Dangers: Violates principle of respect for others (implies a moral right to make decisions about one’s own life based on true information), ignores underlying self-interest of liar, and underestimates uncertainty about others person’s desires to be “protected” (most people would rather have unpleasant information that be deluded into believing something that isn’t so). Consider perspective of persons lied to: if they discovered the lie, would they thank you for being considerate or feel betrayed, patronized or manipulated?
4. **“I’m Just Fighting Fire with Fire.”** Based on false assumption that deceit, lying, promise-breaking, etc., are justified if they are the same sort engaged in by those you are dealing with.
5. **“It Doesn’t Hurt Anyone.”** Rationalization used to excuse misconduct based on the false assumption that one can violate ethical principles so long as there is no clear and immediate harm to others. It treats ethical obligations simply as factors to be considered in decision making rather than ground rules. Problem areas: Asking for or giving special favors to family, friends or politicians, disclosing nonpublic information to benefit others, using one’s position for personal advantages (e.g., use of official title/letterhead to get special treatment).
6. **“It Can’t Be Wrong, Everyone’s Doing It.”** A false “safety in numbers” rationale fed by the tendency to uncritically adopt cultural, organizational or occupational behavior systems as if they were ethical.
7. **“It’s Okay If I Don’t Gain Personally.”** Justifies improper conduct done for others or for institutional purposes on the false assumption that personal gain is the only test of impropriety. A related, narrower excuse is that only behavior resulting in improper financial gain warrants ethical criticism.

8. **“I’ve Got It Coming.”** Persons who feel they are overworked or underpaid rationalize that minor “perks” or acceptance of favors, discounts, or gratuities are nothing more than fair compensation for services rendered. Also used to excuse all manner of personnel policy abuses (re: sick days, insurance claims, overtime, personal phone calls or photo-coping, theft of supplies, etc.).
9. **“I Can Still Be Objective.”** Ignores the fact that a loss of objectivity always prevents perception of the loss of objectivity. Also underestimates the subtle ways in which gratitude, friendship, anticipation of future favors and the like affect judgment. Does the person providing you with the benefit believe that it will in no way affect your judgment? Would the benefit still be provided if you were in no position to help the provider in any way?

Deductive Reasoning

Due to time limitations, we can only take a cursory look at Deductive Reasoning and Inductive Reasoning. In our earlier discussions we saw that sometimes our assumptions about reality, about what is true and what is false, contrast with those of others. How can we know the truth about a given issue? Those who study reasoning have come up with two general frameworks for discovering truth: **inductive** and **deductive reasoning**.

Inductive reasoning involves finding truth through making observations. The observations might be made through statistical polling, through controlled experiments, or through relevant analogies. Our observations, when done carefully, can lead us closer to the truth of a matter. Good inductive reasoning tells us what will probably occur in a given situation based on what observation tells us usually occurs. We will look at inductive reasoning next.

Deductive reasoning gives us probabilities of what is true in a given situation, and is structured in such a way as to give us certainty about what is true in a given situation. The conclusion’s certainty is established when deductive arguments contain true premises (reasons) stated in the correct form.

In a deductive argument, formal patterns are used to reveal the logic of our reasoning. These patterns give us a tool for “quality control”; when the correct deductive form is followed, we call the argument valid. Two of the basic patterns of deductive reasoning, which will be discussed in this section, help us to test whether our thinking is logical. The pattern of a deductive argument can be considered its form; the statements placed in the pattern can be considered its content. Correct form makes an argument valid; accurate content makes it true. When the form is correct and the content is true, the argument is called sound.

Form and content are two parts of many disciplines. When someone learns to play an instrument, she starts with how to hold the instrument, how to shape her hands or lips in order to produce the correct sound. When the form is correct, then focus goes to content; the correct notes and expressions are learned and developed. When learning a sport, instructors will first tell students how to hold the ball, bat, club, or racquet and then focus on techniques and strategies.

Why is it useful to learn the patterns of deductive reasoning in our search for what is true? Or in using deductive reasoning in our search for what is true? Using deductive reasoning can:

- X Illuminate our beliefs (reality assumptions)
- X Help us consider whether those beliefs are rational

X Help us decide whether to act on those beliefs

For example, someone we'll call Linda might say, "I can't take that speech class." Her friend Lavelle asks why and Linda responds, "I can't take the class because I'd have to give speeches." Linda's confident friend says, "So what?", to which Linda says with great emotion, "If I have to take a speech class, I'll just fall apart and die!" Lavelle, knowing the principles of deductive reasoning, helps Linda look at her logic through the pattern of chain argument.

- X If I take a speech class, I'll have to give speeches.
- X If I have to give speeches, I'll get nervous.
- X If I get nervous, I'll fall apart and die.
- X Therefore, If I take a speech class, I'll fall apart and die.

Considered in this light, Linda is able to see that, although her reasoning is valid, it is not true. She is "catastrophizing" her situation, making it much more serious than it is. Certainly, it may be uncomfortable for her to give a speech, but it is not a life-threatening situation. She can see that discomfort need not be catastrophic.

Other samples

If we already have enough gas to get to the movies, we don't need to stop for more.
We already have enough gas to get to the movies.
Therefore, we don't need to stop for more.

All students in this classroom are mice.
Marcus is a student in this class.
Therefore, Marcus is a mouse.

Exercise

Read the following statements and complete the sentence starting with "therefore,".

Wal-mart's prices are some of the lowest in a given vicinity.

The competition is Wal-mart's pricing guide.

Therefore, ...

Wearing comfortable cloths can aid in doing a better job.

Frank always wears comfortable cloths.

Therefore, ...

Inductive Arguments

- *A critical thinker understands the basics of polling and the legitimate uses of statistical research in supporting conclusions.*
- *A critical thinker understands the basics of inductive reasoning, including statistical and causal generalizations.*

If we can present evidence to prove that a premise (assertion, statement) is very likely to be true, we have valuable information on which to base our decisions. In addition, we know there can be exceptions, we can understand them when they occur.

The process of induction occurs when we use facts or research findings to make generalizations. Stated in coded form, we offer proof that most A's are B's Therefore, if I encounter an A, it is probably a B. However, I realize that there are exceptions.

Inductive argument is evaluated on the basis of their strength. A strong inductive argument does not guarantee the truth of the conclusion, but rather provides strong support for the conclusion.

Two kinds of logic are used: inductive and deductive. If the motorcycle goes over a bump and the engine misfires, and then goes over another bump and the engine misfires, and then goes over a long smooth stretch of road and there is no misfiring, and then goes over a fourth bump and the engine misfires again, one can logically conclude that the misfiring is caused by the bumps. That is induction.

If, from reading the hierarchy of facts about the machine, the mechanic knows the horn of the motorcycle is powered exclusively by electricity from the battery, then he can logically infer that if the battery is dead the horn will not work. That is deduction.

Story

Good judgment comes with experience.

A young banker asked an eighty-year-old banker what the secret of success was in banking.

Old banker: "Good judgment."

Rookie: "How do you get good judgment?"

Old banker: "Experience."

Rookie: "How do you get experience?"

Old banker: "Bad judgment."

Closing Statement

We have been exposed to only a very small portion of "Critical Thinking", and with what we have discussed we could easily go into much greater detail. Most of the above information was obtained from one source: **"Becoming A Critical Thinker – A User Friendly Manual"**, by Sherry Diestler. This is an excellent book and I would encourage you to pick up a copy and 'study' the text carefully. After reading this book I feel anyone reading and studying it will find it greatly enriches your mind and will provide lasting rewards for the duration of your life.