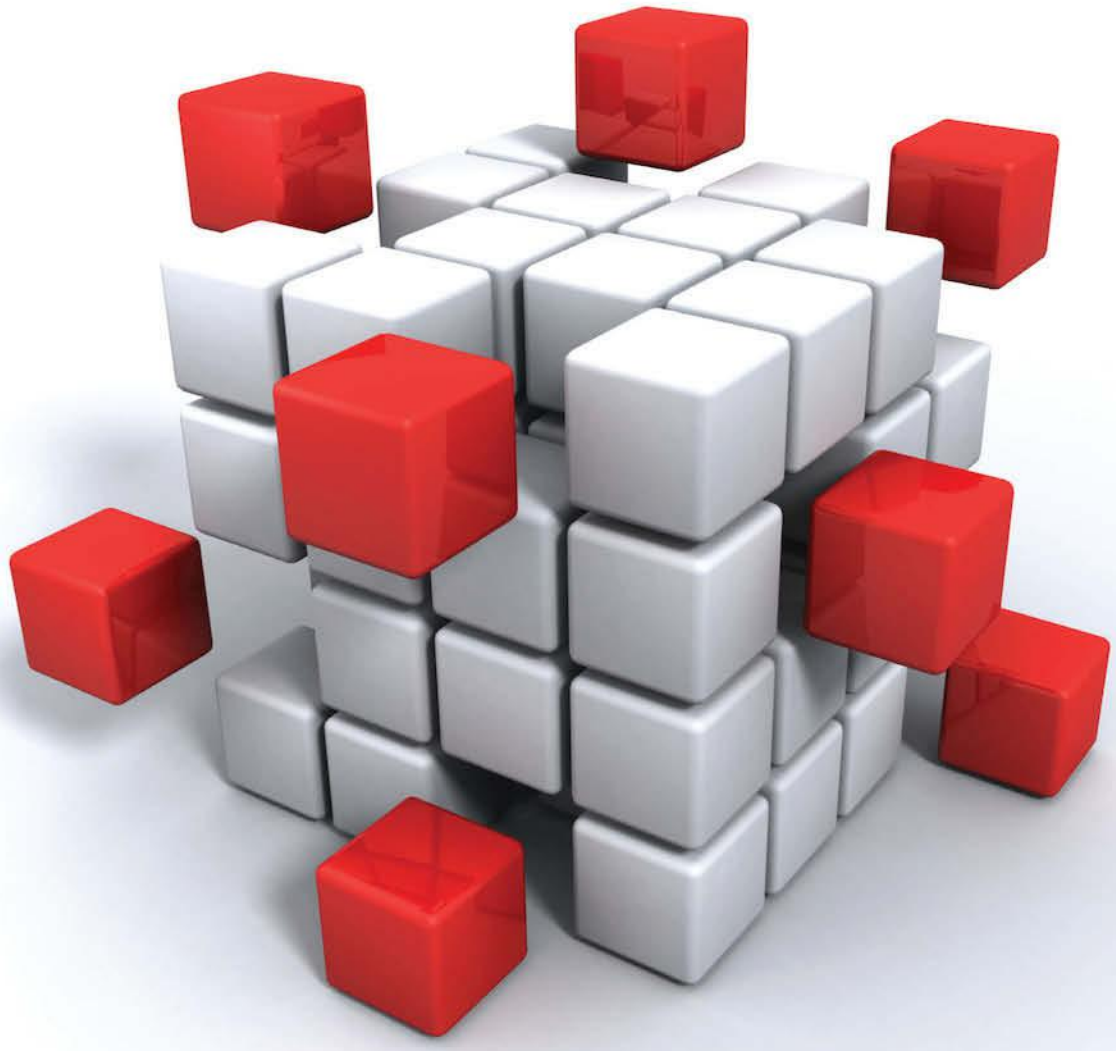
BECOMING A CRITICAL THINKER

A User-Friendly Manual

SEVENTH EDITION



Sherry Diestler

Becoming a Critical Thinker

A User-Friendly Manual

Seventh Edition

Sherry Diestler
Contra Costa College

Pearson

In loving memory of Anne and Al Goldstein. And for John, Zachary, Nicole, Semaje, Stuart, Jenna, Travis, Laura, Amy, Isaiah, Abigail, and Noa. May we continue their legacy of discernment and compassion.

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Brief Contents

Contents

About REVEL and this Course

You have the freedom to choose your actions; you don't have the freedom to choose the consequences of your actions.

Steven Covey

As human beings, we face numerous daily decisions affecting our personal and collective lives. We constantly have to choose one course of action over another. It is imperative that we think critically and choose wisely because we must deal with the consequences that follow the choices we make. In addition, we often want to influence and persuade others about social and political issues. Understanding effective argumentation is foundational to successful advocacy.

This **course** trains readers to become critical thinkers, thoughtful decision makers, and confident advocates for their beliefs. The purpose of this **course** is to enable students to:

- Effectively evaluate the many claims facing them as citizens, students, consumers, and human beings in relationships and make decisions based on careful consideration of both facts and values;
- Distinguish high-quality, well-supported arguments from arguments with little or no evidence;
- Come to thoughtful conclusions about difficult or controversial issues when both sides of a controversy seem to have reasonable arguments;
- Be alert to bias and misrepresentation in reporting and advertising;
- Discover their "points of logical vulnerability";
- Work collaboratively with others to solve problems; and
- Become more effective advocates for their beliefs.

Becoming a Critical Thinker is designed to be interdisciplinary and to be useful in courses in critical thinking, philosophy, informal logic, rhetoric, English, speech, journalism, humanities, and the social sciences. It has also been used as either a required text or a supplement in nursing programs and in workshops on staff development and business management. There are important skills that distinguish critical thinkers across varied disciplines; the goal of this text is to present and teach these skills in a clear and comprehensive manner.

Content Highlights

As with previous editions, the seventh edition of *Becoming a Critical Thinker* has been updated with two priorities in mind. First, we wanted to retain and enhance the user-friendly format of the first six editions. Also, we wanted to update readings and activities so that readers are able to apply critical thinking principles to current issues.

New features in the seventh edition include:

- **Increased emphasis on practical application of critical thinking skills.** The focus on learning objectives for each section helps students understand exactly how they can apply the concepts to their personal, social, and political concerns.
- **Updated focus on the relationship between the many forms of social media and critical thinking**, featuring current research on how social media—including Facebook, YouTube, Instagram, Twitter, Crowdsourcing, and Yelp—affect decision-making and relationships.
- **Updated research on how advertisers and marketers use different strategies to influence consumers**, including eye tracking, the use of sounds and scents, product placement, and neuro-marketing.
- **Updated checklist for distinguishing 'fake news' from 'real news' and tools for determining reliable sources of information.**
- **Clearer organization for enhanced comprehension,** with learning objectives featured at the beginning of each chapter section.
- **New articles and excerpts that cover current topics and issues**.
- Expanded exercises, with accompanying videos, to help students gain confidence in public speaking a be effective advocates for their ideas.
- **The Time-tested Revel design** featuring animations that enhance understanding of key critical thinking concepts, engaging chapter exercises, and relevant journal applications.
- Expanded chapter summaries that include all relevant concepts and learning objectives.

- **An updated and expanded instructor manual** with PowerPoint slides, revised tests and answer keys for each chapter, best practices for chapter exercises, and suggestions for teaching critical thinking concepts that incorporate instructional uses of social media and film.

UNIQUE FEATURES The process of becoming a critical thinker occurs when effective thinking concepts and skills are clearly understood and put into practice. For this reason, many aspects of the text have been chosen because of their practical application for the student:

- Each concept is explained with examples, and the examples progress from the personal to the social or political. In this way, students can see that the same skills used in understanding arguments in daily life are used in analyzing political and commercial rhetoric.
- Important concepts are illustrated through the use of graphics, animations, and cartoons, and definitions of key words are highlighted in the margins.
- Exercises of varying difficulty are given within and at the end of each chapter to help students practice critical thinking skills.
- Emphasis is placed on understanding and analyzing the vital impact of print and electronic media on arguments. Suggestions of films that illustrate critical thinking concepts are included in the instructor manual.
- Students are taught to construct and present arguments so that they can gain skill and confidence as advocates for their beliefs; they are also given tools for effective problem solving and decision-making.
- An emphasis on understanding conflicting value systems and on ethics in argumentation and decision making is included throughout the text.
- The articles and excerpts selected for the text are contemporary and express a variety of social and political viewpoints and ethical concerns.
- Multicultural perspectives are presented throughout the examples and articles. Many exercises and assignments encourage students to understand the perspectives of others and to broaden their own perspectives.
- A variety of writing and speaking assignments are included within and at the end of each chapter, and a chapter summaries provide guidelines for reviewing important concepts.

Specifically, the updates to the **text** include:

Chapter 1: Interactive animation videos highlight and clarify important concepts throughout the text. The activities and journals provide students immediate application of concepts, particularly concerning the process of decision-making.

Chapter 2: Ethical dilemmas are presented in an engaging, thought-provoking format so that students have the opportunity to evaluate arguments that are based on ethics and values. New article excerpts, animations, and activities highlight current ethics-based social and national issues.

Chapter 3: New exercises clarify deductive reasoning and emphasize the use of logic to combat prejudice and stereotyping. Arguments on legal and social matters highlight deductive reasoning in contemporary contexts.

Chapter 4: Interesting medical and legal issues are presented in animation videos to clarify the difference between deductive and inductive reasoning. The usefulness of statistics is shown across a variety of professions and applications, and students are given tools to help them discover exaggeration and distortion in statistical generalizations.

Chapter 5: New article excerpts highlight current research on topics of interest to students, such as the effects of social media on mental health and the need for personal connection in school and workplace settings. Activities help students distinguish quality research and true expert testimony from inadequate research design and biased testimony.

Chapter 6: New exercises help students clearly identify and challenge fallacies in social and political arguments as well as in pitches made to consumers. Chapter applications provide practice in distinguishing the various errors in reasoning.

Chapter 7: There is an expanded emphasis on language challenges in social, consumer, and political contexts to help students understand the power of language in managing, shaping, and 'spinning' narratives.

Chapter 8: Various platforms of social media and their influence in social, marketplace, and national issues are highlighted. The chapter also focuses on advances in digital and neuromarketing techniques that are used to affect decision-making by consumers and citizens. We have expanded the section on storytelling as persuasion to influence audience perception so that students can see that even the shows they watch or attend have persuasive intent and power.

Chapter 9: Applications throughout the chapter help students uncover their own bias and 'points of logical vulnerability'. We have expanded the sections on independent thinking and empathic listening to help students to express their own

viewpoints; in addition, the section on empathic listening is meant to enable students to hear and respond to differing perspectives. An article on rational approaches to political differences among friends and family encourages students to maintain and improve relationships across social and political divides.

Chapter 10: The importance of personal advocacy is essential for critical thinkers who wish to influence others. Chapter 10 adds new tools to help students overcome fears and gain confidence in their presentation skills. In addition, animations and exercises help students increase their ability to proactively negotiate positive outcomes when problems and challenges arise.

TO THE STUDENT Making decisions about issues large and small is an integral part of daily life; we decide how to spend our time and our money, the relationships we choose to explore and keep, the college we want to attend, the work we seek to accomplish, the places we want to live, and the candidates and policies we vote for or against. Sometimes, decisions are made rashly with little forethought. It is our contention, however, that the best decisions are made by carefully considering the various—and often complex—factors involved in a given circumstance.

This **text** is intended to train you to be discerning about the messages you read or hear; to make decisions based on careful consideration of both facts and values; to be alert to bias and "spin" in reporting and advertising; and, to be able to effectively present your own viewpoints, even against powerful counter-arguments. The skills of critical thinking are aimed to help you in your decision-making as a citizen, consumer, and professional; in addition, by the end of this course, you should be able to manage and enjoy a holiday meal with friends and family members who may not agree with you on a variety of personal, social, or political issues.

People who are admired for their decision-making are often said to have wisdom or discernment. It is our hope that this text will empower you with the conviction and peace of mind that come from using principles of critical thinking to make wise and fulfilling decisions.

About the Author

Sherry Diestler serves as the Chair of the Communication Studies department at Contra Costa College, where she teaches Critical Thinking, Public Speaking, Interpersonal Communication, and Speaking in the Community. She founded the college's competitive Speech and Debate Team and also created the college's Communication Lab to help students across the curriculum prepare and present speeches for their classes. Her department won a POWER award for Outstanding Program Outcomes Assessment (Student Learning Outcomes) from the Research Planning Group of the Academic Senate for California Community Colleges. She was awarded the Contra Costa Community College District Teacher of the Year for 2013–2014.

Sherry received Bachelor's degrees in English and Speech at The Pennsylvania State University and earned membership in Phi Beta Kappa. Her master's degree in Communication Arts and Sciences/Media Studies is from Queens College of the City University of New York, where she was fortunate to be trained under Joseph DeVito and Gary Gumpert. She has worked as a Communications Consultant for the Office of Personnel Management, Western Region, as well as for a number of private corporations. In addition to the six prior editions of *Becoming a Critical Thinker*, she also has edited three editions of her department custom text with Fountainhead Press entitled *Public Speaking for College, Competition, and Career*. Her online interpersonal communication text, *The Interpersonal Project: Tools for Building, Maintaining and Repairing Relationships* is being used across her department. She served as chair of the Professional Development Committee and is on the Board of Gateway to College and a member of the National Communication Centers Association and the National Communication Association.

ACKNOWLEDGEMENTS My editor, Leslie Lahr, is the wind beneath the wings of this project. She patiently guided me through every aspect of the transition to the Revel platform. She dedicated countless hours to going over every line of each chapter, providing very useful suggestions for relevant updates, animations, journals, and in-chapter exercises. She helped me make necessary changes and adjustments to the initial manuscript. Her calm perspective, platform expertise, creative problem-solving, and incredible sense of humor were invaluable at every step of the revision process. Leslie deserves great credit for the timely completion of this edition.

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For their practical support and love that allowed me the time and energy to write the text, I thank my friends Suzanne Barton, Susan Rockwood, my husband John, and my precious children Zachary, Nicole, Semaje, and Amy Diestler, Travis and Laura Park, and Stuart, Jenna, Isaiah Abigail, and Noa Joanne Rentz.

Above all, I am grateful to the Creator of the human mind.

Sherry Diestler
Contra Costa College

Chapter 1
Foundations of Arguments

Learning Objectives

1.1 Apply the basic structure of argument

1.2 Outline a decision process using the decision-making method

Introduction: Foundations of Arguments

Who Is a Critical Thinker, and When Do You Need to Be One?

- 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.
- A critical thinker uses the structure of argument to make thoughtful decisions.

We live in what has been called the Information Age because of the many messages that we receive daily from television, radio, newspapers, magazines, books, blogs, text messages, tweets, and the hundreds of millions of sites on the Internet.

Sometimes we turn to this information for its entertainment value, such as when we watch a comedy, listen to music, scan the sports page, or read an online movie review. But in a democratic society, in which the people are asked to vote on candidates and political propositions, we also need to use print and electronic sources to help us make decisions about our personal lives and about the direction our community, state, and nation will take.

We need to know how to understand and evaluate the information that comes our way. This course will give you tools for coming to rational conclusions and making responsible choices.

A **critical thinker** is someone who uses specific criteria to evaluate reasoning, form positions, and make decisions.

You can strengthen your critical thinking by becoming aware of and practicing certain skills. The skills will be covered in this text and include an understanding of

- The structure of arguments
- Value assumptions and reality assumptions that are foundational to arguments
- The quality of evidence used to support reasoning
- Common errors in reasoning
- The effect of language on perception
- The ways in which media frame issues

In addition, critical thinkers develop and exhibit personal traits, such as fair-mindedness and empathy. We will discuss how these qualities strengthen critical thinking and decision making. Finally, critical thinkers use their skills to solve problems and to advocate for causes in which they believe. This chapter covers the first skill: understanding the structure of arguments.

When people hear the word *critical*, they sometimes associate it with faultfinding. The field of critical thinking, however, uses the word *critical* to mean "discerning." A film, art, dance, or music critic forms and expresses opinions on the basis of standards. The skills you will learn in this text will give you a set of standards with which to evaluate messages and make thoughtful decisions.

When you learn to communicate well in a formal situation, your skill usually transfers to informal situations as well. For example, if you learn to make an effective informative speech in the classroom, you will also feel better about introducing yourself at parties or making a spontaneous toast at your brother's wedding. This same principle applies to critical thinking skills.

When you can listen to a presidential debate and make good judgments about what each candidate has to offer, you may also be more thoughtful about less formal arguments that are presented, such as which breakfast cereal is best for you or which car you should buy. You will be better prepared to deal with sales pitches, whether written or presented in person.

The methods of discernment and decision making that you will learn apply to choosing a viewpoint on a political issue or to choosing a career, a place to live, or a mate.

In short, critical thinkers do not just drift through life subject to every message that they hear; they think through their choices and make conscious decisions. They also understand the basics of both creating and presenting credible arguments.

1.1 The Structure of Argument

OBJECTIVE: Apply the basic structure of argument

> The aim of argument, or of discussion, should not be victory, but progress.
>
> Joseph Joubert, *Pensees* (1842)

When most people hear the word *argument*, they think of a disagreement between two or more people that may escalate into name-calling, angry words, or even physical violence. In their book *Metaphors We Live By*, George Lakoff and Mark Johnson discuss how our metaphors for argument often affect our perception and our behavior. They claim that the metaphor *Argument Is War* "is reflected in our everyday language by a wide variety of expressions", including instances like "wiping out" one's opponent and "demolishing" an argument.[1]

Similarly, Deborah Tannen, in her book *The Argument Culture*, notes that as a society, we frame our social issues in warlike terms, e.g., the war on drugs and the battle of the sexes. However, this may not be the best method to comprehend and interact with the universe.[2]

Our definition of **argument** is different. When, as critical thinkers, we speak about an argument, we are referring to a **conclusion** (often called a claim or position) that someone has about a particular **issue**. This conclusion is supported with **reasons** (often called *premises*). If an individual has a conclusion but offers no reasons supporting that conclusion, then he or she has only made a statement, not an argument.

Political slogans, often found on billboards or in television advertisements, are good examples of conclusions (opinions) that should not be relied upon because supporting reasons are not offered. If you see a billboard that proclaims, "A vote for Johnson is a vote for the right choice," or if you hear a politician proclaiming, "Education has always been a priority for me," you are encountering conclusions with no evidence; conclusions alone do not constitute an argument.

Critical thinkers withhold judgment on such claims until they have looked at evidence both for and against a particular candidate.

Can you think of a slogan, perhaps from an advertisement or a bumper sticker, that is a statement without supporting reasons?

By the end of this module, you will be able to:

1.1.1 **Identify issues in an argument**

1.1.2 **Identify the conclusions of an argument**

1.1.3 **Analyze a discussion to discover each side's reasons**

1.1.4 **Outline the argument in a humorous article**

1.1.1 The Issue

OBJECTIVE: Identify issues in an argument

As we have discussed, an argument has three parts: the issue, the conclusion, and the reasons. The *issue* is what we are arguing about; it 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

- Should energy drinks be regulated?
- Should air-traffic controllers be given periodic drug tests?
- Should the minimum wage be raised?
- 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.

More Examples of Issues

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

Another way to isolate the issue is to state, "The issue is whether _____."

- The issue is whether aspirin can prevent heart disease.
- The issue is whether reproductive cloning should be banned.
- The issue is whether our community should create 200 new homes.

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 previous examples, the topics would include Alpo, Taylor, the *Wall Street Journal*, aspirin, and cloning. The issues are questions about the topics.

Types of Issues

When we can identify the kind of issue, we can better understand the goal of the writer or speaker. The writer or speaker making a statement on a factual issue is aiming to establish or define a truth about a given topic. When someone speaks or writes on an issue of value, she or he is taking a stand on what is right or wrong about an issue. A policy issue is concerned with action; the writer or speaker advocates that a specific action should be supported.

