



CRITICAL THINKING

A USER'S MANUAL

SECOND EDITION

DEBRA JACKSON
PAUL NEWBERRY



Critical Thinking

A USER'S MANUAL

Second Edition

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&

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**Critical Thinking: A User's Manual,
Second Edition**

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Steps for Critical Thinking

Recognize the Argument

- ▲ Count the claims
- ▲ Look for reasons
- ▲ Identify the purpose



Analyze the Argument

- ▲ Pay attention to inference indicators
- ▲ Identify the premises and conclusion
- ▲ Determine the issue
- ▲ Analyze any subarguments
- ▲ Diagram the argument



Evaluate the Argument

- ▲ Determine the reasoning style
- ▲ Identify the argument kind
- ▲ Use appropriate terminology and tools

Deductive Reasoning

Categorical Arguments

- ▲ Translate into standard form
- ▲ Check validity using a Venn diagram

Truth-Functional Arguments

- ▲ Translate into symbolic form
- ▲ Check validity using a truth table

Inductive Reasoning

Inductive Generalizations

- ▲ Present in general form
- ▲ Assess how well the sample represents the target

Analogical Arguments

- ▲ Present in general form
- ▲ Assess the analogy

Causal Arguments

- ▲ Present in general form
- ▲ Determine the method
- ▲ Assess the causal evidence

Common Fallacies

Begging the Question

The conclusion of an argument is assumed by the argument's premises.

Appeal to Ignorance

The arguer illegitimately shifts the burden of proof to his or her opponent.

Appeal to Illegitimate Authority

The arguer uses a source that is not an authority on the subject in question to support a conclusion.

Ad Hominem

The arguer rejects an opposing argument based on the characteristics of its author.

Strawman

The arguer mischaracterizes the conclusion of his or her opponent's argument and then attacks the argument in its distorted form.

Red Herring

The arguer distracts the reader from the issue by using irrelevant premises.

Argumentative Essay Structure

Introduction

Identify the issue, conclusion, and premises.

Body

Provide reasons, evidence, and/or examples that support each premise.

Objection/Reply

State the strongest objection to your conclusion, and effectively respond to it.

Conclusion

Restate your conclusion and premises.

Citations

Give full and detailed credit for others' ideas.



Preface

As college instructors, we know that critical thinking changes lives. Learning to recognize, analyze, evaluate, and construct arguments can provide students with the foundation to successfully complete college, pursue their future careers, and become more discerning citizens. To provide the best opportunities for our students to acquire these vital skills, we created a genuinely different kind of text, one that is

- ▶ accessible, yet challenging, to both beginning and advanced students;
- ▶ focused on building foundational skills in a step-by-step fashion;
- ▶ committed to integrated, active learning strategies;
- ▶ packed with clear examples and exercises that epitomize the skills learned; and
- ▶ structured to ensure that students transfer critical thinking skills beyond the classroom.

Why do we call this text *A User's Manual*? User's manuals are written for the beginner and the do-it-yourselfer. We have taken the same approach here. We focus on four essential skills—argument recognition, analysis, evaluation, and construction—and break each down into its basic components. In this way, students learn to think critically in a step-by-step fashion, as they would learn to master any skill, be it speaking Japanese, playing basketball, or painting a portrait. In addition, like any good user's manual, this text is easy to follow. We provide clear examples and explanations, and we integrate workbook-style writing and thinking exercises that promote active learning.

Step-by-Step Approach—IMPROVED!

We continue to treat the acquisition of critical thinking skills as a process and make every effort to present our exposition in the clearest way possible, maintaining as much exactness as the topic or skill warrants without making it overly complex for the novice. For example, in Chapter 3 (Analyzing Arguments), we begin by analyzing very simple arguments containing inference indicators. Next, we introduce, one by one, arguments without inference indicators, arguments with extra claims, and arguments with implied claims. Only then do students encounter arguments with multiple conclusions and chain arguments. This process is repeated in Chapter 4 (Diagramming Arguments) as students learn to draw argument diagrams, again in a step-by-step manner. By the end

of Chapter 4, students are able to recognize, analyze, and diagram complex chain arguments containing extra and implied claims.

