

# INSTRUCTOR'S MANUAL

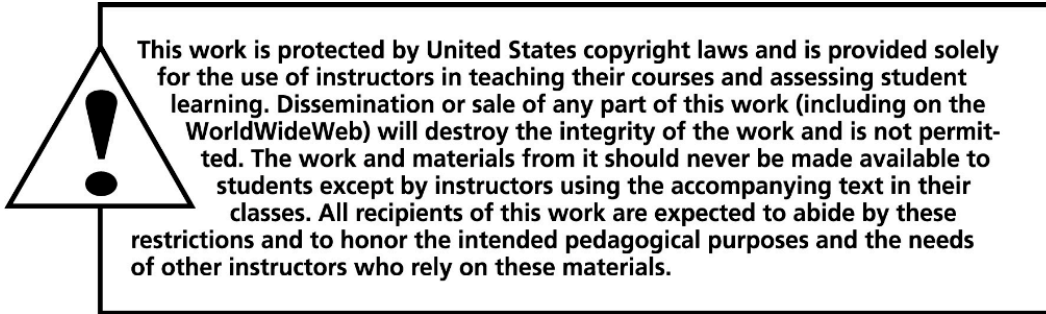
*to accompany*

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

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# 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.