Factual issues—*Factual issues*, sometimes called *descriptive issues*, concern whether something is true or false, as in the following examples:

- Does zinc prevent common colds?
- Are smog-control devices effective in preventing pollution?
- Do we have enough money to buy a new car?

Factual issues can also involve definitions, whether something or someone fits into a certain category:

- Is digital photography a fine art?
- Is drug addiction a disease?
- Is a platypus a mammal?

Prescriptive issues—Issues about *values*, sometimes called *prescriptive issues*, deal with what is considered good or bad or right or wrong, as, for example:

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

Policy issues—*Policy issues* involve specific actions; often, these issues emerge from discussions of facts and values. If we find that, in fact, smog-control devices are effective in preventing pollution, and if we value clean air, then we will probably continue to support policies to enforce the use of these devices. If aspirin prevents heart disease, and we value a longer life, then we might 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.

IDENTIFYING ISSUES RELATED TO A TOPIC

We can best understand an argument if we can identify the type of issue being discussed; factual issues claim that something is true or false, value issues claim that something is good or bad, and policy issues identify an action that should be taken.

Example topic: Opioid addiction

Sample issues:

Is opioid addiction becoming worse in the United States? (Factual issue)

Is opioid addiction worse than addiction to alcohol? (Value issue)

Should more programs be created to deal with opioid addiction? (Policy issue)

Possible issues:

Homelessness: Has homelessness significantly increased in our city? (Factual)

College tuition: Is college tuition too high? (Value)

Drinking age: Should the drinking age be lowered? (Policy)

MAKING DECISIONS As we have seen, all issues involve decisions about how to think about a topic or what action to take. We deliberate about issues from our earliest years. For example, children think about how to spend allowance money, what games to play, and what books to choose from the library. Teenagers consider what to wear; how much to study; what sports, musical instruments, and hobbies to pursue or languages to learn; and how best to spend the time and money they have. Adults make life choices concerning careers, spouses, children, friends, and homes; they also decide how to think about social and political issues and which causes, organizations, and candidates they will support.

Every decision we need to make, whether it involves public or private matters, will be made easier if we can define exactly what it is 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 talk show featured the general topic of spousal support, and the issue was "Should the salary of a second spouse be used in figuring alimony for the first spouse?" 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 spouse's salary, whether the first

spouse should hold a job, and even whether one of the spouses was a good person.

A general rule is that the more emotional the reactions to the issue, the more likely the issue will become lost. The real problem here is that the basic issue can become fragmented into different sub-issues so that people are no longer discussing the same question.

When you listen to televised debates or interviews, note how often a good speaker or interviewer will remind the audience of the issue. Also notice how experienced spokespersons or politicians will often respond to a direct, clearly defined issue with a preprogrammed answer that addresses a different issue, one they can discuss more easily.

If a presidential candidate is asked how he is going to balance our federal budget, he might declare passionately that he will never raise taxes. He has thus skillfully accomplished two things: He has avoided the difficult issue, and he has taken a popular, vote-enhancing stand on a separate issue.

JOURNAL

Staying on Track

Assume you are a moderator for a campus panel on whether extreme hazing in university fraternities should be outlawed. In response to your question on whether the proposed bans on types of hazing would be effective, one panelist says, "I believe there is too much underage drinking in fraternity houses." How could you respond to keep the topic back on track?

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

1.1.2 The Conclusion

OBJECTIVE: Identify the conclusions of an argument

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 Taylor 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 that "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 with 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. This trait is also called *intellectual humility.*
2. They make an effort 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.

The term *conclusion* is used differently in different fields of study. The definition given here applies most correctly to the study of argumentation. In an argumentative essay, the thesis statement will express the conclusion of the writer. Philosophers use a related definition of *conclusion* in the study of deductive and inductive reasoning. In addition, the term *conclusion* is used to describe the final part of an essay or speech.

Other words used to mean conclusions are *claims, viewpoints, positions, opinions*, and *stands.* We use the term *conclusion* because most people who teach argumentation use the term. The other words listed can mean the same thing.

LOCATING THE CONCLUSION 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 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?" When you can identify the viewpoint that is being expressed, you have found the conclusion.
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."

JOURNAL

Finding the Issue and Conclusion

Consider this short speech, and identify the issue and the conclusion (position, stand) of the speaker.

"A high speed rail would be useful to travelers, but I think the disadvantages outweigh the advantages at this point. Building the rail would cost billions of dollars of taxpayer money, and there are just more important needs for funding in our state right now."

▶ The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

You may hear people discussing an issue and someone says, "I don't know anything about this, but …" and proceeds to state an opinion about the issue. This comment is sometimes made as a means of continuing a conversation. Critical thinkers take a stand only when they know something about the issue; they give reasons why they have come to a certain conclusion. Of course, a critical thinker is open to hearing new evidence and may change his or her opinion on issues, as new information becomes available.

1.1.3 The Reasons

OBJECTIVE: Analyze a discussion to discover each side's reasons

Everything reasonable may be supported.

Epictetus, *Discourses* (second century)

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 classic limerick:

I do not like you, Doctor Fell
The reason why I cannot tell
But this I know, I know full well
I do not like you, 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, research studies, and expert testimony.

There is a world of difference between supporting a political candidate because his or her policies make sense to you and supporting the same candidate because he or she seems like a charismatic person. Information in this course will give you the skills to help you decide whether a reason supports a conclusion.

Critical thinkers focus their attention on the issue being discussed, the conclusions drawn, and the reasons given to support or justify the conclusions.

As a listener: Be able to hear the issue, conclusion, and reasons given for an argument.

As a speaker: Be able to clearly articulate your own conclusion and the reasons you have come to that conclusion about an issue.

When people engage in formal arguments, they usually present their conclusions about issues first and then give reasons to support their conclusions. In decision making, however, people often struggle with reasons on both sides of an issue in order to reach a conclusion (decision).

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Weighing Reasons to Make a Decision

Try to list the reasons to go and the reasons not to go that the friends came up with before making their decision. Note that even routine daily decisions involve the process of weighing pros and cons (reasons) in order to come to a conclusion. Think of a recent "argument" you had with someone. What reasons did the other person state to back up his or her conclusion, and what reasons did you give to support your conclusion?

▶ The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

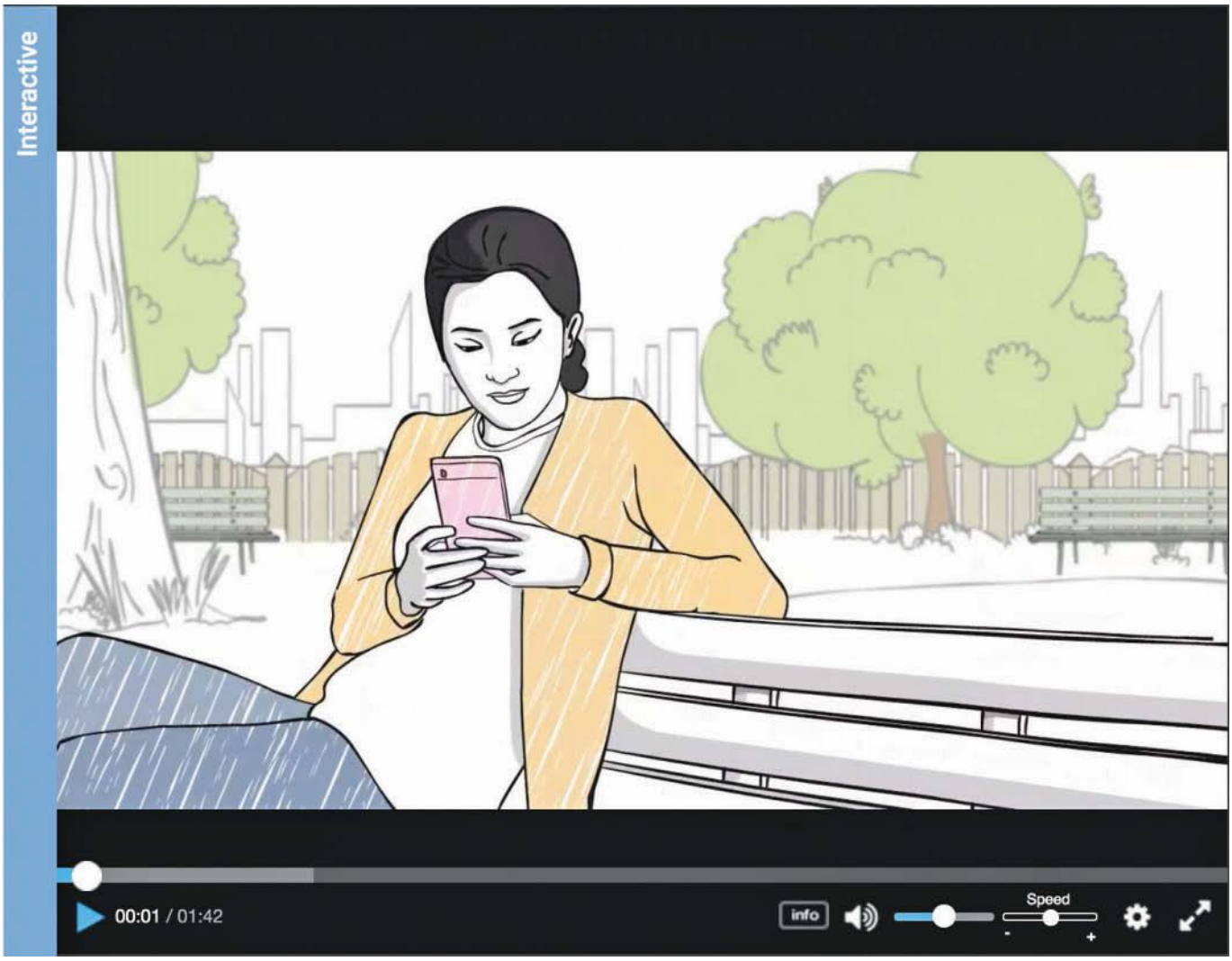
1.1.4 Humor as Argument

OBJECTIVE: Outline the argument in a humorous article

Humor can also be viewed as argument—humorists often make an argument in a disarming way, using irony and exaggeration. If you listen closely to what comedians and comic writers say, you can isolate issues, conclusions, and reasons in their commentaries. An *Onion* magazine article wrote about people's desires to have the latest technological device. Go through the following paraphrased sentences from that article and try to identify issues, conclusions, and reasons.

Watch USING REASONS TO MAKE DECISIONS

Consider the following text conversation between two friends, jointly deciding on the issue of whether to go to a water park. Note that the conclusion (the decision to go or not to go) does not become clear until they go over the reasons on both sides.



The holiday shopping season is upon us. Thus millions of consumers have descended on various commercial centers so that they can acquire the newest and most coveted electronic device for personal use.

According to a spokesperson of the large new device manufacturer, the new device is better than the older device. Thus, it is desirable and should be bought by all Americans. According to him, customers no longer covet or want to own the older electronic device.

According to a new customer, the higher price of the new device indicates that it is better than the older device, even though he had bought the older device less than two years ago.

According to another customer, the fact that the new device is the latest trend will inform everyone around her that she is successful and trendy. The new device's attractiveness is almost an extension of the customer's attractiveness.[3]

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Finding the Issue, Conclusion, and Reasons in Humor

Identify the elements of argument in the *Onion* article. Find the issue, conclusion, and reasons given by the writer.

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

1.2 A Decision-Making Method

OBJECTIVE: Outline a decision process using the decision-making method

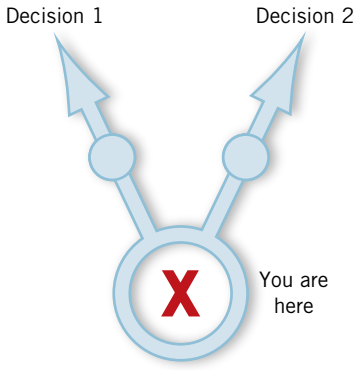
> If you don't know where you're going, you might wind up somewhere else.
>
> Yogi Berra
>
> If you don't have a plan for yourself, you'll be a part of someone else's.
>
> African American Proverb

A **decision** is a choice between two or more alternative actions. We face dilemmas daily in small and big ways. Virtually every aspect of our lives involves decision making, especially since we live in a "free" society in which most decisions are not made by authorities but are left to individual citizens. Decisions need to be made about a variety of matters such as whom to support in an election, which career to pursue, which school to attend, whether to marry, whether to have children, where to live, and how to budget time and money.

Many methods exist to help people make life decisions. There are different ways to evaluate reasons on both sides of a difficult decision. The question to be decided can be seen as the issue—Should I vote for Candidate A, Candidate B, or Candidate C? Should I spend money on a car or save the money for future needs? Should I go to graduate school or take a job offer now? The dilemma for the decision maker is that the future consequences of choosing one path over another are not known in the present time; the person making the decision has to choose without knowing the full implications of the choice. He or she must do what seems best with the information available in the present. (See Figure 1.1.)

Figure 1.1 Pathways

A decision usually involves a dilemma between two alternatives. The decision maker must imagine the future consequences of each alternative.



By the end of this module, you will be able to:

- **1.2.1** Recognize a decision as a conclusion about an issue
- **1.2.2** Assess a decision based on prioritized reasons
- **1.2.3** Re-evaluate a decision

1.2.1 The First Steps in Decision-making

OBJECTIVE: Recognize a decision as a conclusion about an issue

> Nothing is more difficult, and therefore more precious, than to be able to decide.
>
> Napoleon, *Maxims* (1804)

To come to a reasoned conclusion about a decision, it helps to weigh the reasons on both sides. Often, however, people can see many reasons to support two or more choices, and they feel paralyzed by indecision as a result.

One method that can be useful in making decisions that should also help you clarify your reasoning involves listing and giving weights to various reasons and then weighing each of your choices against those reasons.

Let's look at this decision-making method, using the example of the decision of whether to attend School X or School Y.

The first step in decision making is to define the dilemma in the form of an issue.

Example: Should I attend School X or School Y?

The second step in decision making involves looking at your long-term objective. It answers the question: What do I want this choice to accomplish in my life?

Example: I want to get a good education in my field without going into debt for more than two years.

Note that in the second step, if either alternative does not meet your objective, the decision is already made. If you find that School X does not have the major that you want or that it would be too expensive to go to School X, then it no longer is an alternative to consider.

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Personal Decision-making

What is a decision that you need to make in the near—or distant-future? Try to specify your long-term objective for the decision. What outcome would you like the decision to achieve in your life?

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

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1.2.2 Weighing Your Priorities

OBJECTIVE: Assess a decision based on prioritized reasons

In the third step of decision making, you determine which factors are most important to you concerning your desired outcome (in this case the factors in a school). As shown in Table 1.1, you list the factors and give an importance to each one (on a scale of 1–10, with 10 being the highest).

Table 1.1 Factors to Consider

Strong department in my major	10 points
Affordable (low cost or scholarship)	10 points
Close to friends and family	6 points
Near a large city	5 points
Gives internship option	8 points
Campus is attractive	4 points
Good arts community nearby	7 points
Climate is mild	5 points
Feels like a good fit when I visit	9 points
Professors are accessible	8 points

Note that the criteria in this example would be different for different people. That is why it is hard to receive advice about your decision or to give advice to others—other people may not weigh the factors the way you do. To one person, being in a large urban area is a major plus—to another it would be seen as a disadvantage. One person may value a close relationship with professors, whereas another prefers more formality and distance. One person may want to take advantage of cultural attractions nearby, whereas another is more interested in the sports scene on campus.

The fourth step of decision making gets to the heart of the reasons for and against each choice and gives you clear criteria for your decision. In this step, you take each factor and weigh it against your choices. The choice with the highest score is tentatively chosen. Table 1.2 builds on our third step by incorporating two choices of potential schools. You will build your own decision-making table in Assignment 1d.

1.2.3 Troubleshooting Your Decision

OBJECTIVE: Re-evaluate a decision

The fifth and final step in our method of decision making involves tentatively choosing the highest scoring alternative. Doing this kind of decision analysis may confirm that the individual choice is the right one or that either choice would be acceptable. Often, this kind of critical analysis can clarify and solidify choices for an individual. If, on the other hand, the alternative chosen does not "feel right," he or she may look at the criteria to determine why.

Table 1.2 Weighting the Alternatives

Factor	Weight	School X Score	School Y Score
Strong department in my major	10 points ×	8	10
Affordable (low cost or scholarship)	10 points ×	9	5
Close to friends and family	6 points ×	8	6
Near a large city	5 points ×	5	9
Gives internship option	8 points ×	7	9
Campus is attractive	4 points ×	8	8
Good arts community nearby	7 points ×	7	10
Climate is mild	5 points ×	5	7
Feels like a good fit when I visit	9 points ×	8	10
Professors are accessible	8 points ×	9	7
Total: Weight of factor times score of choice		549	521

Going through this logical process and seeing which alternative "scores" higher will help you clarify your choice: If you feel satisfied with the choice, the factors listed were the important factors; if you are disappointed or uncomfortable with the choice, there may be some other, perhaps more emotionally based, factors that need to be entered into the equation.

IMPLEMENTING THE STRUCTURE OF ARGUMENT

When you are listening to a discussion in class or at a meeting, consider the issue being discussed, the claims being made, and the reasons given for the claims. If you have an opinion to share, frame it in terms of your position and your reasons.

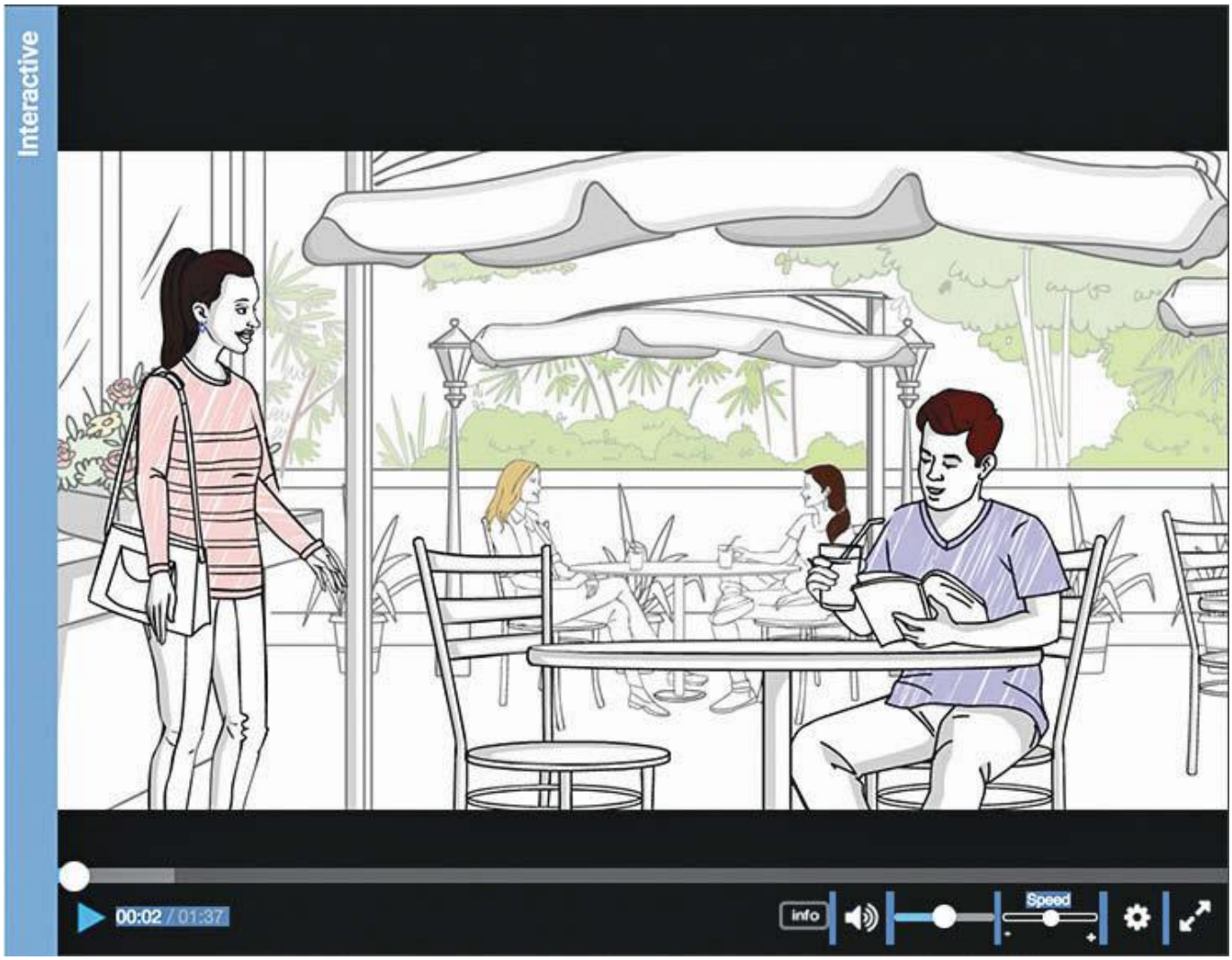
When writing an essay or report, clarify your conclusion about the issue and support it with several reasons.