In this second edition, we have not only incorporated suggestions given by reviewers and users of our first edition, but also have made changes based on our own teaching experience to make our unique step-by-step method more seamless throughout the text. For example, we significantly changed Chapters 2 and 5. In Chapter 2, we more explicitly emphasize the step-by-step method to demystify the distinctions between arguments and nonarguments, and introduce the analysis of nonarguments in a Critical Précis (the new name for our previous Basic Analysis). In Chapter 5 (Preparing to Evaluate Arguments), we have expanded the discussion of the five types of arguments that are the focus of the succeeding five chapters and added exercises to help strengthen students' ability to differentiate these argument types and use the appropriate terminology in evaluating them.

“Your Turn!”

By reading actively, with a pencil in hand, students are more likely to apply what they learn in the context of their own experiences. It can be difficult to get students to read this way, so we provide frequent, workbook-style “Your Turn!” exercises to help students focus their reading, check their understanding of new content immediately, and integrate earlier skills with later ones. This feature can be incorporated into lectures, utilized in group activities, or included with homework assignments.

Abundant, Integrated Exercises—IMPROVED!

This text includes over 1,100 exercises, designed to provide students with immediate practice of individual skills as they are learned. These exercises are progressive, so that students have time to absorb the basics before encountering tougher problems. Cumulative exercises are provided for additional reinforcement. Those of you who used our first edition will find many refreshed exercises and examples. We find it important to show students how to apply critical thinking skills to current controversies, which requires eliminating those that have gone stale. A list of answers to selected exercises are provided in the back of the book for students.

“Putting It All Together”—IMPROVED!

As a means to improve critical thinking through writing, we provide comprehensive writing exercises at the end of Chapters 3 through 11. In these highly structured assignments, students integrate previously learned skills with those presented in the current chapter. Each “Putting It All Together” section includes clear instructions and examples of the proper way for students to complete the assignments. In addition, to facilitate student awareness of the transferability of the skills beyond the critical thinking classroom, the examples are mined from a wide variety of sourced material—books, magazine and newspaper articles, advertisements, websites, and so on—and from a broad range of topics relevant to both their academic and their extracurricular lives.

“One Step Further”—NEW!

In response to reviewer requests that the second edition include a vehicle for students to apply each skill outside of textbook exercises, we have added “One Step Further” activities at the end of each chapter. These exercises allow instructors to move beyond the text in many innovative ways. They can be used as in-class or homework assignments, as discussion starters, or as a place where you can add your own variations to

what we have suggested. Each chapter's "One Step Further" relates specifically to that chapter's skill set.

Flexibility—IMPROVED!

Although we expect and allow for some instructor choice about which topics are covered and in which order they are covered, the material is most effective when Chapters 1 through 5 are taught in order. By doing so, you can best take advantage of the step-by-step progression built into the text. However, the remaining chapters may be chosen according to instructor preference, depending on course time and needs.

To further enhance the flexibility of the text, we have made two significant changes. First, we relocated the chapter on fallacy recognition from the middle of the text, as Chapter 5, to near the end of the text, as Chapter 11. This change makes it clearer to students and instructors that our text includes discussions and examples of more fallacies than the six central ones included in that chapter. Chapters 8, 9, and 10, for example, integrate fallacies into the discussions of inductive generalizations, analogical arguments, and causal arguments, respectively. Additionally, since fallacious arguments are no longer sprinkled throughout "Putting It All Together" exercises, instructors can skip fallacies altogether or include them at almost any stage after Chapter 5.

The second significant change is to the chapters on evaluating deductive arguments—Chapter 6 (Evaluating Categorical Arguments) and Chapter 7 (Evaluating Truth-Functional Arguments). In the first edition, these chapters were lengthy, in part because they introduced multiple methods for evaluating these arguments. In the second edition, we selected one method of evaluation for each chapter and created supplemental chapters for instructors who wish to allot more time and delve more deeply into the evaluation of these deductive arguments. You may wish to assign both the chapter and the supplement or limit your instruction to the primary chapter.

