# THINKING FOR YOURSELF

Developing Critical Thinking Skills
Through Writing

MARLYS MAYFIELD



# Thinking for Yourself

DEVELOPING CRITICAL THINKING SKILLS THROUGH WRITING

Marlys Mayfield

Wadsworth Publishing Company Belmont, California · A Division of Wadsworth, Inc. English Editor: John Strohmeier

Special Projects Editor: Judith McKibben

Editorial Associate: Holly Allen Production Editor: Vicki Friedberg Managing Designer: Lisa S. Mirski

Print Buyer: Karen Hunt
Designer: Wendy Calmenson
Copy Editor: Lorraine Anderson
Compositor: Weimer Typesetting
Cover Designer: Lisa S. Mirski
Cover Illustrator: Steve Campbell

©1987 by Wadsworth, Inc. All rights reserved. No part of this book may be reproduced, stored in a retrieval system, or transcribed, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher, Wadsworth Publishing Company, Belmont, California 94002, a division of Wadsworth, Inc.

Printed in the United States of America

1 2 3 4 5 6 7 8 9 10-91 90 89 88 87 19

#### Library of Congress Cataloging-in-Publication Data

Mayfield, Marlys, 1931-

Thinking for yourself.

Includes bibliographies and index.

1. English language—Rhetoric. 2. Thought and thinking. 3. Language and logic. 4. Reasoning. I. Title.

PE1408.M3933 1987 808'.042 86-26724 ISBN 0-534-07308-5

### **Preface**

### HISTORY OF THE TEXT

Critical thinking can feel like waking up. Sometimes it's in the momentous, and sometimes in the ordinary, but inevitably it's a discovery that we have been asleep.

This book originated in some acts of waking up. Its first stirrings came through a nagging dissatisfaction with the way I had been teaching English composition for fifteen years. Like my colleagues, I knew that writing was clear when thinking was clear. And so, I wondered, why not focus primarily on the thinking instead of the writing process? Why not use writing to show how we think, instead of thinking so much about how we write? It seemed to me that this approach would do more to improve writing in the long run. The problem was that none of us knew how to teach thinking, or even if that were possible.

By the late seventies, I learned it was possible: a number of educators were demonstrating some new theories and curricula for teaching thinking. They included foremost the work of J. P. Guilford and Mary Meeker in California and that of Reuven Feuerstein in Israel. In 1980 I received a small grant to undergo a teaching internship in the Feuerstein method, called "Instrumental Enrichment." I chose this program because it is based on a clearly identified hierarchy of thinking skills and because it teaches students an awareness of their thinking processes. By 1982 I was teaching two new experimental college courses; the first was a remedial course in thinking skills based on the Feuerstein system. The second was an English college transfer course, designed to fulfill the new California State University critical thinking course requirements. Since this requirement specified content but did not restrict critical thinking to any particular departments or types of courses, I used this opportunity to combine critical thinking with writing, calling the course Critical Thinking in Reading and Writing.

When I first looked for suitable textbooks for this course, I found there were none. When I resolved to compose the writing assignments myself, supplementing my instruction with a concise critical thinking text, I found my search for a suitable text disappointing. Because of my composition and thinking skills training, I had many questions about the teaching value of these critical thinking texts. Why were they so difficult to read and understand? Why did they try to teach critical thinking as though it were a subject rather than a skill? Why did they begin as well as end on so advanced a cognitive level as the analysis of argumentation? Why were they so weak in testing content understanding as well as application? Bringing all my questions together, I began to compose my own textbook. Whenever my students showed problems of understanding, I did more research, wrote new chapters and tests. Often I was surprised to discover what my students did not know: the difference between facts and inferences, reasons and conclusions, the meaning of assumptions, opinions, and evaluations. In the course of five years and the teaching of twenty-nine sections of this course, I completely revised and reprinted the textbook seven times, expanding it to five hundred pages. During this period I was also working with Wadsworth Publishing Company, whose editors and reviewers offered me suggestions and assistance that continued to shape the book's content, organization, and direction. The end product, which you now have before you, has become a unique text serving two purposes:

It teaches English composition through an emphasis on the thinking process, serving as a composition text.

It teaches critical thinking through writing applications, serving as a critical thinking course text.