If you are called upon to make a speech without much time to prepare, use the same format of taking a stand on an issue and supporting it with reasons. For example, if you are asked to make a speech at your grandparent's retirement, you might say something like, "My grandmother has been wonderful to me [conclusion]. She has always encouraged my dreams, she has been there for all of my important events, and she has been a great role model [reasons]." You can then elaborate on each reason with examples.

If you are trying to get a group to come to consensus about a decision, try using the method outlined in this chapter. Help the group members define the issue that

Watch RETHINKING A DECISION

Psychologist Daniel Goleman believes that "the wisdom of the emotions is a real thing." In the following video, we see that Gabe has made a logical decision, but his emotions—his "gut" reaction to the decision—are causing him to rethink his choice.



needs to be resolved and the desired outcome and have them weigh each possibility against specific criteria.

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Decision Analysis

As we have discussed, there are good frameworks that help us make decisions in a logical manner. Decision making also involves our emotions, and we often don't know how we really feel about a decision until the decision is made. Think about a decision you've made in the past that you regretted. What factors could you have considered beforehand that would have helped your decision-making process?

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

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Summary: Foundations of Arguments

1.1 The Structure of Argument

In our current age, when we are flooded with information—and with a variety of opinions about how to interpret that information—critical thinking is necessary in order for us to make clear decisions as citizens, consumers, and relational human beings. We need to be able

to separate fact from opinion and strong, well-supported positions from positions taken with little or no evidence to back them up. A critical thinker is someone who uses specific criteria to evaluate reasoning, form positions, and make decisions.

In this chapter, you learned about the foundational criteria used by critical thinkers by studying the structure of argument. When people think about arguments and argumentation, they often envision quarreling, dissension, and conflict, and those qualities do characterize some arguments. However, for our purposes, we define argument as simply a conclusion about an issue that is supported by reasons. When we take the perspective of understanding different viewpoints, we can minimize negativity and move towards effective discussion. In addition, as we will learn, the most persuasive speakers are those with an understanding of why someone might believe differently than they do; these speakers develop credibility by showing that they have knowledge of other perspectives and still have chosen the perspective that they believe is most helpful.

The first element in the structure of argument is the issue, the question or subject under discussion. Issues are distinct from topics. While topics give general subject matter, issues bring up a particular question about the topic. For example, a topic might be the Oklahoma City Thunder; an issue on that topic would be "Will the Oklahoma City Thunder be in the playoffs this season?" Issues can be distinguished as issues concerning fact (descriptive issues), issues concerning values (prescriptive issues), and issues concerning policy. Once we have identified our issues, we are better equipped to discuss them effectively. If we have clearly defined an issue, we are also able to help ourselves and other people stay on track when they stray from the issue.

The conclusion is the position a person takes on an issue. Other words used to mean conclusions are *claims*, *viewpoints*, *opinions*, *positions*, and *stands*. Once an issue is established, people who have opinions about the issue express their opinions by essentially saying yes or no to the expressed issue.

People usually—and ideally—base their conclusions on specific reasons. Reasons are statements of evidence given to support conclusions; reasons are acceptable or unacceptable on the basis of their relevance and quality. Good reasons give strong, credible support for conclusions; poor reasons give little or no support to the conclusion. You will spend most of your time and energy as a critical thinker and responsible speaker looking at the quality of the evidence used to support a conclusion.

1.2 Decision-Making

Decision-making is a part of our lives every day. We make personal choices in terms of relationships, courses of study, careers, how we spend money, and our outlook on our lives. As citizens, we choose the issues and candidates we want to support. Critical thinkers carefully consider their objectives and the reasons on all sides of an issue when they make important decisions.

Difficult decisions involve a dilemma between two or more alternative actions. One helpful method of decision-making involves defining the decision in the form of an issue, considering long-term objectives, determining the factors that most support the desired outcome, weighing alternatives against each other, and choosing the best alternative. Thoughtful decision-making is really a process of using reasons to draw conclusions about the best course of action on an issue.

Assignments: Foundations of Argument

This module includes assignments that are to be completed outside of Revel and brought to class. Students should check with their instructors or syllabus to determine which assignments and exercises have been assigned.

Assignment 1a: Opinion Statements

By yourself or as a class, come up with as many current issues as you can. Think of both light and serious issues that interest you; consider campus, community, social, national, and international concerns. The editorial pages or websites of campus, community, or national newspapers may give you more ideas to help you choose your issue.

Choose four of your issues, and in a simple declarative sentence, write your conclusion for each one.

Example

Issue: Should air traffic controllers be given periodic drug tests?

Conclusion: Yes, air traffic controllers should be given periodic drug tests.

Next, choose one issue and back up your conclusion with specific reasons. Since the reasons answer the question, "Why do you believe what you believe?" a good trick in isolating the reasons is to write the conclusion and then add the word *because.*

Example

I believe student athletes should be paid (conclusion) *because*

- they commit to certain hours and demands on their time; or
- they make money for their schools.

In the form of an essay or a brief speech, state the issue and your conclusion, and give at least three reasons to support your conclusion.

In the classroom, take a few minutes for each person to share his or her essay or speech, and see if the rest of the class understands the issue, conclusion, and reasons of the speaker. Don't use this exercise to debate issues (that will come later). At this point, strive only to make yourself clear and to understand the basic arguments of others.

Assignment 1b:
Get the editorial page of your favorite newspaper (including your campus paper) or use a favorite blog or opinion website. List the issue, conclusion, and reasons given by the writer in the opinion piece. Use this format:

The issue (question) is:

The conclusion of this writer is:

The reasons he or she gives are:

Then evaluate the opinion piece by answering the following questions:

a. Was the writer clear about the reasons given for the conclusion?

b. Were there other reasons that could have been included in the argument?

c. Did the writer express any understanding for an opposing viewpoint? If so, how? If not, can you articulate an opposing viewpoint?

d. Were you convinced by the opinion piece? Why or why not?

Assignment 1c: Daily Decisions
We make large and small decisions every day. List your decisions for a day, from deciding when to wake up through your evening hours. Also, look at your calendar and checkbook or credit card record, and note the decisions about the use of time and money that they reveal. What does your list say about your daily priorities, and are there any that you would like to change?

Assignment 1d: Individual or Class Exercise—Making a Decision
By yourself, with a partner, or with a class group, choose a current decision that you are facing, and take it through the steps listed in the decision-making model. You can use the model for two or more alternative choices. After you have listed your criteria and the importance (weight) of each factor, rate each of your alternatives.

After weighting the alternatives, use the one with the higher score as your conclusion/decision. Then state the issue (the dilemma or choice that needed to be made), your conclusion (the alternative with the higher score), and the reasons (all of the factors that led to the high score). Whether this exercise is done individually or in groups, it would be helpful to share the results with the class as a further review of issues, conclusions, and reasons.

Ideas for the decision: A voting choice, school choice, career choice, relationship choice, or consumer choice.

Assignment 1e: Letter or Speech of Complaint or Praise
Letter or speech of complaint or praise: Practice using your knowledge about the structure of argument by writing a letter of complaint or praise or doing a classroom "complaint or praise speech," using guidelines devised by Professor Lee Loots.

> Both constructive complaining and giving positive feedback are important life skills. Use this letter or speech to express your satisfaction or dissatisfaction.
>
> For complaining: Choose the most relevant aspects of the problem to discuss. A clear statement of the issue, your conclusion, and reasons distinguishes complaining from "whining." Whereas whining could be characterized as a long string of feelings expressed vehemently about random aspects of a problem, a true complaint describes the nature of the problem in an organized and concise fashion. Sincerely expressed feelings then add richness to the clear and organized content.

To make the complaint clear, be sure to support your ideas with examples, illustrations, instances, statistics, testimony, or visual aids. To make your feelings clear, you can use vivid language, humor, and dramatic emphasis.

Examples of topics for the complaint letter or speech: a letter or speech to a city planning commission about excessive airport noise, a letter to a supervisor about a change in salary or working conditions, a complaint to neighbors about reckless driving in the neighborhood, a complaint to housemates about sharing the workload, or a letter or speech to insurance agents about rates for college students.

For a speech or letter of praise: It is an important psychological principle that what is noticed and praised is usually repeated. If you are happy with a product or service or with how you have been treated, use the same structure of issue, conclusion, and reasons to praise an

individual or an organization. You might choose to do this assignment in the form of an online review, such as a posting on Yelp or Amazon.

Assignment 1f: Writing about a Difficult Decision or Dilemma

Read the classic poem "The Road Not Taken" by Robert Frost. How does Frost use the image of two roads to illustrate the dilemma facing people who have to make a decision with unknown consequences? Write about a difficult decision you had to make or a dilemma that you are currently facing. Give some background to the dilemma and the pros and cons of making a choice as you see them at the present time.

You might also consider a social or national decision that needs to be made, such as implementing a new policy or choosing a candidate for an election. What consequences might be the result of different policies or candidates? Given the present facts and projected short-term and long-term consequences, what choice would you advise?

The Road Not Taken

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;
Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,
And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.
I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.

From *Mountain Interval* by Robert Frost. Originally published in 1920 by Henry Holt and Company, Inc.

SHARED WRITING

Providing Issue, Conclusion, and Reasons for an Opinion Statement

Create a short opinion statement with an issue, conclusion, and three reasons.

For example:

Issue: Should school be mandatory through age 18?

Conclusion: No, school should not be mandatory through age 18.

Reasons:

1. Some students would prefer and do better in trade school than high school.
2. Students who don't want to be in school disrupt others who want to be there.
3. Making school optional would make for less crowded classrooms.

Then review and respond to at least two classmates' posts. If you agree, cite the strongest reason they give, and try to add at least one more reason. If you disagree, list one to three reasons why you disagree.

▶ A minimum number of characters is required to post and earn points. After posting, your response can be viewed by your class and instructor, and you can participate in the class discussion.

Post

0 characters | 140 minimum

Chapter 2
Values and Ethics

Learning Objectives

2.1 Analyze how values impact human behaviors and decisions

2.2 Analyze how systems of values affect ethical decision-making

2.3 Evaluate ethics-based arguments for their underlying 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 underlying foundational elements. To truly understand the quality of a house or an argument, however, 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; they reflect an individual's viewpoint about which values are most important to consider in relation to a particular issue. *Reality assumptions* are beliefs about how the world is; they reflect what an individual takes for granted as factual information. In this chapter, we will focus on value assumptions, which form the foundations of arguments; we will also examine ethical considerations in argumentation and decision making.

2.1 Value Assumptions and Conflicts

OBJECTIVE: Analyze how values impact human behaviors and decisions

Have you ever noticed how some issues are really interesting to you whereas 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 believe are important and consider worthy. For example, look at the list of values below:

> Achievement, friendship, fitness, adventure, family, promise keeping, caring, compassion, privacy, public service, challenge, traditions, honesty, perseverance, change, independence, safety, community, respect, faith, cooperation, responsibility, security, creativity, justice, education, stability, integrity, meaningful work, time, freedom, peace, wisdom, loyalty, diligence, innovation, humor, love, patience, gratitude, courage, and resiliency

We attach significance and importance to specific values that are relevant to a given issue or decision. For example, if someone values creativity, she may wish to pursue a career in the arts. Someone who values education might choose to live in poverty in order to complete a graduate degree. A person who puts a high value on public service may join the military or the Peace Corps in order to serve others.

By the end of this module, you will be able to:

2.1.1 **Determine the value assumptions behind individual viewpoints**

2.1.2 **Identify the priorities behind value conflicts**

2.1.1 Value Assumptions

OBJECTIVE: Determine the value assumptions behind individual viewpoints

Value assumptions are beliefs about what is good and important that form the basis of our opinions about issues and decisions.

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. **Value conflicts** are disagreements about the most important value to be considered concerning an issue. These conflicting value assumptions can occur *between* groups or individuals or *within* an individual.

Almost everyone in a civilized society believes that its members, especially those who are young and defenseless, should be protected. That's why we never hear a debate on the pros and cons of child abuse—most of us agree that there are no "pros" to this issue. Similarly, we don't hear people arguing about the virtues of mass murder, rape, or burglary.

Our values, however, do come into the discussion when we are asked to decide how to treat the people who engage in these criminal acts. Some issues having a value component include the following:

Should we have and enforce the death penalty?

Should rapists receive the same penalties as murderers?

Should we allow lighter sentences for plea bargaining?

Although most of us value order and justice, we often disagree about how justice is best administered and about what should be done to those who break the law.

You can see that the question of the death penalty centers on a conflict about the priorities of justice and mercy, two values cherished by many. Of course, a good debate on this issue will also address factual (not value-based) issues, such as whether the death penalty is a deterrent to crimes and whether the penalty is fairly administered throughout the country.

Keep in mind, however, that most people who argue passionately about this issue are motivated by their values and beliefs concerning justice and mercy. These values are often shaped by significant personal experiences. In fact, we generally hear arguments involving values from persons who are deeply concerned about an issue. Both sides of arguments involving values are likely to be persuasive because of the convictions of their advocates. For example, people who make good arguments against a new factory in their town because they value clean air and less traffic may be opposed by people making equally good arguments about the jobs and economic boost that the factory will bring. A good way to identify a value-based issue is to listen for the words *should* or *ought to*; when those terms are used, you are probably being addressed on a question of value.

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Evaluating Conflicting Value Priorities

The two people in the video have different viewpoints about a decision that has been made. What were the conflicting value priorities that each of them expressed?

▶ The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

2.1.2 Comparing Values

OBJECTIVE: Identify the priorities behind value conflicts

In coming to thoughtful conclusions on value-based arguments, the critical thinker needs to decide which of two or more values is best. In other words, the thinking person must give one value or set of values a higher priority than the other. The process of choosing the most important values in an issue has been called **value prioritization**.

Examples of Value Prioritization

We need to order our values when a personal, social, national, or international issue involving values is at stake.

Drugs, Gambling, or Prostitution—We often hear arguments about the legalization of drugs, gambling, or prostitution. People may claim that legalizing these activities would lessen crime, free up prison space for more violent offenses, and direct large sums of money to the government and out of the hands of dealers, bookies, and pimps.

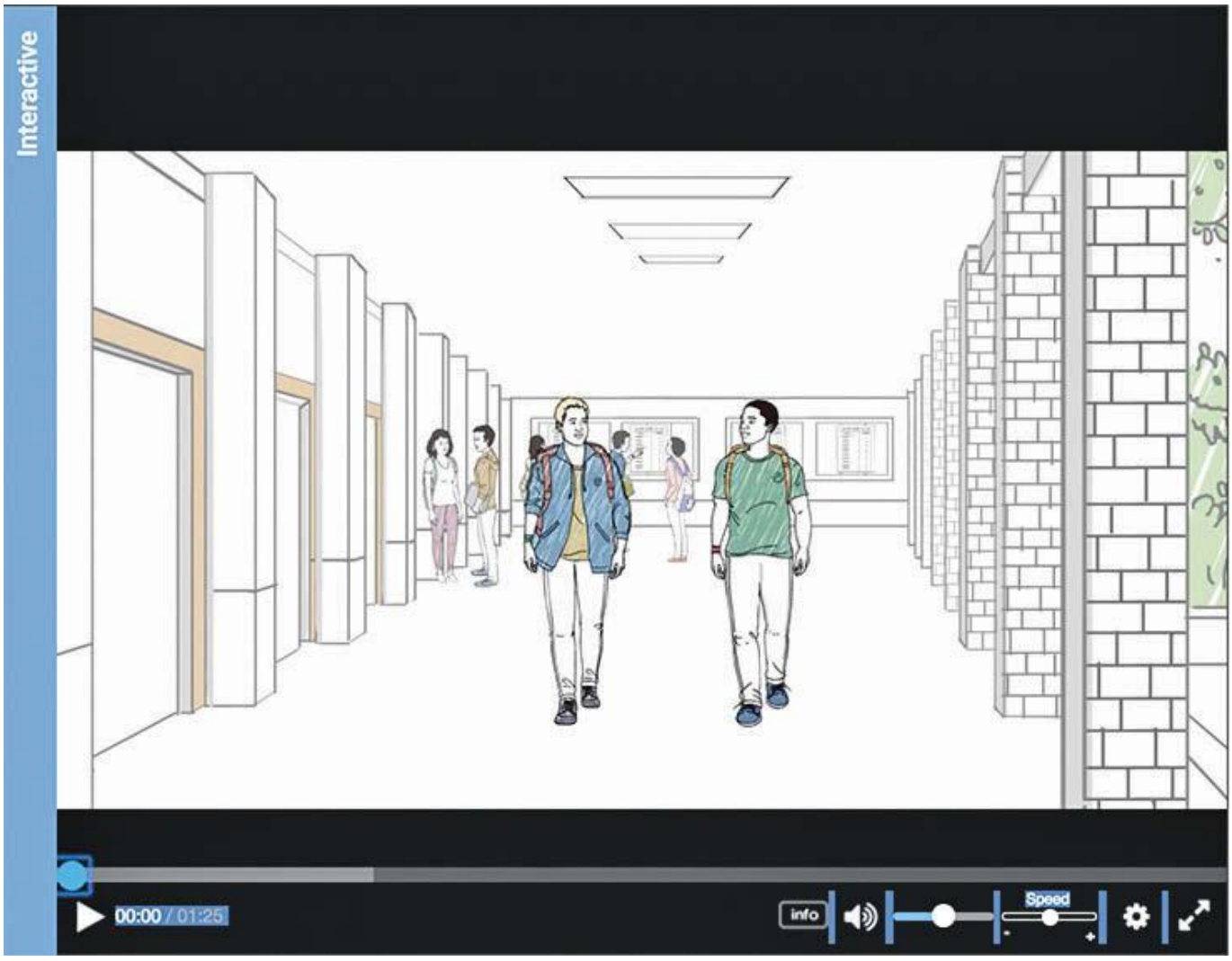
Those who oppose legalization of these activities may have equally impressive arguments about the problems communities would face if these activities were legalized. We need to understand the root of this argument as a disagreement about which is more important:

1. Cleaning up the crime problems caused by underground activities linked to illegal vices—that is, the value of taking care of the immediately pressing problem, or
2. Maintaining our standards of healthy living by discouraging and making it a crime to engage in activities that we as a culture deem inappropriate and harmful—that is, the value of honoring and upholding cultural standards and long-term societal goals.

If people believe that taking drugs, gambling, and prostitution are morally wrong, then no list of advantages of legalizing them would be persuasive to them. Thus, the argument starts with understanding whether the conclusion is based on values; relative societal benefits have a much

Watch VALUE-BASED ARGUMENTS

Big soda companies have given large grants—sometimes millions of dollars—to schools in exchange for exclusive rights to offer their soda vending machines and soft drinks at campus sporting events and campus snack bars. Sometimes, the funding comes with the right to advertise the company's products on campus. Since elementary, middle, and high schools are struggling to update buildings and equipment, they usually take the offer. The relatively few schools that push back against the funding say that the soda and junk food have been a major contributor to student obesity and that no companies should be promoting these products to students on campus.



lower priority for those who believe we cannot condone harmful activities.

Career—Think of a decision you might be facing now or in the future, such as whether you should work (or continue working) while attending school, which career you should choose, or which person you should marry. An internal conflict about a decision often involves an impasse between two or more values.