Learning and Teaching Aids

Critical Thinking: A User's Manual, Second Edition, is available with Aplia™, an online interactive homework solution that improves comprehension and outcomes by increasing student effort and engagement. Founded by a professor to enhance his own courses, Aplia™ provides automatically graded assignments with detailed, immediate explanations on every question as well as innovative teaching materials. This easy-to-use system has benefited more than 1,000,000 students at over 1,800 institutions.

Instructor materials are available on the Instructor Companion website. This website offers instructors an all-in-one resource for class preparation, presentation, and testing. Accessible through Cengage.com/login with your faculty account, the website provides prepared lecture slides and the complete *Instructor's Manual*, which includes teaching suggestions for each chapter and answers to all exercises. Finally, Cengage Learning Testing, powered by Cognero®, is available for *Critical Thinking: A User's Manual*, Second Edition, and is accessible through Cengage.com/login with your faculty account. This test bank contains multiple-choice and essay questions for each chapter. Cognero® is a flexible online system that allows you to author, edit, and manage test bank content for *Critical Thinking: A User's Manual*, Second Edition. Create multiple test versions instantly and deliver them through your Learning Management System (LMS) from your classroom or wherever you may be, with no special installs or downloads required. The following format types are available for download from the Instructor Companion site: Blackboard, Angel, Moodle, Canvas, and Desire2Learn. You can import these files directly into your LMS to edit and manage questions and to create tests. The test bank is also available in PDF format from this site.

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Brief Contents

	Preface	xi
	Acknowledgments	xiv
1	Thinking Critically	1
2	Recognizing Arguments	15
3	Analyzing Arguments	38
4	Diagramming Arguments	66
5	Preparing to Evaluate Arguments	98
6	Evaluating Categorical Arguments	128
7	Evaluating Truth-Functional Arguments	161
8	Evaluating Inductive Generalizations	190
9	Evaluating Analogical Arguments	210
10	Evaluating Causal Arguments	232
11	Detecting Fallacies	255
12	Constructing Arguments	283
	Supplementary Chapters	
13	Evaluating Categorical Arguments Supplement	298
14	Evaluating Truth-Functional Arguments Supplement	308
	Glossary	315
	Answers to Selected Exercises	319
	Index	349