### APPROACH AND COVERAGE

- 1. This book assumes that all people prefer to think for themselves and not be dependent on the thinking of others.
- 2. The text teaches both critical thinking and composition by emphasizing awareness of the personal thinking process. From the training of personal awareness, it moves to the more advanced stages of analyzing the thinking of others.
- 3. This text begins on a more fundamental level than most other critical thinking texts, yet proceeds to a more advanced level than most, requiring students to develop and demonstrate highly sophisticated analytical skills.
- 4. The first half of the text works extensively with critical thinking in nonverbal problems, using photographs, cartoons, descriptive and report assignments. The second half moves into the more tradi-

- tional application of critical thinking to *verbal* problems, analyses, and arguments.
- 5. The text provokes its readers constantly to think in order to work their way through the materials. Its problem and writing assignments force confrontation with the common tricks and defenses used to avoid thinking. Some of these include the use of glib phrases, stereotypes, fixed opinions, the disregard of instructions, the substitution of evaluations and imagination for facts, the use of unexamined assumptions, and acceptance of false authority.
- 6. In its style and pedagogy, this text shows consistent concern for the interaction of the cognitive and affective domains of learning. It also addresses directly the problems of distinguishing between feelings that clarify thinking and those that hinder it.
- 7. This text uses practical, everyday examples, bridging the concepts learned about thinking to life's problems. Direct quotations taken from the media are used extensively to illustrate the ubiquity and influence of arguments in our lives as well as the need for standards with which to judge them.
- 8. This text is *not* designed to serve as a critical reader but instead directs the students, through discussion and research assignments, to both mainstream and nonmainstream media sources, demonstrating that critical reading is not a canned academic subject but a practical skill for intelligent participation and survival in the world.

#### SPECIAL FEATURES OF THE BOOK

- 1. Each chapter begins with *Discovery Exercises*, which provide opportunities for students to uncover principles about thinking for themselves and to start out with the interest and motivation generated from their own experiences.
- 2. A study of the table of contents shows that Parts One and Two of the book cover basic material not usually presented in such depth in critical thinking texts, while Part Three still offers extensive treatment of the more traditional topics of critical thinking, such as inductive and deductive reasoning, the logical fallacies, and the critical analysis of arguments.
- 3. The text offers an extensive number of options for the evaluation of student progress. Each chapter ends with a summary and a true-false chapter test. These tests are intended not only to measure understanding, but also to provoke further thought, either in oral class review or written assignments. Part One and Part Two tests offer further review, while the Instructor's Manual contains further

- tests on dictionary skills, logical fallacies, reasons and conclusions, as well as two additional final exams.
- 4. The Writing Applications are another special feature. They may be used in English courses or any other course that wishes to encourage more composition writing. The Writing Applications at the end of each chapter can be optional. These assignments are designed for practice of the skills learned in each chapter, as well as for mastering more and more complex rhetorical forms, ranging from the narrative and definition essay to the argumentative essay.
- 5. Regardless of whether the end-of-chapter Writing Applications are used, students will engage in an extensive amount of writing as they work through each chapter, moving from descriptive paragraph writing to more complex research assignments. Here again the design of the gradient of learning is based on my assessment of the thinking skills involved.
- 6. Accompanying the text is an Instructor's Manual, which provides teaching objectives and suggestions for working chapter by chapter in the classroom. The Manual also provides suggested answers for problem exercises, chapter tests, and supplementary tests. Finally, it contains models of student writings for some of the key assignments.

