

# INSTRUCTOR'S MANUAL

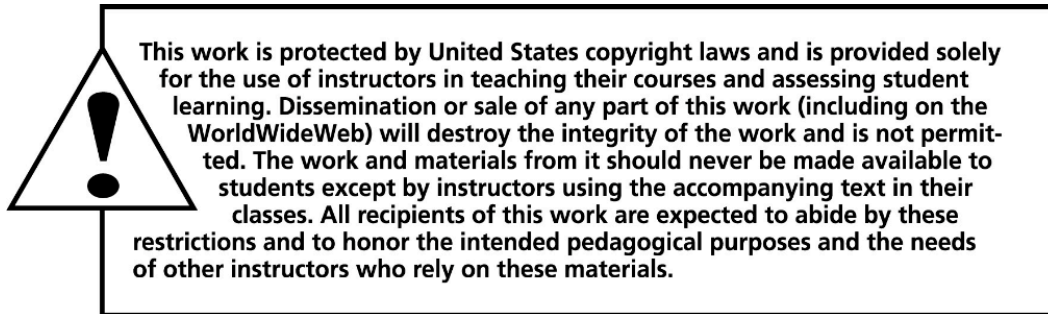
*to accompany*

## THE ART OF THINKING A Guide to Critical and Creative Thought *Eleventh Edition*

**Vincent Ryan Ruggiero**  
*SUNY Delhi College (Emeritus)*

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# CONTENTS

<b>Introduction</b>		1
<b>I. Be Aware</b>		
1	Developing Your Thinking: An Overview	4
2	Establish a Foundation	8
3	Broaden Your Perspective	11
4	Be a Critical Reader, Listener, and Viewer	15
<b>II. Be Creative</b>		
5	The Creative Process	17
6	Search for Challenges	18
7	Express the Problem or Issue	20
8	Investigate the Problem or Issue	24
9	Produce Ideas	26
<b>III. Be Critical</b>		
10	The Role of Criticism	27
11	Refine Your Solution to the Problem	28
12	Evaluate Your Argument on the Issue	29
13	Refine Your Resolution of the Issue	35
<b>IV. Communicate Your Ideas</b>		
14	Persuading Others	36
15	Writing and Speaking Effectively	37



# INTRODUCTION

The purpose of *The Art of Thinking* is to introduce students to the thinking process and have them develop confidence and skill in using it to solve problems and resolve issues. That purpose dictates the form of this teacher's manual. Few "official answers" are included here. Instead, suggestions for leading class discussion of the exercises and applications are given, along with tips about the kinds of confusion students may experience and strategies for overcoming that confusion.

Although many instructors using *The Art of Thinking* have had considerable experience teaching creative and critical thinking, others have had little or no experience. The guidelines that follow will assist the latter group in making appropriate adjustments in teaching and testing approaches.

## GET STUDENTS MORE INVOLVED IN CLASS

Most instructors talk a great deal more than they realize. Because they were taught by the lecture method, they teach by that method. Even when not making a formal presentation, they dominate discussions by clarifying ideas, sharing anecdotes, providing information, and explaining complex matters. Meanwhile, students sit passively, much in the same manner that they sit in front of the television set, and with a similar degree of inattention.

In order to teach thinking skills well, you must change the student's role from passive to active. The best way to do this is for you to talk less. Ask students to do little tasks you usually do, such as reading the applications aloud before discussing them and summarizing the previous day's discussion. If possible, when a student asks you a question, redirect it to another student and then ask a third student to comment on the accuracy of the answer. When going over the exercises and applications in class, have a student present his or her response and then have another evaluate that response. If the evaluation is superficial, resist the urge to add your own evaluation and instead ask a provocative question. When disputes arise and everyone appeals to you to resolve them, ask someone who hasn't yet spoken on the matter to suggest how he or she would resolve the issue. Occasionally, let an unresolved problem or issue lie, offering to give class time a day or two later to anyone who works out a solution.

If this approach seems uncomfortable at first, remind yourself that a good intellectual coach, like a good athletic coach, does not push players aside and enter the competition—he or she gets the players to raise their level of play by encouraging, guiding, and occasionally cajoling them.