Let's say you are undecided about continuing to work. You want to devote yourself to school because in the long run you can get a better job (long-term goal). On the other hand, you'd really like the money for an upgraded lifestyle—a car or a better car, money to eat out, and nicer clothes (short-term goals).

Your career decision may involve a conflict between the value of serving others in a field such as nursing, teaching, or social work and the value of a secure and substantial salary (such as you might find in a business or science career) that would help you better provide for your future family.

Relationship—You might think of getting serious with one person because he or she has good plans for the future and is a hard worker, but another person is more honest and has cared for you in both good and bad times. In this case, the conflict is between security (or materialism) and proven loyalty.

Whether we are considering personal issues or issues facing our community, nation, or world, we need to understand our values and decide which values are most important to us.

UNDERSTANDING VALUE CONFLICTS

Different values form the basis of many arguments; conflicts are often based on differing value priorities.

In the following questions, note especially both how values can be important and how we as individuals or citizens need to make tough decisions. Creating policies for difficult problems means giving one value a higher priority than another.

Should teenagers be required to obtain the approval of their parents before they receive birth control pills or other forms of contraception?

Feedback: The conflict in this issue is between the value of individual freedom and privacy on one side and parental responsibility and guidance on the other.

Should persons be hired for jobs without regard to maintaining an ethnic mix?

Feedback: One conflict in this issue is between the value of diversity versus merit-based criteria (e.g., strong previous experience/education).

Should superior athletes receive admission to colleges over other applicants who have higher grades or SAT scores?

Feedback: One conflict in this issue is between the money generated by athletes versus the money generated by superior students. Another conflict might be between student merit versus student contributions to the school's athletic reputation.

Should you tell your professor that students in the back of the class were cheating on the last test?

Feedback: One conflict in this issue is between fairness and loyalty. Another conflict may be between justice versus the desire to avoid confrontation.

Should undocumented residents receive amnesty?

Feedback: One conflict in this issue is between compassion for those who are living here versus fairness to those who are waiting in line to enter.

Should you donate a kidney to a sick relative?

Feedback: One conflict in this issue is between compassion for the relative versus preserving personal health.

Review your responses below, and compare your answers with the feedback provided.

2.2 Ethics

OBJECTIVE: Analyze how systems of values affect ethical decision-making

> What is wrong is wrong, even if everyone is doing it. Right is still right, even if no one else is doing it.
>
> William Penn

As we have discussed, values are principles and beliefs that we hold dear. Values differ from person to person, especially when they concern lifestyle choices, such as how we value spending our time.

When values concern right and wrong behavior, we call them **morals**. If we consider someone to have integrity, we may call her a moral person; conversely, we may refer to certain behavior as immoral. Morals tend to have greater acceptance in society than values.

When morals are codified into a system, we call them **ethics**. For our purposes, we will examine ethics as a more formal dimension of values that defines standards of right and wrong conduct. Many conflicts about values involve an ethical dimension; that is, we are asked to choose whether one action or policy is more ethical—just or principled—than another.

Look at the difference in the following value conflicts:

> Should you take a job that pays more but has evening hours, which you value for studying, or should you take a job that pays less but gives you the hours that you want?
>
> If you arrive home and notice that a cashier at a store gave you too much change, should you go back to the store and return the money?

Note that in the first example, you need to decide what you value more—the extra money or the working hours you want. There is no ethical (good/bad) dimension to this decision; you can still study, even if you take the job with the less desirable hours.

The second dilemma is about your personal standards of right and wrong, or good and evil. Do you inconvenience yourself by making a trip to the store or sending the money back because you believe it is wrong to take what does not belong to you? Or do you believe that if you didn't intend to take the money, you are not responsible? What are your standards of right and wrong, especially regarding relationships with others? Your answer to this kind of moral dilemma will reflect your ethical principles.

By the end of this module, you will be able to:

2.2.1 **Compare the underlying values of different systems of ethics**

2.2.2 **Identify value priorities that influence decisions about ethical issues**

2.2.3 **Evaluate your values for inconsistencies between ideals and actions**

2.2.1 Value Assumptions about Ethics

OBJECTIVE: Compare the underlying values of different systems of ethics

Philosophers and theologians have grappled with theories of ethical behavior for centuries. Several schools of thought about ethics have emerged.

Theories of Ethical Behavior

Some of the more common ones guiding Western thinkers are listed here. Note the value assumptions of each.

Libertarianism—The highest ethical value is to promote individual liberty.

Examples: Libertarians believe that individuals are free to pursue and make choices about their own individual lives with minimal government interference.

They tend to favor freedom in birth control (but not at taxpayer expense), drug legalization, marriage equality, the right to own weapons, maximum privacy of electronic devices, and reduced taxation. They believe that what an individual does with his or her life should not be regulated unless it is a danger to others.

Utilitarianism—The highest ethical value is that which promotes the greatest general happiness and minimizes unhappiness.

Examples: Utilitarians are focused on the consequences of an action. They may argue for greater government control for the sake of the general happiness, or they may be willing to have less personal electronic privacy in order to allow the government to get information on terrorist cells. On an individual level, they favor what brings the most happiness for the most people—they may choose to carpool or buy a more fuel-efficient car to avoid effects on the environment. They may favor more taxes, especially those used to fund programs that would help the majority of citizens.

Egalitarianism—The highest ethical value is equality, which means justice and opportunities distributed equally. Egalitarians tend to favor government programs and taxes that produce equality of opportunity. They tend to favor hiring and college admissions that create equal representation of all groups. They promote equal physical and social access for people with disabilities, and equality of facilities and coverage for men's and women's sports teams.

Religious Values—The highest ethical values are based on faith and spiritual truth, such as loving God and one's neighbor.

People who are motivated by faith-based values tend to favor policies that promote service to others with minimal interference from the government. For example, the mission of many faith-based charities is to serve the underserved in a variety of ways. They encourage volunteerism and provide housing, job training, disaster relief, immigration services, health care, and food. They tend not to favor drug legalization and sex outside of marriage, and many don't want government forcing them to pay for birth control and abortions in order to maintain their status as a charity.

Prima Facie Values—The highest ethical values are universal ethical principles, such as honesty and respect for others; these principles are considered to be self-evident and obvious to rational individuals of every culture.

Examples of prima facie values include honesty in personal and business relationships with others, loyalty to friends and family, and respect for the rights of others. People with prima facie values will abide by moral principles that seem obvious, such as waiting for one's turn in line, being friendly and polite to others, respecting other people's right to privacy, or giving a seat to an older adult or pregnant person on a train.

In any society, conflicting positions on issues are often based on differences in ethical value assumptions. For example, libertarians might argue that when someone has created a business on private property, that person has the right to regulate activities that take place on that property, such as smoking. People concerned about the effects of smoke on nonsmokers may give the utilitarian argument that even private restaurants and bars should ban smoking for the greater good of those who want to go to or work in those establishments.

Conversely, these ethical value assumptions are sometimes placed together and function to collectively support a claim, as in Thomas Jefferson's Declaration of Independence, the document that argued for separation of the 13 original colonies of the United States from the rule of the King of England. Read the following excerpt from the Declaration, noting how all of the value assumptions just listed are included (emphasis added).

The Declaration of Independence of the Thirteen Colonies

In Congress, July 4, 1776

The unanimous Declaration of the thirteen United States of America,

When in the Course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume among the powers of the earth, the separate and equal station to which the Laws of Nature and of Nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these *truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.*—That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed,—That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness.

Note that the Declaration contains references to all of the values we listed—liberty, happiness, equality, an acknowledgment of divine endowments, and self-evident truths. Although all of the ethical values are given emphasis in the Declaration, different individuals give priority to one guiding principle over another. This document provides a good example of how members of a culture may espouse common values yet continue to dialogue about the relative importance of those values when considering societal issues.

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Value Systems

Most people hold values that reflect several of the ethical schools of thought, and they express these values differently, depending on the issue. An individual may be in favor of free trade (libertarian), equal educational opportunity (egalitarian), creation of national parks (utilitarian), working for faith-based charities (religious values), and a business policy of treating every customer with respect (prima facie values). It is hard to categorize most people as followers of one system exclusively over another because of complex individual differences.

Which value system do you embrace on most issues? How might your "go-to" choice contrast with another of the systems listed?

▶ The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

2.2.2 Conflicting Values in Ethics

OBJECTIVE: Identify value priorities that influence decisions about ethical issues

While there are clear differences between the ethical schools of thought, there are also individual differences even within a particular ethical perspective.

Drawing the Line

Issues involving conflicting values usually generate conclusions that answer the question "Where do we draw the line?"

For example, one doctor who fought successfully to ban smoking in workplaces to protect the health of nonsmokers (a stand that could be seen as supporting the utilitarian value of the highest good for the most people) argued for a more libertarian view when it came to banning smoking outside. Dr. Michael Siegel "wrote dozens of scientific articles on the dangers of secondhand smoke. His testimony in court and at countless city council meetings helped push public policy toward tighter restrictions on smoking."[1]

However, Siegel and others who fought hard to get rid of smoking in the workplace objected to similar attempts to ban smoking outdoors. As scientists, they did not believe that the claim that smoking outdoors causes the same secondhand smoke problems that justified the indoor smoking ban was convincing. In speaking of the zeal and success of the antismoking campaigns, Siegel stated, "It's getting to the point where we're trying to protect people from something that's not a public health hazard." At risk, he and other like-minded tobacco control advocates assert, is not only the credibility of public health officials, but also the undermining of a freedom prized in democracies—do as you wish as long as you don't harm others.[2]

Siegel was a strong and effective advocate for creating smoke-free indoor workplaces on utilitarian grounds; he drew the line—on libertarian grounds—when antismoking groups tried to ban smoking outside. In taking his stand, he showed that people with different priorities can solve problems by drawing lines in which conflicting values can be reconciled with a workable compromise. In this case, Siegel argued that the desires of both smokers and nonsmokers could be met without a severe impact on public health.

Many laws also reflect an attempt to "draw the line" in a way that incorporates several value assumptions. One such law was enacted in 1997 in Texas to help state universities reconcile the conflicting goals of admitting high-achieving students from excellent high schools and also honoring and encouraging hardworking, bright students with disadvantaged backgrounds.

ETHICAL DILEMMAS

Read the following brief ethical dilemmas. Then write your own decision about what you think you would do. What value does your answer reflect?

You and your friend are taking the same required history class on different days. You have given up much of your social life to study for this class because the tests are hard. After the midterm, your friend asks you what was on the test since he partied too hard over the weekend and didn't study. You have a good memory and could tell him many of the questions. Do you tell him what was on the test?

The manager of the fast-food restaurant where you work is selling food that is not fresh or prepared according to the standards of the company. You have complained to her, but she has done nothing despite your complaints. You need this job, and the location, hours, and pay are perfect for you; in fact, this boss has tailored your working hours to your class schedule. Still, you are concerned about public safety. What do you do?

Your friend tells you that her boyfriend is home studying, but you see him out with another girl. What do you do?

Should you give money to a homeless person who approaches you?

Review your responses below.

2.2.3 Ideal Values versus Real Values

OBJECTIVE: Evaluate your values for inconsistencies between ideals and actions

> Character is not reflected by what we say, or even by what we intend; it is a reflection of what we do.
>
> Anonymous

Ethical behavior is easier to discuss than it is to carry out. We have complex needs and emotions, and situations are also complicated. Even with good intentions, we sometimes find it difficult to make ethical choices.

Because of the effort involved in living up to our own standards, most of us can make a distinction between our ideal values and our real values. An **ideal value** is a value that you believe to be right and good. A **real value** is a value that you believe to be right and good and that you consistently act upon in your life. As critical thinkers, it is important for us to understand and be honest about our own behavior and to distinguish our words from our actions.

People may say they value good citizenship; they believe people should be informed about candidates and issues and express their viewpoints by voting, but they may continue to vote without studying issues and candidates. In some cases, the value of citizenship is only an ideal. For the value to be real, it must be carried out in the life of the individual claiming it as a value.

The more that our values become an integral part of our identity, the easier they are to act upon when we face tough decisions. For example, people in positions of leadership have to make decisions that impact others, sometimes for decades to come, and the way they view themselves guides their choices. Abraham Lincoln was on an extensive 12-day train journey to Washington, DC, to take his place as the 16th president of the United States, and he arrived 10 days before his inauguration. He was offered wonderful private accommodations from several prominent leaders but instead chose to stay at the Willard Hotel, close to the White House, stating, "The truth is, I suppose I am now public property; and a public inn is the place where people can have access to me."[3] Lincoln's view of himself as belonging to and representing the best interests of the public helped him make decisions that were consistent with his ideal values.

Lincoln had had strong and capable opponents in the campaign that led to his securing the Republican presidential nomination. His opponents had been as negative in their rhetoric about Lincoln as today's rivals are when they compete for political nominations. However, when he chose a cabinet, Lincoln did not seek "yes-men" who supported his own beliefs and who were happy that he had won the election. Instead, he chose his strongest enemies to become leaders in his cabinet.

In fact, as John Nicolay later wrote, Lincoln's "first decision was one of great courage and self-reliance." Each of his rivals was "sure to feel that the wrong man had been nominated." A less confident man might have surrounded himself with personal supporters who would never question his authority; James Buchanan, for example, had deliberately chosen men who thought as he did.

Later, Joseph Medill of the *Chicago Tribune* asked Lincoln why he had chosen a cabinet composed of enemies and opponents. He particularly questioned the president's selection of the three men who had been his chief rivals for the Republican nomination, each of whom was still smarting from the loss.

Lincoln's answer was simple, straightforward, and shrewd: "We needed the strongest men of the party in the Cabinet. We needed to hold our own people together. I had looked the party over and concluded that these were the very strongest men. Then I had no right to deprive the country of their services."[4]

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Ideal versus Real Values

In the video, Shay had to make a decision. List and compare some of your ideal values to your real values; describe what it would take—what changes in your habits or priorities—for those ideal values to become real values for you.

Example

"One of my ideal values is physical fitness. I believe it is important for everyone to keep his or her body strong through exercise and good eating habits. As a student, I don't take the time to exercise every day or even every other day. When I do have spare time, I sleep or go out with my girlfriend. Also, I eat a lot of fast foods or canned foods because I don't cook.

"For this ideal value to become real for me, I would have to make the time to exercise. The best way would be to combine going out with my girlfriend with exercising. At this point in my life, I can't see how I could have a healthier diet, even though it is an ideal for me. But it's just not important enough for me to change at this time."

▶ The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

2.3 Ethics in Argumentation

OBJECTIVE: Evaluate ethics-based arguments for their underlying assumptions

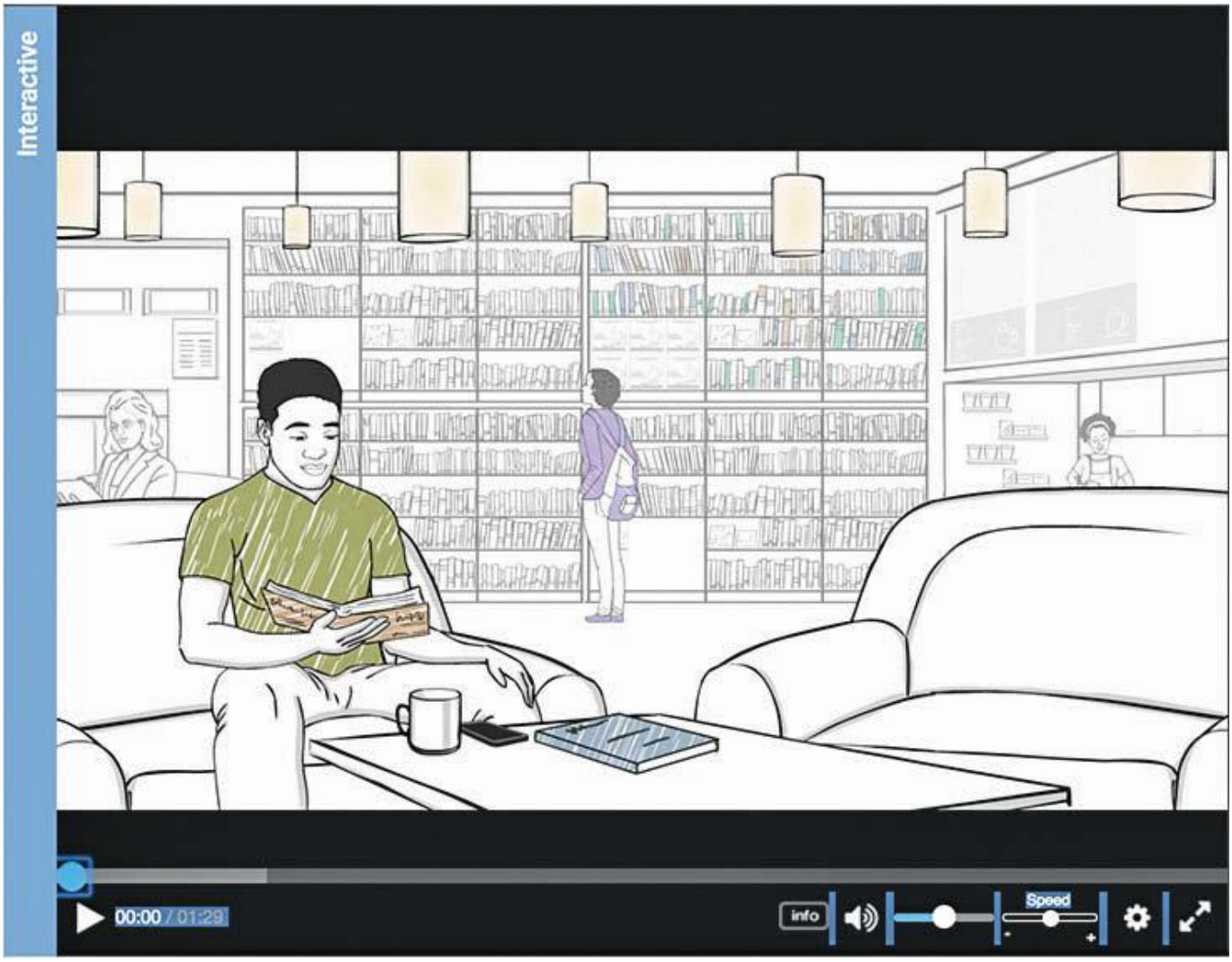
> It is terrible to speak well and be wrong.
>
> Sophocles, *Electra* (c. 418–414 B.C.)

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

- Be honest about their conclusions and reasons
- Not leave out or distort important information
- Thoroughly research any claims they make

Watch INTERNAL STRUGGLE

In our public and professional lives, we are seen as having integrity when we act upon our ideal values. In our personal lives, we also encounter choices that also challenge us to act upon these ideal values to make them consistent with our choices.



- Listen with respect, if not agreement, to opposing viewpoints
- Be willing to revise a position when better information becomes available
- Give credit to secondary sources of information

By the end of this module, you will be able to:

2.3.1 **Use ethics tests to determine your response to an ethical issue**

2.3.2 **Identify common rationalizations used to justify unethical behaviors**

2.3.3 **Analyze an argument using Toulmin's model**

2.3.1 Ethics Tests

OBJECTIVE: Use ethics tests to determine your response to an ethical issue

> 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)

A critical thinker uses ethical standards in argumentation and decision-making. The first step in clearheaded decision-making is knowing your principles and standards. In considering difficult decisions, several "tests" can be useful to apply to your known principles.

Tests for Ethical Decision Making

These tests can help you assess how well your decision adheres to your ethical standards.

The Role Exchange Test—The role exchange test asks you to empathize with the people who will be affected by the action you take. You try to see the situation from their point of view. You ask yourself how the others affected by your decision would feel and what consequences they would face.

You also ask whether it would be right for the other person to take the action if you were going to be the one experiencing the consequences of the decision. Using your imagination, you change places with the person or persons who would receive the effects of your decision. In short, you decide to treat the other person as you would want to be treated in his or her place.