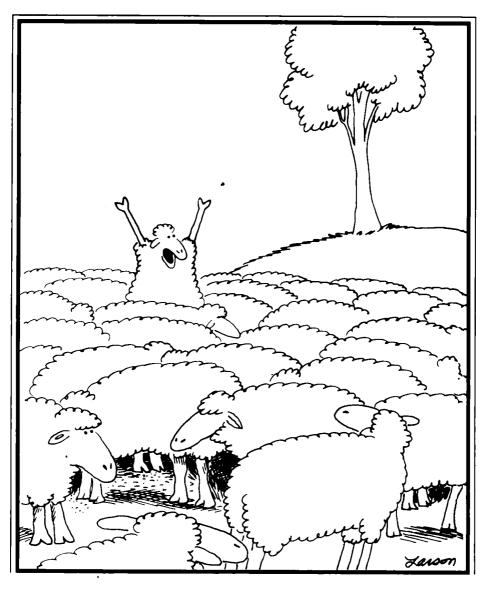
### ACKNOWLEDGMENTS

The writing of this text was a long and hard journey, but one that brought me many devoted helpers and illuminating advisors. Now I wish particularly to thank the reviewers who let me know, on a nationwide basis, what their students needed and what could best serve them. They include Robert Dees, Orange Coast College; Yvonne Frye, Community College of Denver; Helen Gordon, Bakersfield College; Patricia Grignon, Saddleback College; Elizabeth Hanson-Smith, California State University at Sacramento; Ralph Jenkins, Temple University; Eileen Lundy, University of Texas at San Antonio; Daniel Lynch, La Guardia Community College; L. J. McDoniel, St. Louis Community College at Meramec; Linda Morrow, California State University at Long Beach; and Patricia Smittle, Santa Fe Community College.

Next I must mention my own teachers: Reuven Feuerstein, who deserves the Nobel Prize for developing an experiential curriculum for teaching both children and teachers thinking skills; Arthur Costa, California State University at Sacramento, under whose supervision I interned in the Feuerstein method; Dorr Bothwell, who taught me that knowing one's own perception could make an artist of anyone; Roderick Taunton, who taught me to study the root ideas of words; Don Fabun, whose book *Communica*-

tions: The Transfer of Meaning guided me early in my career to find such good results from teaching students the difference between facts and inferences.

Finally, I am grateful to the following colleague advisors and editors who gave many hours of their own creative support to this project. They include Lorraine Anderson, Walter Truett Anderson, Kristina Bear, Gunnar Carlsson, Jerry Fishman, Jon Ford, Walter Frey, Vicki Friedberg, Goeffrey Hirsch, Kay Lawson, Lisa Mirski, Connie Missimer, Bonnie Paul, William Cromartie, Alan Godfrey, Chuck Yannacone, Kevin Howat, Cedric Crocker, and John Strohmeier.



"Wait! Wait! Listen to me! . . . We don't HAVE to be just sheep!"

Used with permission of Chronicle Features, San Francisco.

## **Brief Contents**

, ·	
Introduction to Critical Thinking, 3	
PART ONE BASICS OF CRITICAL THINKING	9
CHAPTER ONE Observation Skills, 10	
CHAPTER TWO Word Skills, 34	
CHAPTER THREE Facts, 58	
CHAPTER FOUR Inferences, 84	
PART TWO PROBLEMS OF CRITICAL THINKING	109
CHAPTER FIVE Assumptions, 110	
CHAPTER SIX Opinions, 128	
CHAPTER SEVEN Evaluations, 144	
CHAPTER EIGHT Viewpoints, 164	
PART THREE FORMS AND STANDARDS OF	
CRITICAL THINKING	187
CHAPTER NINE Inductive Reasoning, 188	
CHAPTER TEN Deductive Reasoning, 204	
CHAPTER ELEVEN Logicial Fallacies, 232	
CHAPTER TWELVE Critical Analysis of Argumentation, 266	
INDEX, 299	

vii

### **Detailed Contents**

**Introduction to Critical Thinking** 

What Is Critical Thinking? 6

Learning from Sharing How We Think, 5

Discovery Exercise: Learning How We Think, 3

PREFACE, xvii

9
10

3

ix

式读结束: 需要全本请在线购买: www.ertongbook.com

Discovery Exercises, 35

A Definition of Word, 35; Using the Thesaurus, 35

On Finding the Right Word, 36

**Discovery Exercises, 37** 

Sorting Out Confusion About Dictionaries, 37; How Skillfully Do You Use Your Dictionary? 39

Clear Thinking Depends on Clear Word Definitions, 40

What Makes a Definition? 41

Writing Application: Word Boundaries, 43

Kinds of Definitions, 43

The Importance of Defining Key Ideas, 45

Defining Reality, 46

Defining Truth, 48

Synthesizing Dictionary Definitions, 49

Writing Application: Practice in Synthesizing Definitions, 52

Chapter Summary, 52

Chapter Test, 53

Writing Application: An Essay of Definition, 54

#### CHAPTER THREE Facts

58

Discovery Exercises, 59

Beginning with the Word Fact, 59; Learning to Recognize Facts, 60; Verifying Facts, 60