## WHEN YOU ASK QUESTIONS, EXTEND YOUR "WAIT TIME"

Studies show that the average instructor waits only about one second for students to answer questions. If an answer is not forthcoming by then, the instructor either asks someone else, rephrases the question, or answers himself or herself. One second is not very much time even for a simple matter of fact; for a matter involving interpretation or judgment, it is woefully inadequate. The same studies reveal that when an instructor extends the wait time to three seconds and beyond, poor students as well as good students tend to produce more ideas and better ideas and engage in lengthier and livelier discussions. As a reminder to extend your wait time, try glancing at the second hand of the clock when you ask questions and timing yourself.

## DELAY YOUR REACTIONS TO STUDENT IDEAS

Many instructors give immediate affirmative or negative signals when a student answers a question or presents an idea. When such signals are given, the entire class naturally regards the matter as closed and stops thinking. And if the quickest thinkers in the class answer most of the questions and volunteer most of the ideas, that means the other students are seldom provided an opportunity to think a question through or ponder a new idea before having their thought process interrupted. Little wonder slower thinkers become discouraged.

To increase the time your students spend thinking about questions and ideas, mask your reactions while students are answering questions or volunteering comments and then look around the room mirroring the same quizzical gaze students are showing you. After counting slowly to three (or higher), ask the person who spoke to elaborate or someone else to comment on the statement. And be sure to use this approach not only when students make incorrect assertions but also when they are correct. Both kinds are worth having your class ponder.

This guideline does not mean students should be allowed to remain mired in confusion. It means only that you should give them sufficient time to extricate themselves and thus experience the satisfaction and confidence that accompany success in doing so.

## CREATE A CLASSROOM ATMOSPHERE CONDUCIVE TO THINKING

The classroom atmosphere most conducive to thinking is one in which process is valued above product. In this way, mistakes are tolerated and students are encouraged to face them honestly and learn from them, an atmosphere in which students can be adventurous in their thinking because imagination and originality are prized and in which criticism can be given and received without embarrassment or hurt feelings. Many students have never experienced such a classroom atmosphere and so may at first feel uncomfortable in it (or suspicious of you for providing it), but in time they will appreciate and thrive in it.

## MAKE YOUR EXAMINATIONS EXERCISES IN THINKING

Because most of us were educated in a system that emphasized *possessing* knowledge, but not using it in any cognitive enterprise, we tend to favor objective testing. Unfortunately, the objective test is an inadequate measure of thinking proficiency: it denies students an opportunity to demonstrate their creativity, penalizes students who perceive subtleties and note relationships among ideas, denies students practice in disciplined expression, and prevents instructors from observing the process by which students reach their conclusions.

The essay test, though free from most of the defects of the objective test, presents other drawbacks. It allows students to hide paucity or complete absence of thought by multiplying words, and it takes significantly more time to grade than does an objective test (a fact of no small importance to instructors with large classes).

One way to avoid the limitations of both the objective and the essay test is to use the combination test. This test consists of these kinds of questions:

- *The Modified True/False Question.* Rather than the standard two choices, this question offers three choices: “Completely true,” “Partly true but needing qualification,” and “Completely false.” In addition, it requires students to add, in a space provided beneath each question, an explanation of every “Partly true” answer. Instructors can thus build into their tests an element of difficulty that challenges the students’ higher-order thinking skills.
- *The Modified Multiple-Choice Question.* Similar to the modified true/false question, this question offers the usual a–d or a–e choices; however, it also requires students to explain the thinking that underlies their choices. (Each question is followed by a space for this explanation.)
- *The Brief Essay Question.* This question gives students practice in composition responses in their own words, with the qualifications and even the brief examples or analogies they believe are the most relevant; yet it does not create a lengthy reading assignment for the instructor because it specifies a word limit and states that responses that exceed

the limit will be penalized. A 25-word limit is recommended for relatively simple matters and a 50- or 75-word limit for complex ones. Holding students to a word limit not only makes grading easier, but it also teaches students the value of brevity and precision and prepares those who will go on to the professions for the exacting requirements of professional publication.

The combination test is useful in almost any course with a thinking skills component. But an even better test of students' mastery of creative and critical thinking strategies is the kinds of problems and issues presented in *The Art of Thinking*. Chances are you will not be able to assign all the applications at the end of each chapter, so when the time comes to prepare midterm and final examinations, consider using some of them as test questions. (Be sure to allow enough time for students to give adequate attention to each of the stages of the thinking process.)

