Be Critical

Both solving problems and resolving issues involve two complementary thinking activities: creative thinking to produce ideas and critical thinking to evaluate them. In Part II we discussed creative thinking. Now, in Part III, we will turn our attention to critical thinking. The focus in critical thinking is on reasoned judgment. Chapter 10 provides an overview of critical thinking, Chapter 11 demonstrates how to evaluate and refine your thinking about problems, and Chapters 12 and 13 explain the evaluation and refinement of your ideas about issues.
The Role of Criticism

In the first chapter of this book, you learned that there are two phases to thinking: the creative phase, in which ideas are produced, and the critical phase, in which they are evaluated. Since then we have discussed the creative phase in detail. Now we turn our attention to the critical phase.

This chapter explains why critical thinking is necessary and gives you an overview of how critical thinking strategies are applied to problems and issues.

G. K. Chesterton once described a poet as a person with his head in the clouds and his feet on the ground. That description also fits good thinkers. They are able to entertain the boldest ideas, the undreamed-of solutions to problems—yet they are also able to fit their ideas to the exacting demands of reality. They are not only imaginative but practical as well. We have examined the former, creative phase of thinking. Now we will examine the latter, critical phase.

Critical thinking, as we define it here, means reviewing the ideas we have produced, making a tentative decision about what action will best solve the problem or what belief about the issue is most reasonable, and then evaluating and refining that solution or belief.

WHY CRITICISM IS NECESSARY

The role of criticism in problem solving is important for two reasons. First, no solution is ever perfect. However creative it may be, there is always room for improvement. Even the best ideas seldom occur in refined form. Like fine gems, they must be cleaned and polished before their potential worth is realized. Second, in many cases solutions cannot just be put into effect; they must first be
approved by others. Ideas for the improvement of the office or factory, for example, may require the approval of an employer or supervisor. Ideas about overcoming difficulties in family relationships may depend on the cooperation of other family members. And creative solutions to social problems often require the support of government leaders or the endorsement of the voters. In such cases, the best idea in the world is of little value until others are persuaded of its worth.

Criticism is equally important in resolving issues. A viewpoint may seem eminently reasonable, the ideal ground for compromise between opposing views, yet contain subtle flaws. Sometimes these become evident only when the idea is translated into a course of action.

In the early 1970s, for example, in response to the issue of fairness in divorce settlements, the idea of “no-fault” divorce became law in California, and in subsequent years, in most other states. It was considered at the time an ingenious way to permit a marriage to be dissolved easily and fairly, without squabbling and bitter accusations. Later, many critics identified an effect of no-fault divorce that no one anticipated when it was instituted: the impoverishment of divorced women and their children.¹

Although there can never be a guarantee that even the most thorough criticism will reveal every flaw in an idea, your responses to issues are more likely to be reasonable if you subject your ideas to rigorous evaluation before reaching a judgment. Critical thinking reduces your chance of error.

FOCUS ON YOUR IDEAS

The focus of this and the following chapters is not on criticism of other people’s solutions. It is rather on a much more difficult, even painful, criticism: that of your own solutions. Like everyone else, you are vulnerable to a variety of errors. You may receive inaccurate reports from others, including the media. In addition, you may misunderstand accurate reports, fall prey to rumor and hearsay, let emotion color your judgment, and suffer lapses in logic. For these reasons, the ideas you produce need criticism.

Ironically, though you are undoubtedly ready to criticize others’ ideas freely, like most people you are probably blind to the need for criticism of your own thinking. There are at least two reasons for this. First, your ego is inclined against self-criticism. Once you have settled on an idea, you feel a proprietary interest in it. “It is mine,” you tell yourself, “so it must be good.” And once in that frame of mind, you are ready to defend the idea against all attack, even the attack that your own good judgment might mount against it. The situation is something like that of a dog with a bone. The dog will cling to it tenaciously and growl and snarl when anyone approaches, not because the bone is worth anything (it may long since have been chewed out), but simply because it is the dog’s possession.

Another reason you will be reluctant to evaluate your own ideas is that their familiarity makes it difficult to see flaws in them. The longer you work on a problem or an issue, the more accustomed you become to its details. And once your effort yields a solution, you may be so enamored of it that you have difficulty seeing it objectively.
OVERCOMING OBSTACLES TO CRITICAL THINKING

This blindness toward imperfections in your ideas will make it tempting to approach criticism of your ideas with, at best, mock analysis followed by a vigorous nod of approval. There are two ways you can safeguard against this mistake. The first is to say to yourself, before you begin to take a critical look at any idea, “I know this idea is going to look good to me and that I am going to feel it’s pointless to look for flaws. That’s natural. I thought of it, so I want it to be perfect. But I’m going to disregard this reaction and force myself to examine it critically.”