Facts and Reality, 61

Discerning Fact from Fiction, 62

Feelings Can Be Facts, 63

Facts Are Not Absolutes, 65

Facts and Social Pressure, 66

Facts and Consensual Illusion, 68

Reading: The Emperor's New Clothes, 69

Facts and Our Limited Senses, 72

Reading: The Blind Men and the Elephant, 73

Statements of Fact, 73

Writing Application: Finding Facts in Photographs, 77

Standards We Use to Determine Facts, 78

Chapter Test, 80	
Writing Application: Writing a Fact-Finding Report, 81	
CHAPTER FOUR Inferences	84
Discovery Exercises, 85	
Recognizing Inferential Thinking, 85; Defining Infer, 87	
Understanding the Words Infer and Inference, 88	
Discovery Exercises, 88	
Drawing Inferences from Evidence, 88; Drawing Inferences from Facts, 89	
Distinguishing Inferences from Facts, 90	
Using Inferences Skillfully, 92	
Reading: A Study in Scarlet, 92	
More on Using Inferences Skillfully, 93	
Drawing Inferences from Careful Observation, 96	
Writing Application: Using Facts and Inferences to Describe a Photograph, 100	
Generalizing from Facts and Inferences, 102	
Writing Application: Writing a Paragraph from Facts, Inferences, and Generalizations, 103	
Chapter Summary, 104	
Chapter Test, 105	
Writing Application: Analyzing the Use of Facts and Inferences in a Newspaper Article, 106	
REVIEW TEST ON PART ONE	107
PART TWO PROBLEMS OF CRITICAL THINKING	109
CHAPTER FIVE Assumptions	110
Discovery Exercises, 111	
What Is an Assumption? 111; Finding Assumptions in Cartoons, 111; Finding Assumptions in Stories, 112	
Understanding Assumptions, 114	

Chapter Summary, 79

Types of Assumptions, 115	
Identifying Hidden Assumptions in Reasoning, 117	
Arguments and Value Assumptions, 118	
Writing Application: Articulating Hidden Assumptions Behind Arguments, 119	
Assumptions, Incongruities, and Thinking, 120	
Solving Problems by Uncovering Assumptions, 122	
Chapter Summary, 122	
Chapter Test, 123	
Writing Application: An Essay About Solving a Problem by Uncovering Assumptions, 124	
CHAPTER SIX Opinions	128
Discovery Exercises, 129	
Comparing a Sample of Opinions, 129; Why Do We Get Confused by the Word <i>Opinion</i> ? 130; The Lighter Side of Opinions, 131; Sharing Opinions with Ann Landers, 131; Rating Opinions, 133	
Types of Opinions, 134	
Distinguishing Between Responsible and Irresponsible Opinions, 135	
The Trouble with Personal Opinions, 136	
Writing Application: Analyzing an Opinion Piece, 138	
Looking at Public Opinion Polls, 139	
Chapter Summary, 140	
Chapter Test, 141	
Writing Application: An Essay About an Opinion, 141	
CHAPTER SEVEN Evaluations	144
Discovery Exercises, 146	
Defining Evaluate, 146; Recognizing Evaluations, 146	
On Evaluations, 147	
The Problem of Premature Evaluations, 148	
Evaluations Are Not Facts, 150	
Expectations Influence Evaluations, 151	
Skilled Use of Evaluations, 152	
Reading: Discarding the Concept of Man as "Killer Ape," 153	
Recognizing Evaluations Conveyed by Connotative Words, 155	

Evaluative Words in Gossip Columns, 156; Evaluative Words in Argumentation, 156	
Use of Hidden Evaluations to Manipulate, 157	
Chapter Summary, 159	
Chapter Test, 160	
Writing Application, 161	
First Option: Analyzing Evaluations in Ads, 161; Second Option: Writing a Critical Review, 161; Third Option: Evaluating a Product, 162	
For Further Reading, 162	
CHAPTER EIGHT Viewpoints	164
Discovery Exercises, 165	
Understanding Point of View, 165; Studying One Man's Viewpoint, 166; Reading: This Is My Living Room, 166	
On Unconscious Viewpoints, 169	
Discovery Exercise: Identifying Political and Social Points of View, 172	
Categorizing Today's Political and Social Viewpoints, 174	
Writing Application: Determining a Viewpoint and Its Shaping of Content, 179	
Chapter Summary, 181	
Chapter Test, 182	
Writing Application: Essay Comparing and Contrasting Two Viewpoints, 183	
For Further Reading, 184	
REVIEW TEST ON PART TWO	185
PART THREE FORMS AND STANDARDS OF CRITICAL THINKING	187
CHAPTER NINE Inductive Reasoning	188
Discovery Exercises, 189	
Defining Key Terms, 189; Answering a Survey on Test Performance, 190	