For example, you see your brother's girlfriend out with other men. You hesitate to tell him because of the hurt it would cause and because you feel it's not really your business to interfere. However, when you do the role exchange test, you decide to tell him because you realize you would want to know if you were in his situation.

The Universal Consequences Test—The universal consequences test focuses on the general results (consequences) of an action you might take. You imagine what would happen if everyone in a situation similar to yours took this action. Would the results be acceptable?

Under the universal consequences test, if you would find it unacceptable for everyone in a similar situation to take this action, then you would reject the action.

For example, imagine that you are asked to join a community program for recycling cans, bottles, and paper. You enjoy the freedom of just throwing everything together in the trash, but you stop and assess the consequences if everyone refused to recycle. Your assessment may cause you to join the program.

The New Cases Test—The new cases test asks you to consider whether your action is consistent with other actions that are in the same category. You choose the hardest case you can and see if you would act the same way in that case as you plan to act in this one. If you would, then your decision is consistent with your principles.

For example, you are deciding whether to vote to continue experiments that may be successful in finding a cure for AIDS but involve injecting animals with the HIV virus. Your principle is that cruelty to animals is not justified in any circumstance. To formulate a new, harder case, you might ask yourself if you would allow the research to be conducted if it would save your life or the life of your child. If you would, then you might reconsider your voting decision and reassess your principles.

Another example involves the issue of whether a photographer should turn over negatives to the police if it would help detectives identify and prosecute murder. You may believe that freedom of the press cannot be compromised, and therefore the photographer should be able to keep the negatives out of the investigation. Using the new cases test, imagine that someone you love dearly was the murder victim and that these photographs are the link to catching the murderer. Would that knowledge change your value priorities and your conclusion in this case?

The Higher Principles Test—The higher principles test asks you to determine if the principle on which you are basing your action is consistent with a higher or more general principle you accept.

For example, let's say your roommates are not doing their share of the housework so you are considering not doing your own share. However, because you value promise keeping and integrity, you realize that it is important to keep your part of the bargain regardless of whether they are doing their part. You decide to keep doing your share and to talk with them about keeping their part of the agreement.

The tests for ethical decision-making should provide guidelines to help you think through decisions you and others need to make. They should also be a reminder of the difficulty we often face in deciding how to resolve an ethical dilemma. Complete the next activity to evaluate your own principles and standards in a personal, social, or national/international ethical dilemma.

2.3.2 Rationalizations

OBJECTIVE: Identify common rationalizations used to justify unethical behaviors

Are there situations you can think of in which something may be legal but is not ethical? What about situations in which something is not legal but is ethical?

For example, some people might think the following: "I need to have three years' experience to get this job, so I'll put that on my CV, even though I only have two years." In this principle, necessity is used to justify unethical conduct.

Similarly, some people might say the following: "I didn't tell you that your partner was cheating on you because I didn't want you to feel bad." In this case they may rationalize their behavior by insisting that they were protecting someone else from knowing information that would be harmful for them.

When we make ethical decisions, the actions we take are congruent with our values. When our actions go against

Review: Common Rationalizations

Rationalization	Example
I'm just fighting fire with fire.	My roommate took my jacket without asking, so I'm taking his camera.
It's OK if I don't gain personally.	When I was finished waiting tables, I took some pizzas from the restaurant to give to some kids who were playing on the street.
I can still be objective.	It's okay for me to receive expensive gifts from people in my district. That won't affect how I vote on their concerns.
If it's necessary, it's ethical.	I need to have three years' experience to get this job, so I'll put that on my résumé, even though I only have two years.
It can't be wrong; everyone's doing it.	Lots of people are leaving work early, so why shouldn't I?
I've got it coming.	I don't get paid what I think I'm worth, so I spend time at work catching up on my e-mail.
I was just doing it for you.	I didn't tell you that your boyfriend/girlfriend was cheating on you because I didn't want you to feel bad.
It doesn't hurt anyone.	My sister wrote my essay for the online class, but that doesn't hurt anyone else.

what we believe is right, we are prone to rationalize our behavior rather than to admit we are not always ethical.

2.3.3 Toulmin's Model

OBJECTIVE: Analyze an argument using Toulmin's model

This chapter has focused on understanding our value assumptions and how they impact our decisions about issues. Arguments involve differing conclusions about issues, and the most passionate arguments concern strong value assumptions. These assumptions are often taken for granted and not directly stated. Fortunately, philosophers have developed methods that help us uncover the value assumptions behind our arguments. When we can identify those assumptions, we can improve our discussions by acknowledging the value priorities involved in our differing conclusions.

Stephen Toulmin's Method of Analyzing Arguments

British philosopher Stephen Toulmin developed a method of analyzing arguments that helps us isolate our assumptions.

Toulmin's method identifies claims, statements of an individual's belief or stand on an issue (which are the same as conclusions); reasons, direct statements that provide evidence to support a claim; and warrants, those unstated but necessary links between reasons and claims, the glue that attaches the reasons to the claims. Warrants are the assumptions made by the speaker or writer that connect claims and reasons.

Example—We'll have to leave at 5:00 a.m. to make our flight because we'll be driving in rush-hour traffic.

Claim (conclusion): We'll have to leave by 5:00 a.m. to make our flight.

Reason: We'll be driving in rush-hour traffic.

Warrant: Rush-hour traffic moves more slowly than other traffic.

In the preceding example, the reason and claim of the speaker are clear, but the warrant (in this case, an assumption about reality) that shows the movement from the reason to the conclusion—why the reason is relevant support for the conclusion—is unstated. These assumptions are usually unstated because they are unnecessary in a particular context; for example, most people in a culture that deals with traffic understand the demands of rush-hour traffic.

Similarly, value assumptions often remain as unstated warrants for an argument if most people hearing the argument accept these assumptions without question. For example, if someone cuts in line in front of others who have been waiting, he or she will be told, "You need to move back because the line starts back there."

Claim (conclusion): You need to move back.

Reason: The line starts back there.

Warrant (this is the unstated value assumption): The acceptable action is to take your turn in line, which reflects the value of fairness to everyone.

Sometimes, warrants contain both reality and value assumptions in the same argument. For example, someone might say, "Be careful on that floor—it was just washed."

The argument in this case could be analyzed as

Claim: You need to be careful walking on that floor.

Reason: It was just washed.

Warrant: Floors that have been newly washed are slippery (reality assumption).

Warrant: I don't want you to slip and fall because I value your health and safety (value assumption).

Understanding reality assumptions and value assumptions as foundational, but unstated, parts of an argument becomes important when we discover that other people may hold very different assumptions and thus do not believe that our conclusions are warranted. Let's say that someone argues as follows: "There should be no restrictions on public library access to the Internet for children because children need to be able to do research on library computers." The claim (conclusion) is that there should be no restrictions on library access

to the Internet for children. The reason given is that children need to be able to do research on the computers. The warrant, in this case a value assumption, is that equal access to information is important for young students.

Someone with a different take on this issue may argue that there should be restrictions on children's public library access to the Internet because the policy would allow minors to easily access pornographic material. The warrant in this case would reflect a different value assumption—that protection of minor children from inappropriate material is more important than unlimited access to the Internet.

BACKING When you argue that your value assumption is the *best* one for the situation, you often have to persuade others. Your warrant will require what Toulmin calls **backing**, evidence used to support a warrant. You will need to explain why your value assumption is the most important one. In the case of library access, you might state the following as backing for the warrant:

- Protection of minor children from inappropriate material is important.
- Parents trust children's sections of public libraries to be free from adult content.
- Libraries create special children's sections, in part to isolate children from accessing and borrowing inappropriate material.
- If children need to access research material from the Internet, a librarian is available to help them.

When people *agree* about underlying assumptions, they do not need to be made explicit. However, when assumptions are controversial, they need to be acknowledged and defended. Assumptions (warrants) that are controversial need support (backing). As illustrated in the previous examples, when individuals have differing assumptions (warrants) about an issue, they often reflect a difference in the priority that is given to one value over another. When forming opinions and making decisions, critical thinkers need to understand and examine their own value priorities. People may agree that the values of others are also valid but believe that their own values are the most important determining factors for a particular issue, that their values "trump" the values of opposing viewpoints.

When you find yourself involved in a heated discussion or debate, notice if different value assumptions are held on both sides of the issue. If possible, point these out and show the importance of clarifying the different values in order to increase understanding.

When expressing your own views, be aware of the value assumptions held by others that may differ from your own. If you are trying to persuade people who have different value assumptions than you do, acknowledge and show respect (if possible) for the values they may have, and explain why you give a higher priority to different values. If others see that you understand their viewpoints, they are more likely to give a fair hearing to yours.

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Evaluating an Argument

Consider the following argument. What is the speaker claiming and what reasons are given? What are the unstated warrants, in the form of reality assumptions and value assumptions, in the argument? What backing would be needed to support the warrants?

"I'm thinking that it's good that cannabis is legal in our state. It will give people recreational choice, free up our prisons from overcrowding, and stop the big drug dealers from profiting."

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

Summary: Values and Ethics

2.1 Value Assumptions and Conflicts

Assumptions are ideas we take for granted; as such, they are often left out of a written or spoken argument. An important factor in the structure of an argument involves the underlying foundational elements that include both reality assumptions and value assumptions. *Reality assumptions* are beliefs about how the world is; they reflect what an individual takes for granted as factual information. *Value assumptions* involve beliefs about how the world should be; they reflect an individual's viewpoint about which values are most important to consider in relation to a particular issue. Value assumptions deal with what is perceived as good and important or bad and unimportant; because these assumptions are taken for granted, they are part of the foundation of a person's argument. Value conflicts are disagreements about the most important value to be considered concerning an issue. These conflicting value assumptions can occur *between* groups or individuals or *within* an individual.

Many conflicts do involve differing value assumptions, and that is why value assumptions need to be discovered and addressed before fruitful discussions over value-saturated issues can take place. Although people may agree on the importance of various values, they may disagree on which value should prevail in a given controversy. The process of choosing one value over another is called value prioritization. In order to have helpful discussions and to make good decisions, we need to understand the values that different individuals consider to be top priority in an issue. That understanding leads to civil discourse and may also lead to good decisions that take all of the important values into account. In addition, when we experience value conflicts within ourselves, we have to consider which value is most important to us as we make our decisions.

When values concern right and wrong behavior, we call them morals. Ethics are standards of conduct that reflect our moral values. There are several schools of thought about ethics, including libertarianism, utilitarianism, egalitarianism, religious principles, and prima facie values. For libertarians, the highest ethical value is to promote individual liberty and freedom of thought and action. For utilitarians, the highest good involves taking actions that promote the greatest general happiness and minimize unhappiness. For egalitarians, the highest value is equality, meaning that the most ethical behavior occurs when the same opportunities and consequences apply to all people. For those with faith-based values, the highest good involves loving God and one's neighbor. For those who claim prima facie values, the highest good involves ethical principles that are seen as self-evident to rational people of all cultures, such as respect and honesty. Many people embrace principles of all of the ethical systems; however, sometimes decisions have to be made that prioritize one set of principles over another.

An ideal value is a value that you consider to be right and good. A real value is a value that you believe to be right and good and that you consistently act on in your life. Ideal values are held by an individual in theory; real values are held in theory and also carried out in practice. As we think critically about our ideal values, we can choose to take actions that turn them into real values in our lives.

2.2 Ethics

Our personal ethics are revealed by our behavior as we advocate for ideas and make decisions. When we seek to advocate for our ideas or influence the voting or buying or decisions of others, we should be honest as we state our conclusions and reasons; avoid leaving out or distorting important information; thoroughly research any claims we make; listen with respect, if not agreement, to opposing viewpoints; be willing to revise a position when better information becomes available; and give credit to secondary sources of information.

2.3 Ethics in Argumentation

Several tests have been developed to help people make ethical decisions. These include the role exchange test, the universal consequences test, the new cases test, and the higher principles test. The role exchange test asks you to empathize with the people who will be affected by the action you take. You try to see the situation from their point of view. You ask yourself how the others affected by your decision would feel and what consequences they would face. The universal consequences test focuses on the general results (consequences) of an action you might take. Under this test, if you find it unacceptable for everyone in a similar situation to take this action, then you would reject the action. The new cases test asks you to consider whether your action is consistent with other actions that are in the same category. You choose the hardest case you can and see if you would act the same way in that case as you plan to act in this one. If you would, then your decision is consistent with your principles.

The higher principles test asks you to determine if the principle on which you are basing your action or decision is consistent with a higher or more general principle you accept.

Ethical decision-making is undermined when common rationalizations are used to support unethical practices. These rationalizations include the justification that actions are ethical if they are deemed necessary, if they are legal, if they are done to help others, if they involve "payback" for someone else's actions, if they don't appear to hurt anyone, if many other people are doing the actions, if personal gain is not involved, if one feels overworked or underappreciated, or if one feels that she or he can remain objective when receiving gifts and benefits.

British philosopher Stephen Toulmin developed a method of analyzing arguments that helps us isolate our assumptions; his model helps us discover and outline value assumptions and reality assumptions in an argument.

Toulmin's method identifies **claims**, statements of an individual's belief or stand upon an issue (which are the same as conclusions); **reasons**, direct statements that provide evidence to support a claim; and **warrants**, those unstated but necessary links between reasons and claims, the glue that attaches the reasons to the claims. Warrants are the assumptions made by the speaker or writer that connect claims and reasons. Warrants require evidence to support and validate argumentation; the support for the warrant is called *backing*.

Assignments: Values and Ethics

Assignment 2a:
Consider your own definition of ethical behavior; it may fit into one of the ethical schools of thought outlined in this chapter, or it may be a combination of several approaches. Then, using your own principles, try to be completely "ethical" for one week. As often as possible, ask yourself, "What is the best way to respond to this situation?" Keep a daily record of your ethical challenges. Then report your successes and failures in dealing with these situations.

Here are some examples of common ethical dilemmas: Should you defend a friend who is being criticized by another friend? Should you give money to a homeless person who approaches you? Should you tell the truth to someone even if it hurts his or her feelings? Should you tell your instructor that several students cheated on a test while she answered a knock at the classroom door? Should you tell callers your roommate isn't home if she asks you to? Should you complain about rude treatment in a store? Should you copy a friend's CD of your favorite music rather than buying your own copy?

Your own situations will be unique. If time permits, share with the rest of the class some ethical dilemmas you have encountered.

Assignment 2b: "The Legacy I'd Like to Leave"
Imagine you are 80 years old. Your son, daughter, niece, nephew, husband, wife, friend, or coworker is making a speech about you at a party held in your honor. In this speech, he or she mentions your fine qualities and the things you have accomplished in your life. He or she talks about the special traits you have that are treasured by those who know and love you.

Write the speech, using this format:

a. List the personal qualities you want to have and how those could be specifically evidenced in your life.

b. List the accomplishments you would have achieved. Again, be specific in your descriptions.

c. Then analyze what you would need to do (either internally or externally, or both) to merit that kind of tribute in your old age. What ideal values would have to become real for you? What choices would you have to make about your career, your personal life, and your priorities?

Assignment 2c:
See if your college has a code of ethics about cheating and plagiarizing. If so, write about this code; take a position on the principles given (agree or disagree with them), and give support for your conclusions. If your college does not have a code of ethics, write one and justify (give reasons for) each of the principles you include.

SHARED WRITING

My Value Priority

Choose a personal or social issue and share the value priority behind your decision. Then read at least two other classmates' decisions and comment on why you agree or disagree with their conclusions. Whether you agree or disagree, state your understanding of their highest value priorities.

Example of an issue: My friend helped me get a job at his company and, after only a few months, I was told that he and I were both being considered for a promotion to management. He worked at the job for a year and he's getting married soon, so he really needs this job. ***The dilemma***: Should I take the promotion if it's offered to me or refuse it, knowing that it will then go to him?

I decided I won't take this job if it is offered to me. I wouldn't want to live in a world where people always climbed over one another to achieve success. I believe in the principle of fairness, and I don't think it would be just or fair to take a promotion from a friend who gave me the opportunity to work for his company.

▶ A minimum number of characters is required to post and earn points. After posting, your response can be viewed by your class and instructor, and you can participate in the class discussion.

Post

0 characters | 140 minimum

Chapter 3
Reality Assumptions

Learning Objectives

3.1 Evaluate arguments for their underlying assumptions

3.2 Summarize the methodology of deduction

3.3 Analyze an argument using deductive reasoning

We have learned that when an issue involves a conflict of values, we need to examine the value assumptions and priorities that are foundational to the argument under consideration; in other words, there is no point in bringing in evidence to support a point of view until we address the clashing values.

If someone believes that legalizing drugs is morally wrong, that person will probably not be moved by a lot of statistics that show that we could save money and cut down on crime by legalizing drugs. Someone with a strong value assumption on an issue is not usually swayed by a discussion of the practical benefits of a policy or an action that contradicts his or her values. When a discussion neglects to consider conflicting value assumptions on both sides of an issue, stalemates occur, and new and improved evidence does little to help these stalemates.

The critical thinker who wants to argue on a value-saturated issue needs to clearly and directly address the conflict in values and try to persuade those who believe differently to rethink their value assumptions on that issue.

3.1 Assumptions

OBJECTIVE: Evaluate arguments for their underlying assumptions

A foundational aspect to any argument is the underlying assumptions that the various advocates for an issue hold. An *assumption* can be defined as a belief, usually taken for granted, that is based on the experience, observations, or desires of an individual or group. Conflicts in value assumptions address the questions "What is right?" and "What should we do or be?"; conflicts in reality assumptions address the questions "What is true and factual?" and "What do we take for granted or as a given fact?" Critical thinkers need to be aware of the assumptions that are basic to arguments they are hearing or making.

Reality assumptions are beliefs about what is true and factual about the world, and so they are sometimes called *factual assumptions* or *descriptive assumptions.* They are based on the unique experiences and education of each individual. Reality assumptions are sometimes directly stated by a writer or speaker, but they are usually implied.

A critical thinker examines the reality assumptions of self and others that form the foundations of arguments.

By the end of this module, you will be able to:

3.1.1 **Explain how questioning assumptions can improve decision-making**

3.1.2 **Identify reality assumptions behind an argument**

3.1.3 **Explain the problems involved in unexamined assumptions**

3.1.1 Questioning Assumptions

OBJECTIVE: Explain how questioning assumptions can improve decision-making

The fascinating element of assumptions is that they are often hidden to the people arguing for different conclusions. Finding hidden assumptions in arguments is like reading or watching mysteries; you accumulate clues from what people say and then make guesses about the important things they believe but aren't directly *stating.*

British philosopher Stephen Toulmin created a model for understanding arguments that helps us discover hidden assumptions. In the **Toulmin model**, a *claim* (conclusion) is made and supported by reasons (*data*). Toulmin identifies a third element, the *warrant* (consisting of one or more reality assumptions); the warrant is the bridge linking the reasons to the claim.

Examples of Different Reality Assumptions

People search websites to ascertain whether they should apply to certain colleges based on their SAT scores. Some college counselors advise against applying to schools where the average SAT score is significantly higher than their own, because they assume that students with lower SAT scores won't get through their first year at those schools. Other counselors assume that there are a number of other factors that contribute to both admission and success in college; they assume that student survival is based on determination and motivation, ability to adjust to new environments, ability to take advantage of tutoring and other academic and social support found on campuses, and a love and excitement for learning, especially in their major fields of study.

Let's look at the argument against applying for schools whose study body has higher SAT scores than the students applying, using the Toulmin model. Let's say that the *claim* is that high school students should not apply to colleges at which average SAT scores are 150–200 points higher than theirs. The *reason* is that the students will not likely succeed based on the *warrant* (the unstated reality assumption) that the SAT and ACT scores are accurate predictions of how well students are prepared for the literary and mathematical demands of such colleges.

Someone with an opposing argument, on the other hand, would offer the *claim* that students should not use standardized test scores as a measure of future success. The *reason* is that the SAT tests may predict only a possible struggle for first-year students. The *warrant* (reality assumption) is that what will really get students through the challenges of the freshman year are their character qualities that are not measured by the tests.