# I. Be Aware

## 1

### *Developing Your Thinking: An Overview*

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The way you conduct the class discussion of Chapter 1 will establish the pattern for later class discussions. It is helpful to explain to students that you intend to offer guidance in applying the lessons of the chapters, and occasionally to play devil's advocate to provoke thought, but not to provide "right" answers or to resolve every dispute.

Some students will have difficulty doing the exercises at the end of Chapter 1 because they have failed to heed the advice given in the chapter for choosing the best time, place, and working conditions or the strategies for coping with frustration. You may wish to reinforce this advice in class discussion.

#### WARM-UP EXERCISES

Most students will have no difficulty recognizing the essential answers in these cases: in 1.1, that proper postage is required at the time the letter is mailed; in 1.2, that past events do not guarantee future events; in 1.3, that one hour is one hour no matter when it passes. The real challenge will be to *explain* those answers to other people. Having students read their responses aloud will permit them to compare their explanations with those of other students and help them appreciate the importance of clear, vivid communication of ideas.

#### APPLICATIONS

1.1. An effective approach to this application is to have students express their views on the statements and listen to others' objections to their views. This exercise will help to prepare them for the considerations expressed in the next three chapters.

1.2. Sally believes, incorrectly, that using facts in a composition makes the composition unoriginal.

1.3. Homer reasons that trying hard guarantees success. It does not. Homer leaps to the conclusion that the test is unfair (a *possibility*, certainly) and ignores other possible conclusions; for example, that he read without understanding the material or that sleeplessness affected his performance.

1.4. This dialogue illustrates a common difficulty in argument. Each individual's view has *some* merit. The challenge is to decide whether a third view can be constructed, one that combines these merits.

1.5. Guy is misinformed about transsexualism. Yet in his final response, he unwittingly hints at an interesting philosophical question: Is it possible that some transsexuals choose to change, not so much because of hormonal or psychosexual imperatives but out of a desire to shock others or to punish themselves or their parents?

1.6. The passage implies that a course has value only if it has *direct* application to one's career. This idea, of course, is mistaken. Some students will miss the implication; others will note and approve of it. With encouragement, those students who recognize the error and understand why it is an error should be able to explain their thinking effectively to their classmates.



1.7. Consider this approach: have one student present his answer; ask whether anyone disagrees and, if so, have that person present her answer; then invite comments and questions from others. (If there is no disagreement, ask whether anyone who agrees arrived at his or her conclusion by a different approach.) Careful thinkers will begin by considering whether a teenager could run away from a good wholesome environment as well as from a bad one and proceed to imagine relevant situations (e.g., peer influence, rebellion against parental rules). Enterprising students may search the Internet to find psychologists who disagree with the stated view and examine the grounds for their disagreement. (Note: this same approach can be used for 1.8 and 1.9.)

*Note:* The 10th edition of *The Art of Thinking* had a feature called ISSUES FOR EXTENDED ANALYSIS at the end of each chapter. The rationale for this feature was explained as follows:

This exercise, in this and subsequent chapters, is designed to have students apply their developing thinking skills in a context that mirrors the full challenge of analyzing issues. The exercise requires evaluation of not one but two opposing essays, each of which has some merit; in a number of cases, in fact, the merit of the opposing arguments is very nearly equal. To be reasonable in such situations, students cannot merely choose the side that matches their opinion—they must accept the insights and reject the mistakes of each side, a process that entails recognizing and overcoming their own biases. They must also consider the possibility that neither essay addresses all the facts about the issue; where that seems to be the case, students must conduct additional research. The exercise also requires evaluation of a dialogue about the essays in which the participants bring differing perspectives to bear; as in actual classroom discussion, the quality of the contributions is uneven—some statements are perceptive, others shallow, still others fallacious. Finally, the exercise requires sorting all these considerations out and then constructing a formal response that will anticipate and withstand the challenges posed by classmates. (By using issues that are being widely discussed, I aimed to make these exercises not only challenging but enjoyable.)