Exercises, 156

Looking at Inductive Reasoning, 190

Enumeration, 191

Analogies, 191

Discovery of Patterns, 192

Concern with Causes, 192

Hypotheses, 195

Identifying a Hypothesis, 196

Statistics and Probability in Inductive Reasoning, 196

Chapter Summary, 200

Chapter Test, 200

Writing Application: Working from Facts to Inferences

to Hypotheses, 201

For Further Reading, 203

### CHAPTER TEN Deductive Reasoning

204

Discovery Exercises, 205

What Is Deductive Reasoning? 205; Evaluating Deductive Arguments, 206

About Deductive Reasoning, 207

The Vocabulary of Logic, 208

Syllogisms as Standardized Forms, 211

Discovery Exercise: Practice in Constructing Syllogisms, 212

What Syllogisms Do, 213

What Is Said, and Is It True? 213; Is There a Hidden Premise? 214; Does One Thought Follow Logically from the Other? 215

Writing Application: Reviewing the Vocabulary of Logic, 216

The Formal Fallacies, 216

**Discovery Exercises, 216** 

Looking at Some Formal Fallacies, 216; Identifying Formal Fallacies by Type, 219

Technical Names for the Fallacies, with Their Rules, 220

The Fallacy of Four Terms, 220; The Fallacy of the Undistributed Middle Term, 221; The Fallacy of Faulty Exclusions, 223; The Fallacy of Illicit Distribution, 223; The Invalid Hypothetical Syllogism, 224; Reviewing the Vocabulary of Formal Fallacies, 225

Chapter Summary, 226

Chapter Test, 228

Writing Application: Writing a Deductive Argument, 229

For Further Reading, 230

**XIV** DETAILED CONTENTS

Discovery Exercise, 233

### Logical Fallacies of Inductive Reasoning, 234

The Hasty Generalization, 234; The Either-Or Fallacy, or False Dilemma, 236; The Unknowable Statistic, 237; Inconsistencies and Contradictions, 238; The Loaded Question, 240; The False Analogy, 240; Discovery Exercise: Evaluating Analogies, 241; False Cause, 242; The Slippery Slope, 243

### Informal Fallacies of Deductive Logic, 244

Misapplied Generalization, 245; Begging the Question, 246; Fallacies of Ambiguity, 247; Covert Persuasion, 251; Diversion into Other Issues, 257

Chapter Summary, 259

Chapter Test, 260

Writing Application: Detecting Logical Fallacies in an Argument, 264 For Further Reading, 265

### **CHAPTER TWELVE Critical Analysis of Argumentation**

266

Discovery Exercise: Reading and Judging Arguments, 267

What Is Critical Reading? 269

Receptive Reading as an Attitude, 270

Critical Analysis in Reading, 271

What Viewpoint, Interests, and Values Shaped

This Argument? 271

### How Is the Argument Structured in Terms of Reasons and Conclusions? 272

Identifying the Conclusion of an Argument, 273; Identifying Reasons, 274; Exercise: Identifying Reasons and Conclusions, 275; More on Distinguishing Reasons from Conclusions, 276

### Discovery Exercises, 278

More Practice in Identifying Reasons and Conclusions, 278; Finding Reasons and Conclusions in Newspapers, 279

Writing Application: Writing a Letter of Complaint, 280

Discovery Exercise: Distinguishing Arguments from Reports, 281

Is It an Argument or a Report or Both? 282

What Is the Issue of Controversy? 284

What Are the Strengths and Weaknesses of This Argument? 286 Chapter Summary, 289

TAKE-HOME FINAL RESEARCH EXAM, 291

WRITING APPLICATION: WRITING AN ARGUMENTATIVE ESSAY, 298 INDEX, 299

DETAILED CONTENTS XV