Contents

Preface xi

Acknowledgments xiv

1 Thinking Critically 1

Using Critical Thinking in the Classroom 3

Using Critical Thinking in the Workplace 7

Using Critical Thinking Skills in Civic Life 9

Living an Examined Life 12

Developing Critical Thinking Skills 13

Chapter Review Questions 14

One Step Further 14

2 Recognizing Arguments 15

Identifying Claims 16

Counting Claims 18

Looking for Reasons 24

Determining the Purpose of Reasons 28

Recognizing Arguments 30

Putting It All Together: Writing a Critical Précis of a Nonargument 33

Chapter Review Questions 36

One Step Further 36

3 Analyzing Arguments 38

Analyzing Arguments with Inference Indicators 39

Analyzing Arguments without Inference Indicators 44

Analyzing Arguments with Extra Claims 46

Analyzing Arguments with Implied Claims 49

Analyzing Multiple Arguments 53

Putting It All Together: Writing a Critical Précis of an Argument 58

Chapter Review Questions 64

One Step Further 64

4	Diagramming Arguments	66
	Underlining and Numbering Claims	67
	Utilizing Inference Indicators	69
	Determining the Relationship between the Premises	71
	Diagramming Arguments with Extra Claims	75
	Diagramming Arguments with Implied Claims	76
	Diagramming Multiple Arguments	78
	Checking Your Work	80
	Diagramming Extended Arguments	84
	Putting It All Together: A Critical Précis with Argument Diagram	93
	Chapter Review Questions	96
	One Step Further	97
5	Preparing to Evaluate Arguments	98
	Distinguishing Two Styles of Reasoning	99
	Distinguishing Two Kinds of Deductive Arguments	103
	Distinguishing Three Kinds of Inductive Arguments	110
	Choosing Proper Evaluative Terms	118
	Putting It All Together: Preparing to Evaluate	122
	Chapter Review Questions	126
	One Step Further	126
6	Evaluating Categorical Arguments	128
	Translating Categorical Claims	129
	Forming Categorical Syllogisms	136
	Evaluating Categorical Arguments Using Venn Diagrams	140
	Putting It All Together: Writing a Critical Précis of a Categorical Argument	154
	Chapter Review Questions	159
	One Step Further	159
7	Evaluating Truth-Functional Arguments	161
	Translating Truth-Functional Claims	162
	Applying Truth-Functional Definitions	172
	Using the Truth Table Method to Determine Validity	176
	Putting It All Together: Writing a Critical Précis of a Truth-Functional Argument	184
	Chapter Review Questions	188
	One Step Further	188
8	Evaluating Inductive Generalizations	190
	Analyzing Inductive Generalizations	191
	Evaluating Inductive Generalizations	195
	Putting It All Together: Writing a Critical Précis of an Inductive Generalization	204
	Chapter Review Questions	208
	One Step Further	209
9	Evaluating Analogical Arguments	210
	Analyzing Analogical Arguments	211

Evaluating Analogical Arguments	218
Putting It All Together: Writing a Critical Précis of an Analogical Argument	226
Chapter Review Questions	230
One Step Further	230

10 Evaluating Causal Arguments 232

Analyzing Causal Arguments	233
Evaluating Causal Arguments	243
Putting It All Together: Writing a Critical Précis of a Causal Argument	248
Chapter Review Questions	253
One Step Further	253

11 Detecting Fallacies 255

Begging the Question	256
Appeal to Ignorance	258
Appeal to Illegitimate Authority	262
Ad Hominem	266
Strawman	271
Red Herring	274
Putting It All Together: Writing a Critical Précis of a Fallacious Argument	279
Chapter Review Questions	281
One Step Further	282

12 Constructing Arguments 283

Formulating Your Argument	284
Introducing Your Argument	287
Supporting Your Conclusion	289
Considering Objections	292
Summarizing Your Argument	293
Citing Your Sources	294
Chapter Review Questions	296
One Step Further	296

Supplementary Chapters

13 Evaluating Categorical Arguments Supplement 298

Using Rules to Determine Validity	298
Using Rules to Complete Categorical Arguments	305

14 Evaluating Truth-Functional Arguments Supplement 308

Using the Short-Cut Method to Determine Validity	309
--	-----

Glossary 315

Answers to Selected Exercises 319

Index 349

Thinking Critically

Imagine that you check your Facebook account and see that your friend Sara has posted a new status update encouraging everyone to join a campaign to make your campus smoke-free. You also see that a number of people have commented on her post, some supporting the campaign and others opposing it.



Sara says Hey people! Check out this link! We should definitely start this campaign on our campus...



Smoke-Free Campus The Smoke-Free Campus Initiative aims to promote a clean, safe, and healthy campus environment by eliminating smoking from college campuses...



James says I don't smoke, but I don't think it's a good idea to ban smoking on campus. Since when does completely banning something work? Alcohol and drugs are illegal on campus, so no one uses them, right? Wrong!



Davion says If you want to subject yourself to the health risks of smoking, that's fine. But smoking in public places should be banned. Why? It's simple. Smoking poses a health risk to others, and anything that does that should be outlawed. Period.



Veronica says Are we living in a fascist state now??? The only people who would support this are uptight nonsmokers who want to take away my freedom to express myself and enjoy life. I know smoking is bad for me, but it's my choice!

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**EXERCISE 1.1**

Your Turn! Which of these arguments do you find the most persuasive? Which is the least persuasive? Explain why.