Note that people making both arguments share similar value assumptions—they assume that education is valuable and that surviving the first year successfully is also valuable. Their differences are about what actually will help students succeed. They have different beliefs about what is true and factual for freshman students; these beliefs are their reality assumptions.

Similarly, the debate over whether marijuana and other drugs should be legalized involves a number of different reality assumptions. Those in favor of legalization assume that taking drugs is part of individual freedom; that there are more harmful drugs, such as alcohol and nicotine, that are legal; and that legalization would provide needed revenues through sales taxes. They also assume that legalization would eliminate or lessen crimes involving gangs who sell drugs. Those against legalization assume that adverse health consequences would be costly and that the implicit approval of drug usage would harm the creativity, academic performance, and safety of children. They also assume that general work productivity would decrease and that crime and gang violence involving drugs would continue to be a problem.

When two people or two groups hold different assumptions, they need to stop and examine the assumptions that frame their arguments rather than continuing to build arguments on those assumptions. As hidden assumptions are brought to the surface, light is shed on the different positions taken on an issue. Then "all the cards are on the table," and people have the opportunity to test and modify assumptions or to see more clearly why they have a strong conviction about an assumption. Critical thinkers understand that people base their arguments on assumptions; they examine the reality assumptions of self and others that form the foundations of arguments.

Consider this incident from Cynthia Meng's book, *Outstanding, Growing Up Asian*. Cynthia wrote about her experience as a high school student, noting that assumptions made by her family were different than assumptions made by other students' families.

Meng wrote about her experiences as a high school student, noting that assumptions made by her family were different than assumptions made by other students' families. Meng remembers that her parents were displeased with her practice SAT score of low 2100s. She claims that if she hadn't come from an Asian family, this score would have been enough to celebrate. According to Meng, she is not being haughty when she says that anything less than a score of 2300 would be a disappointment to her parents. When she scored less than expected, her parents were considerably distressed—something that's not immediately apparent unless one is living with them.[1]

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Identifying Assumptions

What assumptions might Cynthia's parents be making about her practice SAT score, and why did those assumptions lead to their reaction? What differing assumptions could be made?

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

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3.1.2 Detecting Reality Assumptions

OBJECTIVE: Identify reality assumptions behind an argument

> In times of rapid change, a strategic failure is often caused by an incorrect or false assumption.
>
> Dr. Mike Teng

One reason that some assumptions are hidden from us is that they are so deeply ingrained; they may surface only when we come across a person or a group that holds different assumptions. We may be confronted with a different set of assumptions than our own when we are involved in a classroom debate. Because assumptions are often based on what we have experienced in our own environments, they may surface when we are in unfamiliar situations, such as when we travel to a new place and are exposed to a different culture.

Most North Americans assume that if an interview or meeting is set for 1:00 pm, then the arrival time should be slightly before 1:00 pm, but people from other cultures may view time differently. The expected arrival time could be anywhere between 1:00 pm and 3:00 pm for members of some cultures. Because of the differing assumptions across cultures, North Americans who are sent abroad by their organizations are often given training about the assumptions commonly made in the country they will be visiting.

When traveling to another country, we can be sensitive to what is expected of us as visitors and act accordingly. In defending our conclusions on an issue, however, we need to bring the differing assumptions to light so that the discussion is clear and rational.

Examples of Differing Reality Assumptions

- Some people assume that anyone can change and therefore any prisoner can be rehabilitated. Other people assume that there are individuals who are "career criminals" with little hope of being rehabilitated.
- Some people assume that the best way to increase employment is to lower taxes. Other people assume that the best way to increase employment is to establish more government programs that would provide jobs for the unemployed.
- Some people assume that our lives are shaped by circumstances. Others believe that our lives are primarily shaped by our attitudes and decisions.
- Some people assume that men and women are essentially alike. Other people assume that men and women have significant psychological differences.
- Some people assume that early academic pre-school education prepares children for elementary school. Other people assume that play is the best preparation for elementary school.
- Some people assume that alcoholism is a condition largely created by genetic factors. Other people assume that alcoholism is a result of lifestyle choices.

Other assumptions involve differing definitions or understanding of words:

- One person assumes that *love* is an emotion that may or may not be permanent. Another person assumes that *love* is a commitment that is not based on emotional changes.
- One person assumes that *censorship* is a restriction on speech or writing; another assumes *censorship* to involve a complete banning of ideas or publications.

Individuals continually make assumptions about reality. We need to examine the assumptions we make and try to detect the assumptions that others make. When we have a foundational disagreement about reality assumptions, we should discuss those assumptions before we discuss any arguments built upon them. For example, if we believe that people can be rehabilitated, we must understand why we believe that and be able to defend our basic belief. We also need to understand why someone else would believe that people cannot be rehabilitated.

Much research is conducted to determine whether commonly held assumptions are true or are simply persistent myths. Here are some examples of new information used to challenge common assumptions.

Detecting Questionable Reality Assumptions

Body Mass Index Statistics—The first paragraph belongs after the opening line "When we realize that an argument involves different reality assumptions. In other words, the second paragraph should be first.

When we realize that an argument involves differing reality assumptions, we need to search for evidence that will prove or disprove the assumptions. Much research is conducted to determine whether commonly held assumptions are true or are simply persistent myths. Consider the following examples: For most of the 20th century a body mass index (BMI) of up to 27.5 was considered in the healthy range. The body mass index (BMI) index was long considered the best measure for predicting problems caused by obesity. A more recent long-term study, conducted in part by the University of Georgia, disputes that assumption. In this study, researchers found a more reliable indicator for medical problems in adulthood.

> "We wanted to identify which clinical measure of childhood body composition best predicts long-term cardio-metabolic health risks," said study lead author Michael Schmidt, an assistant professor in the UGA department of kinesiology, part of the College of Education. "We were able to compare a wide range

of body composition measures and found that waist circumference seems to be the best measure to predict subsequent risk."

Schmidt said that the findings should help clinicians measuring body composition identify children most at risk for future health problems in a simple and cost effective manner.

The study used data collected as part of a 20-year follow up of 2,188 Australians who participated in a national childhood health and fitness survey in 1985, when aged 7 to 15 years. As adults, they then attended one of 34 study clinics held across Australia between 2004 and 2006, where they underwent a range of health and fitness assessments. Most prior studies of the long-term consequences of childhood obesity have used the body mass index (BMI), a ratio of weight to height, as the primary measure of childhood obesity, Schmidt explained. While useful, BMI doesn't distinguish between fat and non-fat weight or indicate where the fat is located. In contrast, waist circumference measurements capture the amount of fat located centrally in the body, a location that prior studies have shown to be particularly detrimental to cardio-metabolic health. "This likely explains the stronger associations we observed between waist circumference and adult metabolic syndrome," added Schmidt.[2] With the new findings, a person who was seen to be of normal weight in the 20th century is now considered obese without having gained any weight.

Going Outside with Wet Hair—Many people assume that going outside with wet hair may help cause a cold, even though most medical experts have long maintained that colds are caused by a virus and not by wet or cold conditions. According to Siovhan Bolton, even weather reporters are affected by this myth.

Can your luxurious wet hair make you sick, if you take it outside in the cold? Stupid question? Well, even one of our smartest people thought about it when she walked outside with wet hair this morning.

"It was a rare occurrence," meteorologist Colleen Coyle noted. "I gotta say I paused for a second and thought about it. I think it's a valid question many people may have even if it comes with a simple answer."

To get that simple answer, Parkland Hospital emergency room physician Gilberto Salazar agreed to be our expert.

"Wet hair is certainly one of the big myths I have to dispel," Salazar said.

Would you believe it's a question he gets every week when the weather turns cold?

"It almost becomes a daily education that I have to do," he told us.

As part of that education, he tells patients that the overwhelming majority of coughs and colds are caused by viruses. Diseases we innocently spread from one person to the other.

Even so, researchers put the old wives' tale to a test. In a study reported in the New England Journal of Medicine, two groups of people were exposed to viruses that cause the common cold. One group was exposed to the germs in a chilly 41-degree room; the other group, in a balmy 86°C room. The result? Both groups caught colds at about the same rate.

So, here's the answer you've been waiting for. Does wet hair, on a cold day, have ANY impact on making you sick?

"No," Dr. Salazar affirms, "your risk of acquiring these infections is the same as if you were staying inside, coat on, and your hair dry. It's exactly the same."[3]

Differing Assumptions About Psychology—Psychologists often disagree about the major influences shaping human behavior. According to post-Freudian psychology, all human behavior was learned through some sort of social contact and/or collaboration. However, this does not necessarily mean that a child's behavior is largely a result of "parenting". Though a myth, this is widely accepted in society, leading to many parents thinking that all good or bad things a child accomplishes is directly related to their upbringing. (Of course, the way a child is raised is important, but it is never the complete story.)[4]

Political Blunders—Sometimes politicians make assumptions that are insulting to their constituents. In one election, candidates offended an audience of female researchers by continually referring to what they would do about breast cancer if they were elected to office: "Scientists are repelled by what they see as the condescending assumption in these campaigns; that mentioning breast cancer is a sure way to win the female vote."[5]

Revisiting Government Systems—In a remarkable interview given by the late Fidel Castro, the long-time communist ruler of Cuba, he stated that his policies did not serve his country well:

A national correspondent for *The Atlantic* magazine, Jeffrey Goldberg, asked Castro if Cuba's economic system should be implemented in other countries. In a rare show of candor, Castro answered that the system didn't even work for this cash-strapped Caribbean nation anymore.[6]

Extinct Animals

Extinct Fox Not Extinct, Found in California

Zachary Shahan

Fox Thought to Be Extinct Found in California—U.S. Forest Service biologists thought they found a fox in the mountains of central California that is supposed to be extinct.

The biologists looked to experts at the University of California, Davis to confirm this finding. Sure enough, the fox they stumbled across was this thought-to-be-extinct fox, a Sierra Nevada red fox (*Vulpes vulpes necator*).

How the Sierra Nevada Red Fox Was Found and Identified—Photographs of the fox were taken by a Forest Service trail camera near Sonora Pass and showed the fox biting a bait bag of chicken scraps. The bait bag was shipped to

two expert wildlife genetics researchers working in the UC Davis Veterinary Genetics Laboratory, Ben Sacks and Mark Statham. Regarding these researchers, UC Davis writes: "Since 2006, they have radically altered our understanding of red foxes in California, supplying information crucial to conservation efforts."

Analyzing DNA from saliva they scraped off the tooth punctures on the bag, Sacks and Statham confirmed that the spotted fox was definitely a Sierra Nevada red fox.

"This is the most exciting animal discovery we have had in California since the wolverine in the Sierra two years ago—only this time, the unexpected critter turned out to be home-grown, which is truly big news," Sacks said. (The wolverine found in the Sierra Nevada "was an immigrant from Wyoming," UC Davis reported.)

California Red Fox Research and Findings—Sacks and his colleagues are leaders in California red fox research. Some of their key research and findings are as follows:

Four years ago, Sacks began analyzing California red fox DNA collected from scat, hair and saliva from live animals, and skin and bones from museum specimens. Until then, the expert consensus was that any red fox in the Central Valley and coastal regions of the state was a descendant of Eastern red foxes (*V.v. fulva*) brought here in the 1860s for hunting and fur farms.

Sacks and his colleagues have confirmed that red fox populations in coastal lowlands, the San Joaquin Valley and Southern California were indeed introduced from the eastern United States (and Alaska). But they have also shown that:

- There are native California red foxes still living in the Sierra Nevada.
- The native red foxes in the Sacramento Valley (*V.v. patwin*) are a subspecies genetically distinct from those in the Sierra.
- The two native California subspecies, along with Rocky Mountain and Cascade red foxes (*V.v. macroura* and *V.v. cascadensis*), formed a single large western population until the end of the last ice age, when the three mountain subspecies followed receding glaciers up to mountaintops, leaving the Sacramento Valley red fox isolated at low elevation.

With so many species going extinct these days, it is great to see one "coming back to life."[7]

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What Are the Assumptions?

As online college course offerings increase, some people believe that students are not able to connect as well with each other in an online course as they can in a traditional classroom. What assumptions are they making, and what counter assumptions might be offered?

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3.1.3 The Importance of Examining Assumptions

OBJECTIVE: Explain the problems involved in unexamined assumptions

In our age of accelerated research in many fields, a number of ideas that were once generally accepted have come into question. Researchers frequently discover that what was assumed to be factual might not be true; it may have been true at one time, or it may never have been true at all. When we build arguments on assumptions that are not grounded in truth, our arguments are faulty, and the actions we recommend will not achieve our desired ends. We may sound logical and reasonable, but we lead others and ourselves astray. Conversely, when we keep current with research from reliable sources, we are able to make the most effective decisions.

For example, a number of years ago, officials in King County in the state of Washington found that, contrary to their assumptions, they had almost twice as many suicides as homicides in their county:

> The Seattle–King County Department of Public Health reported that suicide is a major public health problem, the second most common cause of death among adults ages 20–24. In recent years, the suicide rate has continued to climb in that county. . . . The Seattle-King County medical examiner stated that most people assume homicide is a bigger problem than suicide because suicides are rarely reported by the media.[8]

A common assumption has been made that the often rainy weather in the Pacific Northwest contributed to the suicides, but a public health study found that, instead, the highest number of suicides were committed in July. The real causes of suicide were determined to be, first and foremost, terminal or chronic illness. Other factors included a decline in quality of life, unemployment, marital and financial problems, and relationship problems.

Researchers and investigative reporters often uncover questionable assumptions such as the ones discovered in King County. When we examine assumptions with the goal of discerning what is true, we can take more useful action. Some of the reality assumptions that were discovered to be *false* about King County include the following:

1. Homicide is more common than suicide.
2. The area's gloomy weather contributes to high suicide rates.

In this case, supervisors considering the research from the Seattle–King County Department of Public Health may decide to put more funding into preventing suicides instead of concentrating their efforts mainly on homicides. In so doing, they can focus on fighting the most common causes of suicide. Rather than looking for antidotes to gloomy

weather, they can support efforts to control pain for those who suffer from terminal or chronic illness; also, county officials can offer more services to people who are unemployed or struggling with financial and relationship problems.

As critical thinkers, we need to actively discover and then question the assumptions underlying arguments so we are not building arguments on a false foundation. Conversely, when we critically examine what it is we take for granted, we have the advantage of gaining a strong and solid conviction for those ideas and principles we believe to be true. Knowing why we believe what we believe helps us be more credible and effective when we present an argument. Examining the reality assumptions of others helps us understand and assess their arguments more clearly.

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Identifying Problems with Assumptions

When we make assumptions, they lead to interpretations, then judgments, and then actions. Describe an assumption you have made that proved to be false and led to negative results. You might also consider assumptions made concerning social or political issues that have led to damaging conclusions and actions.

Here's an example from a student journal:

Once, a very good friend told me that she wouldn't be with me for my birthday. I instantly assumed she was being selfish and inconsiderate. She reached out to me on my birthday and a few times after, but I was so upset I did not respond. I eventually found out through social media that a close relative of hers had passed away. After this she distanced herself from me and we are no longer as close as we once were. This has taught me to question the meanings of others' statements and not be quick to assume their intentions based on my own thoughts or judgment.

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ASSUMPTIONS ABOUT MEDICINE Another example of the need to examine assumptions relates to the use of prescription medicine. Because of the availability of numerous new medications and treatments, doctors and pharmacists have to consider more factors in treating patients than they may have in the past. Because harmful, and even fatal, side effects can occur when two different drugs are prescribed to the same patient, pharmacists have to make judgment calls about whether to assume that doctors know about interactions between the drugs they have prescribed.

One investigative report warns consumers not to assume that pharmacy computer systems that check for drug interactions are always accurate. Dr. David Kessler, past commissioner of the U.S. Food and Drug Administration (FDA), is quoted as saying, "It is simply untenable . . . to walk into a pharmacy and receive a bottle of pills and no other information. It is not good patient care."[9]

Good pharmacists will observe the ingredients of multiple medications, then make interpretations, make good judgments, and recommend safe actions.

The FDA advocates increased communication between consumers and health care providers to avoid harmful assumptions concerning prescriptions and over-the-counter supplements. A frequently asked question is whether doctors or healthcare providers should be consulted before over the counter supplements are taken. Here is the answer from the Food and Drug Administration:

> This is a good idea, especially for certain population groups. Dietary supplements may not be risk-free under certain circumstances. If you are pregnant, nursing a baby, or have a chronic medical condition, such as, diabetes, hypertension or heart disease, be sure to consult your doctor or pharmacist before purchasing or taking any supplement. While vitamin and mineral supplements are widely used and generally considered safe for children, you may wish to check with your doctor or pharmacist before giving these or any other dietary supplements to your child. If you plan to use a dietary supplement in place of drugs or in combination with any drug, tell your health care provider first. Many supplements contain active ingredients that have strong biological effects and their safety is not always assured in all users. If you have certain health conditions and take these products, you may be placing yourself at risk.[10]

The FDA also advises consumers to be wary of common reality assumptions concerning dietary supplements, including common vitamins.

FDA's Checklist for Common Reality Assumptions Related to Dietary Supplements

#1 Questionable Assumption—"Even if a product may not help me, it at least won't hurt me." It's best not to assume that this will always be true. When consumed in high enough amounts, for a long enough time, or in combination with certain other substances, all chemicals can be toxic, including nutrients, plant components, and other biologically active ingredients.

#2 Questionable Assumption—"When I see the term 'natural,' it means that a product is healthful and safe." Consumers can be misled if they assume this term assures wholesomeness, or that these foodlike substances necessarily have milder effects, which makes them safer to use than drugs. The term *natural* on labels is not well defined and is sometimes used ambiguously to imply unsubstantiated benefits or safety. For example, many weight-loss products claim to be "natural" or "herbal," but this doesn't necessarily make them safe. Their ingredients may interact with drugs or may be dangerous for people with certain medical conditions.

#3 Questionable Assumption—"A product is safe when there is no cautionary information on the product label." Dietary

supplement manufacturers may not necessarily include warnings about potential adverse effects on the labels of their products. If consumers want to know about the safety of a specific dietary supplement, they should contact the manufacturer of that brand directly. It is the manufacturer's responsibility to determine that the supplement it produces or distributes is safe and that there is substantiated evidence that the label claims are truthful and not misleading.

#4 Questionable Assumption—"A recall of a harmful product guarantees that all such harmful products will be immediately and completely removed from the marketplace." A product recall of a dietary supplement is voluntary, and while many manufacturers do their best, a recall does not necessarily remove all harmful products from the marketplace.[11]

WHAT ARE THE ASSUMPTIONS? As we have seen, one way to detect reality assumptions is to create a brief outline of an argument you hear. Use the elements of Toulmin model as illustrated in the following examples:

Trials and executions should be televised—the public has the right to know what's going on in our courts. Information about the judicial system needs to be more widely disseminated.

Using the skills we've discussed so far, we could outline the argument as follows:

Conclusion/claim: Trials and executions should be televised.

Reason: The public has the right to have more information about the courts and the judicial system.

Value assumption/warrant: Freedom of information is an important value.

Reality assumption/warrant: Televising trials and executions would be used to inform the public about our judicial system.

Someone with different value and reality assumptions might reply as follows:

Trials and executions should not be televised—it would turn our criminal justice system into a form of entertainment.

Conclusion/claim: Trials and executions should not be televised.

Reason: Televising trials and executions turns our criminal justice system into a form of entertainment.

Value assumption/warrant: Citizens should not be entertained by criminal behavior.

Reality assumption/warrant: People would watch trials and executions primarily for entertainment.

Let's look at another brief argument, outlining the conclusion, reasons, value assumption, and reality assumptions.

All teenagers should have the hepatitis B vaccination starting at 12 years old. Hepatitis B is a sexually transmitted disease that can be fatal. It can also be transmitted through intravenous drug use.

Conclusion/claim: All teenagers should have the hepatitis B vaccination.

Reasons: Hepatitis B is a sexually transmitted disease that can be fatal. It can also be transmitted through intravenous drug use.

Value assumption/warrant: Health and prolonged life are important.

Reality assumptions/warrants: All teenagers are at risk of being sexually active or using drugs. Children are at risk for these activities starting at age 12. A vaccination will protect teenagers from the effects of this disease.