The reviews from professors used to guide me in creating this (11th) edition revealed that many did not use the extended analysis materials. I therefore decided to make the issues simple analysis exercises and to move most of the accompanying essays and class discussions to this Instructor's Resource Manual. (In cases where the issues themselves were significantly changed or deleted, I have not included the original essays and discussions in this manual.) Instructors who find these materials useful can make them available to students or just raise the points they make into class discussions to stimulate and deepen thought.

1.9. Here are the essays and the discussion related to this exercise:

## ESSAYS

### **People Are Inherently Good**

By Asanti Jones

Rousseau was insightful in noting that people are born good and, left to follow their natural inclinations and intuitions, will develop their potential and benefit themselves and those around them. A number of conclusions follow logically from this insight.

First, parents should not impose their beliefs and values on children but instead leave them free to develop their own. This is particularly so in such matters as religion, politics, and morality. No one has a right to say what others should regard as right and proper. Each individual must choose for him/herself. And what each chooses, others should respect.

Secondly, schools should have as few regulations and formalities as possible. Courses should be suggested by teachers, but the final determination of what to study and how to do so should be the student's. If students find a lecture or other class exercise boring or irrelevant to their needs at the moment, they should be free to choose another activity. Moreover, any assessment of students' achievement should be made by the students themselves—just as they alone know what goals they should set, they alone know how well they have progressed toward reaching those goals.

If all people received such an upbringing, they would be healthy, happy, and successful. Unfortunately, few do, and the result is crime, drug and alcohol addiction, child and spouse abuse, and a host of other social problems. But it is a mistake to meet such problems with more laws and stricter punishment for infractions. The fault lies in society's failure to recognize the inherent goodness of people and to ensure their freedom to be themselves.

### **Nothing More Than Potential**

By Inga Nowak

If people are inherently good, it makes sense not to burden them with regimens, rules, and regulations that hinder the natural expressions of their impulses. And the lifting of such burdens should begin at the earliest time of life—in childhood. On the other hand, if people are not inherently good—if goodness like wisdom is not inborn but acquired—then regimens, rules, and regulations are beneficial.

Only a foolish generation would answer such a vital question on the basis of wishful thinking. But that is just what the past couple of generations did. They installed permissivism in both home and school. They let children decide what to think about truth and falsity, right and wrong, beauty and ugliness. They discarded the idea of discipline and let students decide what they would learn and how they would learn it. They put self-esteem above self-control and eliminated instruction in civics and civility.

Exactly what has been the result of almost half a century of permissivism and self-indulgence? Social chaos. Parents have lost control of their children and have no idea of how to regain it. Teachers are frustrated in their attempts to impart knowledge and often fearful for their personal safety. Young people, intent on following their urges, are making life difficult for themselves and everyone around them, and are filled with resentment without knowing why.

It's about time America saw the notion that people are inherently good for the dangerous nonsense it is. People are not born good or evil but have the potential to be either. And which they become depends partly on the quality of the training they receive and partly on the choices they make.

### **CLASS DISCUSSION**

EDNA: Jones is right. The old saying "As the twig is bent, so grows the tree" supports his view. People, like twigs, start out straight. The bending is supplied by others.

WALLY: Jones's argument is a big cop-out. Efforts to escape personal responsibility are as old as history. They go all the way back to Adam, who blamed Eve, who in turn said the devil made her do it. Today's rapists, child molesters, thieves, and terrorists continue the tradition by blaming their victims. What is different today is that some prominent thinkers tend to side with the perpetrators.

EDNA: Do you deny that bad environments—slums, for example—are more crime-ridden and produce more lawbreakers than the suburbs?

WALLY: Not at all. But I also recognize that two children in the same family, exposed to identical influences, often turn out very differently. One will become a criminal, and the other, a law-abiding citizen; one a narcissist, the other an altruist; one a sinner, the other a saint.

EDNA: There are always exceptions. I'm talking about what happens as a general rule.

WALLY: If Jones were right, then more permissive ages would have fewer social problems than more restrictive ages. Yet over the last few decades, our society has become very permissive, and our social problems have *increased*.

EDNA: Don't kid yourself. The influences of parents, teachers, and other authority figures are every bit as strong today. They're just more subtle.

WALLY: I'm not saying kids aren't influenced by adults. I'm saying that they show the tendency to bad behavior way before such influence takes place. Children who are barely able to crawl display meanness and selfishness. Most parental guidance aims to correct already-existing bad tendencies.