You have probably encountered exchanges similar to this one on social networking sites like Facebook, in blogs, or in the comments sections following Internet news and video posts. Like James, people often encourage others to approach problems by appealing to similar cases. But what exactly are we to accept from such comparisons? Davion's comment offers compelling reasons for banning smoking, but only if he's right about the extent of the dangers from secondhand smoke. How do we go about evaluating the credibility of his claims? Responses like Veronica's are very common (and usually much more brutal). Personal attacks and rhetoric quickly get out of hand, and the conversation veers away from the original topic. Should you respond to attacks of this sort by engaging in some name-calling of your own, replying with more reasonable arguments, or just ignoring them?

**EXERCISE 1.2**

Your Turn! What is your response to the discussion about the campaign for a smoke-free campus?

Each of the posts is trying to persuade you, but not all should succeed. In this text, you will learn to recognize that:

- ▶ Sara doesn't offer an argument at all. She merely states her opinion.
- ▶ James's and Davion's responses employ different styles of reasoning. In order to determine whether their arguments are convincing, you need to utilize different criteria.
- ▶ Veronica's reply commits a common mistake in reasoning called a fallacy. She attacks the people who support the smoking ban rather than their reasons for doing so.

This book will provide you with the critical thinking tools necessary for constructively engaging in conversations like these. It will do so by teaching you when you should be persuaded and when you should not. But here we can make an important distinction to help you better understand the focus of this text. Often thought of as "the art of persuasion," *rhetoric* typically includes every device one might use to persuade others—from rational argumentation to other, nonrational means of persuasion. These nonrational devices include a variety of recognizable techniques, such as emotional appeals, assertions made without any supporting evidence, the use of words and phrases with powerful connotations, and even the use of powerful, persuasive images. Our interest in this text is to focus on rational persuasion and separate it from that which is not.

This focus is grounded on a couple of reasons. First, we humans are rational creatures. So when people try to convince us using logic and reasoning, they are treating

us as self-directed, responsible human beings. They provide us with the materials we need to decide for ourselves where we stand on an issue. Rational arguers do not manipulate, trick, pander, or force us to believe or do what they want. Thus, reason is the best means of persuasion to use in any society that values tolerance and civil discourse. We demonstrate respect for one another when we are willing to let reasons do the convincing.

Second, even though we live in a world with plenty of rational argumentation and respect, too much public discourse is manipulative, cynical, and mean-spirited. With the skills you will acquire from studying this book, you will learn to recognize the kinds of discourse that you should take seriously and those that you should set aside or be skeptical of. By focusing on rational means of persuasion—that is, arguments—you will be better positioned to turn away from the nonsense and put your good mind to work to improve your life and the lives of those around you.

So what do we mean by “thinking critically”? When we talk about critical thinking, the term doesn’t describe thinking that is severe, negative, or harsh; instead, **critical thinking** refers to thinking that uses reason to decide what to do and what to believe. Since arguments provide reasons that support their claims, the fundamental critical thinking skills are the recognition, analysis, evaluation, and construction of arguments. Others may conceive of critical thinking somewhat differently, but the skills of argumentation you will study here are basic to any and all conceptions of critical thinking.

LEARNING OUTCOMES

In this chapter, you will learn how to:

- ▶ Define *critical thinking*,
- ▶ Identify the four major skills that constitute critical thinking, and
- ▶ Describe four broad contexts in which critical thinking will be useful to you.

As a way to begin the building of critical thinking skills, we will describe how their usefulness extends beyond the fun of participating in online conversations about controversial issues. In fact, the skills you will learn as you study this text will help you do well in your college classes, be more successful in your career, avoid being manipulated by people who want your money or your support, and live a deeper, more meaningful life. That’s quite a lot for any book to claim, so let us provide some evidence to back it up.

Using Critical Thinking in the Classroom

Over the years, our fellow educators in various disciplines—business management, criminal justice, nursing, psychology, biology, and others—have repeatedly said how important it is for students in their classes to have strong critical thinking skills. Our colleagues are apparently in good company, according to a 1994 report by the Foundation for Critical Thinking (www.criticalthinking.org). In a survey of faculty at 38 public and 28 private California universities, nearly 90% of respondents claimed that critical thinking constitutes a primary objective of their teaching. Yet only a small minority (9%) clearly taught critical thinking skills on any given day. The first statistic shows just how