Using the previous example, can you create a different argument based on different assumptions about reality?

DETECTING ASSUMPTIONS

Critical thinkers are alert to detecting assumptions in their own and others' arguments. When we can identify these assumptions, we are better able to clarify, support, or refute them.

Take a look at the statements below and write assumptions that are being made by the speaker.

He should try out for the NFL right after high school. If he makes it, he won't need a college degree to support himself.

There is good news in that rape is on the decline in this county—there are 20 percent fewer police reports this year than last year at this time.

Bolger's coffee is the best—it's mountain grown. That gives it great taste.

The death penalty is proof that we value revenge more than we value people. We should save and rehabilitate people rather than giving up on them.

Charlene is really successful—she's only 28, and she's making $120,000 a year!

The people in that city don't care about the homeless—their city council voted against contributing $80,000 to a county fund to help the homeless.

They won't trade their lunches if you give them Twinkle cupcakes, and Twinkle will give them the energy they need to do well in school.

You're going to love this blind date—I've known him since fourth grade, and he's a great friend of mine.

Let's put the county dump in Smallville—it hasn't had a turn as a dumpsite yet.

Let's just live together—why do we need a piece of paper to prove our love?

The newspaper didn't print my editorial—I guess the editors don't really believe in free speech.

After you have completed this exercise, review your responses below, and discuss whether you agree with the assumptions you discovered.

3.2 Deductive Reasoning

OBJECTIVE: Summarize the methodology of deduction

> If we lose a sense of the value of truth, we will certainly lose something, and we may very well lose everything.
>
> Bernard Williams, philosopher

In the previous section, we examined **reality assumptions**. We saw that sometimes our assumptions about reality,

about what is true and what is false, contrast with those of others. How can we discover whether our assumptions are true and whether they are able to provide good evidence for our conclusions?

Philosophers, theologians, scholars, and critically thinking people are all concerned with truth, and many have tried to define truth over the centuries.

Being a critical thinker means having a curious and questioning attitude about reality and examining the reality assumptions you hold and that others present to you in arguments. Critical thinkers realize that their knowledge and perceptions are limited, and they look for solid evidence before accepting or advocating a viewpoint. When new information becomes available, they revisit and reexamine their reality assumptions about an issue, always striving to discern the truth.

In many of our routine daily decisions, we don't spend a lot of time questioning our thinking. However, as we face the important decisions of our life as people in relationships, and as students, professionals, citizens, and consumers, we do need to question why we believe what we believe and whether our beliefs are true.

How can we examine how we think and question our own reasoning or the reasoning of others? How can we overcome our own subjective perceptions? What tools are available to help us look critically at information, make reasonable decisions, and know that we are being "logical" and "truthful" in our thinking?

Those who study reasoning have come up with two general frameworks for testing the logic of our reasoning and for discovering truth; these frameworks are inductive and deductive reasoning. **Inductive reasoning** involves finding truth by making observations. The observations might be made through statistical polling, controlled experiments, or relevant examples and analogies. Our observations, when made 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.

While inductive reasoning gives us *probabilities* of what is true in a given situation, **deductive reasoning** 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.

By the end of this module, you will be able to:

- **3.2.1** **Describe how deductive arguments work**
- **3.2.2** **Identify additional patterns of deductive reasoning**
- **3.2.3** **Apply Toulmin's method to deductive argumentation**

3.2.1 Validity and Soundness in Deductive Arguments

OBJECTIVE: Describe how deductive arguments work

> The syllogism is one of the most valuable tools we have in trying to determine the truth.
>
> Robert J. Gula

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, the reasoning is logical, and the argument is a **valid argument**. The basic patterns of deductive reasoning, which will be discussed in this section, help us test whether our thinking is valid and therefore 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, which is a formal term for "logical"; accurate content makes it true. When the form is valid and the content is true, the argument is a **sound argument**.

The formal patterns that create the framework for deductive reasoning are called syllogisms. A **syllogism** is a deductive argument (usually written in three steps) that moves logically from a major and a minor premise to a conclusion. The conclusion is inferred or derived from the premises. Let's look at the classic example of a syllogism given by Aristotle more than 2,000 years ago:

> All men are mortal. (This categorical statement is called the **major premise**. The *major term* is the predicate, in this case "mortal.")
>
> Socrates is a man. (The **minor premise** expresses an instance of the principle set out in the major premise. The *minor term* is the subject, in this case "Socrates.")
>
> Therefore, Socrates is mortal. (Conclusion—the **conclusion** is inferred—follows from—the major and minor premises. The *middle term* that occurs in both the major and minor premises but not the conclusion is the category, in this case "man.")

This pattern of deductive reasoning can be coded in letters as follows:

> All As are Bs.
> m is A.
> Therefore, m is B.

In this deductive argument, the first premise (all As are Bs) is a universal or **categorical statement**, a statement in which members of one class are said to be included in another class. This categorical statement is the major premise.

The second statement, called the minor premise, gives a particular instance of the principle set out in the major premise.

The final statement is the conclusion that is logically inferred from the major and minor premises.

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Understanding Categorical Syllogisms

Categorical syllogisms make the argument that if the universal statement given in the major premise is true and the particular instance given in the minor premise is true, then the conclusion must be true. These syllogisms are particularly effective in revealing scientific truths and conditions and the applications of law. For example, we might say that all bears are mammals (major premise), the polar bear is a bear (minor premise), therefore the polar bear is a mammal. Using this format, create your own categorical syllogism.

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

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3.2.2 Patterns of Deductive Reasoning

OBJECTIVE: Identify additional patterns of deductive reasoning

> Fallacious and misleading arguments are most easily detected if set out in correct syllogistic form.
>
> Immanuel Kant

Let's look at some other common examples of deductive reasoning, noting their specific patterns. A **conditional syllogism** (also referred to as a **hypothetical syllogism**) contains at least one hypothetical (if–then) premise. In a conditional (hypothetical) premise, we are asserting that if the first part of the statement is true, then the second part is also true. We call the first part (represented by A) the antecedent and the second part (represented by B) the consequent.

Common Forms of Conditional/Hypothetical Syllogisms

Modus Ponens—The term *modus ponens* means "the way of affirmation" or affirming the antecedent.

If A, then B. [Major premise; we are stating that the antecedent (A) leads to the consequent (B).]

A. (Minor premise; we are affirming that the antecedent is true.)

Therefore, B. (Conclusion; if the antecedent is true, the consequent is also true.)

Example:

If our team wins the playoff game, it will be in the championship game.

Our team did win the playoff game.

Therefore, our team will be in the championship game.

Keep in mind the difference between a statement or assertion and an argument. Remember that in a deductive argument, the conclusion is inferred (drawn or understood) from the premises that are given. A common error is to take one premise alone as constituting an argument. The first premise given earlier, "If our team wins the playoff game, it will be in the championship game," is only a statement. This statement, called a *hypothetical statement*, sets up a condition. The condition needs to be fulfilled (or not fulfilled) for the argument to be complete. Conditional (or hypothetical) statements are used commonly in our lives in the form of warranties, contracts, threats, or predictions.

Your instructor may have given you a contract at the beginning of the semester that states the following:

1. If you get 80 percent of the points required, you will receive a B.

   This is a conditional or hypothetical statement. It doesn't assert that you have 80 percent of the points in the class or that you have a B. But if you add another statement:

2. You have 80 percent of the points required (and that is true), then we arrive at the conclusion that:
3. You will receive a B in the class.

Note that if the first two statements in this format are true, then the conclusion must be true. When the conclusion must be true, we have deductive *certainty*.

Modus Tollens—The term *modus tollens* means denying the consequent.

If A, then B.

Not B. (Here the consequent is denied.)

Therefore, not A. (Since the consequent is denied, the antecedent must also be denied in the conclusion.)

Example:

If I have strep throat, then the culture will be positive.

But the culture is not positive.

So, I don't have strep throat.

Chain Argument—A third form of the conditional argument is often called a *chain argument*:

If A, then B.

If B, then C.

Therefore, if A, then C.

Examples

1. If you lower the fat in your diet, you will lower your cholesterol.

   If you lower your cholesterol, you will reduce the risk of heart disease.

   Therefore, if you lower the fat in your diet, you will reduce your risk of heart disease.

2. If evidence of the suspect's DNA is found at the crime scene, then we can connect him with the crime.

   If we can connect him with the crime, then we can have him stand trial.

   Therefore, if the suspect's DNA is found at the crime scene, then we can have him stand trial.

Disjunctive Syllogism—Another common pattern of deduction is found in the *disjunctive syllogism*: A disjunction is an "or" statement. In a disjunctive syllogism, it is claimed that only one of two possibilities (disjuncts) is true; if one possibility is true, then the other possibility is not true. The two alternative possibilities are presented in the major premise; one of them is denied in the minor premise, and the other is affirmed in the conclusion. The pattern for this syllogism is structured as follows:

1. Either A or B.

   Not B.

   Therefore, A.

Example:

Either Ramon took the car to work, or he took the bus.

But Ramon didn't take the bus to work.

Therefore, Ramon took the car.

or

2. Either A or B.

   Not A.

   Therefore, B.

Example:

My phone is either at Brianna's house or at work.

It's not at Brianna's house.

Therefore, it's at work.

Argument by Elimination—Closely related to the disjunctive syllogism is an argument by elimination. An *argument by elimination* seeks to logically rule out various possibilities until only a single possibility remains. The following valid patterns are arguments by elimination:

1. Either A, or B, or C.

   Not B or C.

   Therefore, A.

Example:

The car's problem is the alternator, the generator, or the battery.

It's not the alternator or the generator.

Therefore, it's the battery.

2. Either A, or B, or C.

   If B or C, then D.

   Not D.

   Therefore, A.

Example:

Either Rachel bought dinner, Roy bought dinner, or Sammy bought dinner.

If Roy or Sammy bought dinner, then they skipped baseball practice.

But Roy and Sammy did not skip baseball practice.

Therefore, Rachel bought dinner.

Now that you have learned the various types of syllogisms used in making arguments, test your knowledge by putting the syllogism type next to the correct example.

Review: Common Forms of Conditional/ Hypothetical Syllogisms

Type of Syllogism	Examples
Categorical Syllogism	All mammals are animals. My dog is a mammal. Therefore, my dog is an animal.
Modus Ponens	If the weather report says that it will rain today, I will need my raincoat. The weather report says that it will rain today. Therefore, I will need my raincoat.
Modus Tollens	If I have to get up now, my alarm will go off again. But my alarm hasn't gone off again. Therefore, I don't have to get up now.
Disjunctive Syllogism	He either got a pass or a fail in the class. He didn't fail. Therefore, he passed the class.
Argument by Elimination	Either Jose, Lily, or Ali has the notes. Joe and Ali don't have the notes. Therefore, Lily has the notes.
Chain Argument	If I want to get a good grade in this class, I need high quiz points. If I need high quiz points, I need to study for the quizzes. Therefore, if I want to get a good grade in this class, I need to study for the quizzes.

Deductive arguments must follow the correct pattern in order to be considered valid. If our reasoning follows the steps outlined in these forms, our arguments are considered valid. If they do not follow the correct form, we have not provided adequate support for the conclusion, even if the conclusion happens to be true.

3.2.3 Using Toulmin's Method to Understand Deduction

OBJECTIVE: Apply Toulmin's method to deductive argumentation

We don't speak in syllogisms, but we can test the logic of our reasoning by placing it into a syllogism. In fact, many

of our assertions are what philosophers call enthymemes; an **enthymeme** is a syllogism with a premise implied rather than directly stated. The missing parts—the assumptions of the speaker or writer—are expected to be supplied by the listener or reader. When we discover the missing part, the implied premise, we can place the argument in one of the standard deductive patterns.

We can use British philosopher Stephen Toulmin's method of dissecting arguments to help us isolate the implied premises. His method identifies *claims* (which are the same as conclusions), *reasons* (sometimes called *data*), those supports for the claims that are directly stated, and *warrants*, those connections between reasons and claims that are taken for granted (the reality assumptions). The warrants are the implied premises; they are the "glue" that attaches the reasons to the claims.

Toulmin's Method and Deduction

When the warrant—the reality assumption—is clarified, the reasoning of the speaker or writer is more fully revealed, and we are able to see if the reasoning is valid.

For example, you may say, "You shouldn't take that class—the teacher gives too much homework." (This preceding statement is the enthymeme.)

Claim/conclusion: You should not take that class.

Reason: The teacher gives too much homework.

Warrant/reality assumption: If too much homework is given, a class should not be taken.

Written as a conditional syllogism, the reasoning would be revealed:

If a teacher gives too much homework, a class should not be taken.

That teacher gives too much homework.

Therefore, that class should not be taken.

Someone might respond to this argument by saying, "I like having a lot of homework—it helps me learn the material." This response challenges the warrant that if too much homework is given, a class should not be taken; the objection is not about the logic of the reasoning but about the assumption that too much homework is a negative factor.

For another example, let's say that you and a friend are planning to drive to a movie. You may say, "We're almost out of gas—we need to stop on the way to the movie." This enthymeme could be dissected as follows:

Claim/conclusion: We need to stop for gas on the way to the movie.

Reason: We're almost out of gas.

Warrant/reality assumption: If we're out of gas, we need to stop and get some more, or we won't make it to the movie.

We can also see the reasoning pattern by putting the enthymeme into a conditional syllogism, as follows:

If we're almost out of gas, we need to stop and get some more.

We're almost out of gas.

Therefore, we need to stop and get some more.

Let's say, though, that your friend responds to your comment, "We need to stop at a gas station on the way to the movie" by stating, "No, we don't need to stop; we're fine."

Using Toulmin's model, your friend's argument is as follows:

Claim/conclusion: We don't need to stop.

Reason: We're fine. (We have enough gas to get to the movie.)

Reality assumption/warrant: If we have enough gas to get to the movie, we don't need to stop.

The enthymeme "No, we don't need to stop; we're fine," could be expressed in a conditional syllogism as follows:

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

We already have enough gas to get to the movie.

Therefore, we don't need to stop for more.

The preceding argument illustrates an important element of deductive reasoning: A deductive argument may be valid (i.e., follow the correct pattern) without being true.

The untrue premise is often a faulty reality assumption. The conclusion may follow from the premises, but one or both of the premises may not be true, and the truth is what we are seeking.

Toulmin's method emphasizes the need to pursue truth in argumentation. The claims and reasons of each person need evidence, or what Toulmin calls **grounds**. In this case, both you and your friend would have to provide evidence that you do or do not have enough gas to make it to the movie. He might give examples of how the gauge was close to empty before, but he was still able to travel the distance it would take to get to the movie. You may have kept track of how many miles you have gone since the last time the tank was filled and do the math to determine if you have enough gas left to get to the movie. Or you could take your chances and find out if you have enough gas by not filling up and seeing if you make it to the movie.

Both of you have reasoned *logically*, and the syllogisms outlining your reasoning are both valid. But only one of you has a sound argument in which both the major and the minor premises are *true*. When the premises of a valid syllogism are true, the truth of the conclusion is certain.

When we know that an argument is sound, we can accept the conclusion of that argument with confidence. We can make good decisions based on the information given in a sound argument because the argument is both logical and true, as conveyed by Table 3.1

Table 3.1 Evaluating an Argument

	True	False
Valid	Sound Argument: Correct Form True Premises	Unsound Argument: Correct Form Untrue Premises
Invalid	Unsound Argument: Incorrect Form True Premises	Unsound Argument: Incorrect Form Untrue Premises

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Uncovering Logic

Most arguments are not set forth as syllogisms. The hidden reality assumptions need to be uncovered. Using Toulmin's model, outline the argument created by the following enthymeme: "We need to limit the progress on artificial intelligence if we want to have low unemployment in the future."

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

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3.3 The Uses of Deductive Reasoning

OBJECTIVE: Analyze an argument using deductive reasoning

Why is it useful to learn the patterns of deductive reasoning? Using deductive reasoning can do the following:

1. Illuminate and clarify our beliefs (reality assumptions) and help us consider whether those beliefs are rational. If we find that our beliefs are rational and logical, we may act on them. If they are irrational, we can challenge and revise them.
2. Help us discover truth, particularly in situations in which there is a right and wrong answer.
3. Help us make decisions, particularly when there are established rules, laws, and guidelines to follow.
4. Help us recognize and challenge stereotypes and prejudicial statements.
5. Help us to argue constructively.

By the end of this module, you will be able to:

3.3.1 Deductive Reasoning Helps Us Discover Reality Assumptions and Test Our Logic

OBJECTIVE: Clarify a personal decision using deductive reasoning

Sometimes, when we examine our assumptions, we see that they are logical and true, and we feel more confident about our reasoning. At other times, we uncover assumptions that are not based in truth but on unquestioned beliefs. In his book *The Psychology of Persuasion*, Robert Cialdini gives an example of an unquestioned, faulty assumption. Cialdini tells about a friend who was having trouble selling some turquoise jewelry. She had priced the jewelry reasonably, put it in a central location in her store, and told her sales staff to push it. However, it did sell when, counterintuitively she doubled the price of the items.[12]

Cialdini explains what happened in a way that reveals how we need to examine our reality assumptions in order to be more critical thinkers:

> The customers, mostly well-to-do vacationers with little knowledge of turquoise, were using a standard principle—a stereotype—to guide their buying: "expensive = good." Thus, the vacationers, who wanted "good" jewelry, saw the turquoise pieces as decidedly more valuable and desirable when nothing about them was enhanced but the price.
>
> It is easy to fault the tourist[s] for their foolish purchase decisions. But a close look offers a kinder view. These were people who had been brought up on the rule "You get what you pay for" and who had seen that rule borne out over and over in their lives. Before long, they had translated the rule to mean "expensive = good." The "expensive = good" stereotype had worked quite well for them in the past, since normally the price of an item increases along with its worth; a higher price typically reflects higher quality. So when they found themselves in the position of wanting good turquoise jewelry without much knowledge of turquoise, they understandably relied on the old standby feature of cost to determine the jewelry's merits.[13]

In this situation, the customers relied on a reality assumption, which can be expressed in the major premise of the following syllogism:

> If an item is expensive, it must be good.
>
> This jewelry is expensive.
>
> Therefore, this jewelry must be good.

They literally paid a price for not questioning the truth of this assumption.

GOING BEYOND OUR LIMITATIONS Clarifying and questioning our reality assumptions can also help us grow beyond self-imposed limitations. Our assumptions about

reality may keep us from trying new things that we really are capable of accomplishing; by uncovering faulty reality assumptions, we can make necessary changes in our lives.

For example, someone we'll call Linda might say, "I can't take that speech class." Her friend LeVar 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!" LeVar, knowing the principles of deductive reasoning, helps Linda look at her logic through the pattern of chain argument.

If I take a speech class, I'll have to give speeches.

If I have to give speeches, I'll get nervous.

If I get nervous, I'll fall apart and die.

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 (i.e., logical in its pattern), 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 does not need to be catastrophic. The way we speak sometimes both reveals and creates our thoughts about situations. Using the tools of deductive reasoning to objectify her thoughts, Linda may be able to adjust her thinking to reality, rather than continuing to function with exaggerated fears.

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Deducing Reality Assumptions

List a decision you made recently; identify the reality assumption behind the decision and express it as a major deductive premise.

Example

My boyfriend was invited for my family reunion weekend. We went out to eat with my parents a lot, and I noticed that he never offered to pay for anything; he let my parents pick up the tab in every case. I was really upset with him. My reality assumption fits into a chain argument:

If a man is serious about a relationship, he will want to impress my family. If he wants to impress my family, he will offer to pay for some of the meals when we go out. Therefore, if a man is serious about a relationship, he'll offer to pay for some of the meals when we go out.

I was angry on our way back to school; I said he was really selfish. He was surprised and hurt and said he would've been glad to pay but thought it was rude to offer, since he was a guest. Then I realized that he always pays when we go out. Acting on my reality assumption would've broken us up.

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3.3.2 Using Deductive Reasoning to Discover Truth and Make Decisions

OBJECTIVE: Apply deductive reasoning to decision-making

> What eludes logic is the most precious element in us, and one can draw nothing from a syllogism that the mind has not put there in advance.
>
> Andre Gide, Journals, June 1927

Deductive reasoning is most useful when the major premise is known to be true, to be a "given." Then we can test the truth of individual cases that may fall under the category or condition of the major premise.

For example, using a categorical syllogism, we can assert that some As do fit into an all-encompassing category (B) and give us valuable certainties. Let's consider some biological truths in this light. All women with an HCG (human chorionic gonadotropin) level above 5 are pregnant. Any cold-blooded vertebrate of the class *Reptilia*, including tortoises, turtles, snakes, lizards, alligators, crocodiles, and extinct forms, are considered reptiles, and all persons with a blood alcohol level of 0.08 in the state of Illinois are legally drunk. Because of these known "alls," solid conclusions can be drawn: Doctors can tell individual women if they are pregnant; veterinarians, scientists, and pet store owners can identify reptiles; and police officers in Illinois can ascertain whether individual drivers are legally drunk. You might discover that you and several members of your immediate family have type A negative blood. Because this is a known truth, if you need a blood transfusion, type A negative family members can be approached to volunteer.

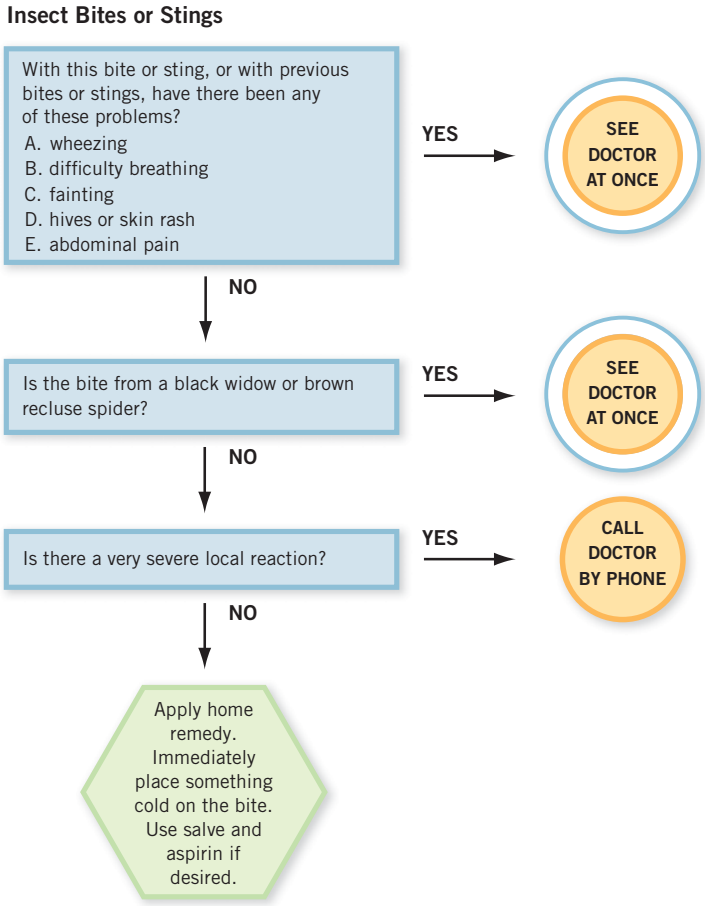
Hundreds of conditions and illnesses have been studied inductively (through observation), and the results of the studies have given us truth that can be used deductively in diagnosis. When the symptoms of a particular condition or disease are known, doctors and patients use these given truths to diagnose individual cases.

For example, in Figure 3.1, readers can use a medical guide to see whether they have a serious condition.

Note that this chart reveals major premises (what is known to be true about insect bites in descending order of danger) and also the conclusion for each case. The chart allows patients to reason deductively by fitting in their own symptoms as the minor premise. Then patients can know how serious their condition may be and what conclusion is justified (i.e., what action to take).

Figure 3.1 A Medical Chart for Patients to Reason Deductively the Seriousness of Insect Bites/Stings

The chart is based on the truth about insect bites and stings. The individual reading the chart tries to confirm or deny the symptoms that apply to his or her specific case.



A reader of this chart can easily use a chain argument to discover if a given condition might be serious, and he or she can then make a good decision about treatment.

Example

Let's say a spider has bitten your friend. If she is wheezing and having difficulty breathing, you can reason deductively as follows:

> If wheezing and breathing difficulties follow an insect bite, the bitten person is experiencing a serious allergic reaction.
>
> Marites is wheezing and having breathing difficulties.
>
> Therefore, Marites is experiencing a serious allergic reaction.
>
> If someone is experiencing a serious allergic reaction, he or she should see a doctor at once.
>
> Marites is experiencing a serious allergic reaction.
>
> Therefore, Marites should see a doctor at once.

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Decision-making Through Deduction

Many decisions are made through deductive reasoning, and in medically based situations, quick thinking based on knowledge is valuable. Looking at the preceding chart, create a syllogism that would fit another symptom described in this chart.

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DEDUCTION IN LAW AND BUSINESS Deductive reasoning is also used to establish whether an individual case fits into a specific legal category.

The application of most laws can be clarified through deductive reasoning. For example:

> If you went through a red light and caused an accident, you are liable for the damages.

You went through a red light and caused an accident.

Therefore, you are liable for the damages.

There are also specific rights and responsibilities in most business transactions. For example, hotel guests and hotel owners each have specific rights, and each may be liable for violating those rights. Lawyers in disputes between business owners and customers refer to the legal regulations when determining whether or not they have a case or a defense.

Deductive reasoning is also used to discover the truth about criminal cases and what the law requires a jury to conclude about the innocence or guilt of a defendant.

Using Deduction in the Courtroom

In a criminal case, it is the responsibility of the prosecution to prove—beyond a reasonable doubt—the guilt of the defendant. It is the responsibility of the defense attorneys to create reasonable doubt about the guilt of the defendants. Both the prosecution and defense outline their arguments using deductive reasoning, aiming for the "certainty" of the defendant's guilt or innocence. The role of the jury is to assume the innocence of the defendant and to listen to the evidence presented by the prosecution and the refutation of the evidence by the defense. The jury—or in some cases, the judge—needs to determine which argument is the most truthful and accurate.

Consider a prosecutor and a defense attorney presenting arguments to a jury.

One famous criminal case involved two young men who shot and killed their parents. There was no question that the boys committed the crime.

The argument in their trial centered on their motivation:

Was the killing a premeditated act by two children hoping to receive an inheritance, or was it an act motivated by years of abuse and a desperate sense of helplessness and rage? Reconstructing the positions of both the prosecution and the defense in simple terms, we might note the following argument.

The prosecutor's basic argument could be outlined as follows:

If children murder their parents in cold blood, they deserve to be punished to the full extent of the law.

These children murdered their parents in cold blood.

Therefore, they deserve to be punished to the full extent of the law.

The defense attorney admitted that the children murdered their parents, but she added information that brought her to a different conclusion about sentencing:

If children murder parents because they fear abuse, there are mitigating circumstances to the murder.

If there are mitigating circumstances, then the children deserve a lighter sentence.

Therefore, if children murder parents because they fear abuse, they deserve a lighter sentence.

When jurors can follow the logic of the arguments presented, they can examine the evidence for both the prosecution and the defense in order to make their determinations.

DECODING On a lighter note, deductive reasoning can also reveal truth in various instances of daily living, especially those involving cultural rules and traditions. Numerous examples of this usage include the rules for sports and games; traditions for births, weddings, and funerals; codes of conduct; and general agreements about sportsmanship and fairness. When people make comments regarding various activities and situations, they are often made as enthymemes, those statements that imply, but do not directly state, a complete syllogism.

Note the statements that follow and how they can be "decoded" as conclusions of valid deductive arguments.

Example

Conversation between two golfers:

"Why isn't Fred finishing the round?"

"He was disqualified because of his clubface." (Enthymeme.)

Decoding the Enthymeme

The rules of golf state that no foreign material shall be applied to the clubface for the purpose of influencing the movement of the ball.

If foreign material is applied to the clubface for the purpose of influencing the movement of the ball, the player shall be disqualified. (Major premise = the rule.)

Foreign material was applied to the clubface used by Fred. (Minor premise = the specific violation of the rule.)

Therefore, Fred is disqualified. (Conclusion.)

As stated earlier, Fred can argue whether the minor premise is true or even whether someone may have tried to disqualify him by applying material to his club; however, the *logic* of the rule still applies, and Fred would have to argue that the minor premise is not true in his case.

Example

"My son and his fiancée have finalized their wedding date, so we can reserve the restaurant for the rehearsal dinner." (enthymeme)

Decoding the Enthymeme

In our wedding tradition, if a son is getting married, his parents arrange and pay for the rehearsal dinner. (Major premise.)

Our son is getting married. (Minor premise.)

Therefore, we arrange and pay for the rehearsal dinner. (Conclusion.)

Again, these statements highlight how reasoning is used logically. This syllogism is valid and makes sense within the context given. However, the truth factor may change the reality. If the son and his fiancée decide to elope or to have a small family wedding at a courthouse, traditional rules would not apply.

DISCOVER LOGICAL REASONING HIDDEN IN STATEMENTS (ENTHYMEMES)

Deductive arguments follow formal patterns of reasoning and are aimed at establishing the certainty of a conclusion. The conclusion's certainty is established when deductive arguments contain true premises (reasons) that are stated in the correct form. The best way to either support an argument or oppose it is to start by outlining the reasoning of the speaker or writer making the claim.

As we have seen, people don't speak in syllogisms, but the meaning of what they say can often be revealed by putting their thoughts into one of the logical syllogistic patterns.

Look at the example below, and use it as a rubric to decode the statements (enthymemes) on each slide as syllogisms. Then bring your answers to share with the class and discuss whether there are instances in which they may not be true

Example

One player to another in a Scrabble game: "You have to take those letters off—you can't use Maine as a word." (enthymeme)

Decoding

Proper names are prohibited in Scrabble. (major premise)

Maine is a proper name. (minor premise)

Therefore, Maine is prohibited as a Scrabble word. (conclusion)

Teacher to student: "You got marked down a grade because you were one day late turning this paper in."

During a game of blackjack: "With 22 points, you're out of this round."

Concession worker in theater lobby: "Intermission is over, so you need to finish your coffee."

Steward to airplane passengers: "It is time to shut off cell phones and other electronic devices or put them in airplane mode because we are taking off now."

Garden shop employee to customer: "If you have a shady yard, you don't want to buy these flowers."

Review your responses below.

3.3.3 Using Deductive Reasoning to Combat Prejudice and Stereotyping

OBJECTIVE: Identify the false premises behind prejudicial statements

Much of Aristotle's early work on syllogisms involved categorization of elements of the natural world. These categories help us understand our world by noting distinguishing features of different species, as exemplified by the following categorical syllogism:

All animals that nurse their young and have hair are mammals.

Brown bears nurse their young and have hair.

Therefore, brown bears are mammals.

Deductive reasoning works well in biology, medicine, engineering, electronics, and law because the categories are well established and agreed upon by experts in each field. Because we are applying individual cases to previously determined "truths," we can know for certain that our conclusions are true within these contexts.

A critical thinker needs to distinguish between major premises that fit into these limited truth categories and major premises that have not been and often *cannot* be proven. Although we can say what all mammals have in common, we cannot generalize about groups of people based on ethnicity, religion, gender, political affiliation, profession, or economic status because we cannot study every member of these groups. When we try to fit all Democrats, Republicans, Cubans, lawyers, teenagers, homeless individuals, or musicians into an all-encompassing mold, we suffer from what general semanticists call a "hardening of the categories," a belief in rigidly held but untrue reality assumptions.

Prejudicial statements involve deductive reasoning that is untrue and unproved but often logically valid. Let's say that you hear someone comment: "Of course Lisa's a terrible driver—she's a woman!" This enthymeme could be placed into a syllogistic format as follows:

All women are terrible drivers.

Lisa is a woman.

Therefore, Lisa is a terrible driver.

You can see that if the premises of this syllogism were true, then the conclusion would be true. But the major premise given here could never be proven true; we cannot know *all* about any group of individuals.

Stereotyping is a form of classifying people, places, or things according to common traits. Stereotyping works for identical inanimate objects. For example, all computers of a

certain model should perform exactly the same functions. If you have a computer that does not perform to specifications, you have a defective model. The manufacturer will likely repair your model or replace it so you have the model you expected. You can easily fashion a sound deductive argument about a computer:

All ZX model computers are 5-GHz machines.

My computer is a ZX model.

Therefore, my computer is a 5-GHz machine.

Manufacturers often print logos and numbers on machines to highlight the stereotypical mold into which they fit, so that buyers know exactly what they can expect from the particular model chosen.

When we stereotype people, however, we are classifying them in ways that do not meet the truth criteria in deductive reasoning. Even if Lisa has been in a number of accidents and has difficulty driving, it's not because she is a woman. The term *woman* refers only to the trait of being female. Every female and every male have numerous individual characteristics that distinguish them from others and make it impossible to fit them into a convenient mold. Because it is impossible to know and study all members of any human ethnic, religious, gender, political, economic, or interest group, a stereotype about groups of people can always be challenged as untrue, and arguments based on stereotypes are therefore unsound.

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Using Deduction to Oppose Prejudice

Most prejudicial statements can be unraveled as *valid* arguments with false premises. Think of a prejudicial statement that has been directed at you (or a friend) in the past. Reconstruct that statement into a syllogistic form.

Example

"My friend is on welfare because her husband left her and her two children. She can't find a job that would make enough money for her to afford child care. When people find out she is on welfare, they tell her she should be working and not sponging off of society. Their reasoning is as follows:

All people on welfare are lazy.

You are on welfare.

Therefore, you are lazy.

"There might be some people who fit into this description, but it's unfair to put all people who need welfare into this category. I think if people understood my friend's situation, they would be less judgmental and more sympathetic."

▶ The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

3.3.4 Using Deduction to Understand Argument and to Argue Constructively

OBJECTIVE: Reframe an argument to make it more constructive

Deductive reasoning is an important tool for constructive argumentation. An issue involves controversy, that is, more than one plausible side of an argument. Understanding the process of deduction helps us outline our own reasoning and the reasoning of others, so that we can see, first, if it is logical (valid; following correct form) and, second, if it is grounded in truth.

Consider this syllogism:

All drivers who speed are subject to a fine.

You are speeding.

Therefore, you are subject to a fine.

In this example, you might agree with the major premise but question the minor premise.

For our purposes, we will call the questionable premise the **premise of contention** or *contentious premise*. Critical thinkers will argue about the premise of contention rather than about the conclusion. That is to say, critical thinkers will argue about reality assumptions, the premises that lead to conclusions.

When people argue about conclusions, stalemates are inevitable. Adults end up sounding like children arguing over who left the door open:

"You did it."

"No, I didn't."

"Yes, you did."

"No, I didn't." . . .

Parents who weren't at the scene of the crime have little basis for a rational judgment on an issue like this. Only real evidence (fingerprints, videos, or witnesses) would help them get to the truth.

The same frustrating process occurs in some sexual harassment cases, often called "he said, she said" issues. If there are no witnesses, videos, letters, or other forms of evidence, then the accuser has no proof of being a victim, and the accused has no proof of being innocent.

In deductive arguments, a critical thinker will (1) outline his or her argument and the argument of the other person, (2) determine if the arguments are valid, (3) find the premise(s) of contention, and then (4) argue that his or her premises are true and therefore his or her argument is sound.

Watch UNCONSTRUCTIVE ARGUMENTS

Focusing on conclusions without accompanying evidence statements creates no-win arguments, as evidenced in the following video.

When you are listening to a discussion in class or at a meeting, try to find and understand the reality assumptions that are held by various speakers. Also look for reality assumptions that form the basis of policies at work and at school and that form the rules for games and sports.

If you are arguing for a change in policy, try to present the old policy in the form of a logical syllogism and then show why the new policy would be more useful.

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Using Deduction to Clarify Argument

Put the animated argument into contrasting syllogisms—one for Arturo and one for Rose. The major premise will be the same, and the minor premises will be different (making them premises of contention). Can you see how the different minor premises make the conclusions different?

The response entered here will appear in the performance dashboard and can be viewed by your instructor.

Submit

Summary: Reality Assumptions

3.1 Assumptions

A foundational aspect to any argument is the underlying assumptions that the various advocates for an issue hold. While conflicts in value assumptions address the questions "What is right?" and "What should we do or be?" conflicts in reality assumptions address the questions "What is true

and factual?" and "What do we take for granted or as a given fact?" *Reality assumptions* are sometimes called *factual assumptions* or *descriptive assumptions.* Critical thinkers need to be aware of the assumptions that are basic to arguments they are hearing or making.

Reality assumptions need to be brought to light and examined so that those who make them do not build arguments on faulty foundations. When two people or two groups hold different assumptions, they need to stop and examine the assumptions that frame their arguments rather than continuing to build arguments on those assumptions. As hidden assumptions are brought to the surface, light is shed on the different positions taken on an issue, and discussions can be more clear and rational.

In our age of accelerated research in many fields, a number of ideas that were once generally accepted and assumed to be true have come into question. When we build arguments on assumptions that are not grounded in truth, our arguments are faulty, and the actions we recommend will not achieve our desired ends. We may sound logical and reasonable, but we lead others and ourselves astray. Conversely, when we keep current with research from reliable sources, we are able to make the most effective decisions.

When we critically examine what it is we take for granted, we have the advantage of gaining a strong and solid conviction for those ideas and principles we believe to be true. Knowing why we believe what we believe helps us be more credible and effective when we present an argument. Examining the reality assumptions of others helps us understand and assess their arguments more clearly. Reality assumptions can be discovered and examined through the Toulmin model of argumentation.

3.2 Deductive Reasoning

Critical thinkers realize that their knowledge and perceptions are limited, and they look for solid evidence before accepting or advocating a viewpoint. When new information becomes available, they revisit and reexamine their reality assumptions about an issue, always striving to discern the truth.

There are two general frameworks for testing the logic of our reasoning and for discovering truth; these frameworks are inductive and deductive reasoning. *Inductive reasoning* involves finding truth by making observations through statistical polling, controlled experiments, or relevant examples and analogies. Our observations, when made 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.

While inductive reasoning gives us *probabilities* of what is true in a given situation, *deductive reasoning* 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, the reasoning is logical, and the argument is *valid*. The basic patterns of deductive reasoning help us test whether our thinking is valid and therefore 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, which is a formal term for "logical"; accurate content makes it true. A conclusion derived from true premises that are expressed in a valid form creates a *sound* argument.

The formal patterns that create the framework for deductive reasoning are called syllogisms. A *syllogism* is a deductive argument (usually written in three steps) that moves logically from a major and a minor premise to a conclusion. The conclusion is inferred or derived from the premises.

Categorical syllogisms set out a major premise in which members of one class are said to be included in another class. The minor premise gives a particular instance of the principle set out in the major premise, and the conclusion is derived from these premises. Conditional syllogisms contain at least one hypothetical (if–then) premise. In a conditional (hypothetical) premise, we are asserting that if the first part of the statement is true, then the second part is also true. Examples of conditional syllogisms are *modus ponens*, *modus tollens*, chain argument, disjunctive syllogism, and argument by elimination.

We don't speak in syllogisms, but we can test the logic of our reasoning by placing it into a syllogism. In fact, many of our assertions are what philosophers call enthymemes; an *enthymeme* is a syllogism with a premise implied rather than directly stated. The missing parts—the assumptions of the speaker or writer—are expected to be supplied by the listener or reader. When we discover the missing part, the implied premise, we can place the argument in one of the standard deductive patterns.

When we determine that an argument is sound, we can accept the conclusion of that argument with confidence. We can make good decisions based on the information given in a sound argument because the argument is both logical and true.

3.3 The Uses of Deductive Reasoning

Deductive reasoning helps us to:

1. Illuminate and clarify our beliefs (reality assumptions) and help us consider whether those beliefs are rational. If we find that our beliefs are rational and logical, we may act on them. If they are irrational, we can challenge and revise them.