The second safeguard is to use your ego to advantage. Whenever you find yourself ready to stop evaluating your idea before you really should, reflect for a moment on how it would feel to have a serious flaw pointed out by someone else, particularly by someone you don’t much care for. Visualize the situation; imagine yourself squirming with embarrassment and awkwardly offering face-saving excuses. Such a mental picture ought to motivate you to continue evaluating your idea.

APPLYING CURIOSITY

We have seen how curiosity increases awareness of problems and issues, enabling you to feel dissatisfactions and annoyances more consciously and to regard them more productively as challenges and opportunities. We have seen, too, that curiosity keeps your mind dynamic and contributes to the playfulness Einstein regarded as “the essential feature of productive thought.” That same curiosity is also a valuable aid to critical thinking.

Perhaps you’ve had the experience of adding up a column of figures and getting the same answer—the wrong answer—again and again. Psychologists have long recognized that when we travel a particular mental route a second or third time, we often follow our earlier footsteps without realizing that we are doing so. That’s what happened when you added up those figures. You had the impression that each new total was fresh and independent. In reality, though, you were trapped by your initial miscalculation.

That same kind of mistake can occur when you examine your ideas critically. You can look at an idea again and again and still not see its flaws. To be effective, you need to examine the idea from different perspectives. That’s where curiosity comes in. By approaching criticism inquisitively—asking “How will my idea work when it is applied?” and “How will others react to it?”—you will increase your chances of finding the imperfections and complications that need to be addressed.

AVOIDING ASSUMPTIONS

To assume is to take something for granted, to expect that things will be a certain way because they have been that way in the past or because you want them to be that way. It’s natural to make assumptions. Everyone makes them continually.
You assume, for example, that your professor will be in class when class is scheduled, that the cafeteria will not serve lunch two hours early, that your car is safe from vandalism in the college parking lot, that the bank that has always cashed your checks will continue to do so, and that the elevator is really going up when the indicator says it is. Making such assumptions is reasonable, even if on occasion they prove to be incorrect.

Nevertheless, it is important to be careful about what you assume. And when you are evaluating and refining your ideas, you should make a special effort to identify assumptions you may not have detected previously. The reason is not only that unexpected outcomes can cause you embarrassment but also, and more importantly, that what you take for granted you will not examine critically. Assumptions obstruct the evaluation process.

It would be impossible to list all the assumptions it is possible to make. However, the following assumptions occur often enough, and interfere with critical thinking seriously enough, to warrant special mention.

1. The assumption that others familiar with the problem or issue will share your enthusiasm for your ideas. Although this might seem to be a reasonable expectation, it seldom is. The more familiar people are with a problem or issue, the more likely they are to have their own ideas.

2. The assumption that small imperfections in your idea will not affect people’s acceptance of it. When other people’s ideas differ from yours, they are likely to magnify flaws in your ideas without even realizing it because, subconsciously, they are looking for an excuse to reject your ideas. Small imperfections may provide that excuse.

3. The assumption that if your idea is clear to you, it will be clear to others. If you’ve ever sat in a classroom and heard a teacher offer an explanation that didn’t make the slightest sense to you, you should appreciate the confusion this assumption can cause. Your understanding of what you are expressing does not constitute clarity. If you want the solution and its presentation to be clear, you must construct it to be so and not just assume that it is.

4. The assumption that the people who stand to benefit most from your idea will accept it automatically without any persuasion on your part. This assumption has caused creative people incalculable grief. For example, when Elias Howe invented the sewing machine, he knew it would be a boon to the garment industry by revolutionizing garment construction and making the clothing business much more profitable. He may very well have assumed that the mere unveiling of his invention would be sufficient to have the leaders of that industry praise it and him. But reality didn’t match that assumption. Howe couldn’t get a single American firm interested enough to buy the machine. He was forced to go to England to find a favorable reception. To spare yourself disappointment, never assume that the value of your ideas will be universally recognized. Expect to have to persuade other people.
REFINING YOUR SOLUTIONS TO PROBLEMS

Refining your solutions means making good ideas even better—that is, making the results of your creative thinking more effective, more workable, more attractive. Although much of what you will be doing in this stage is finding flaws and complications, the emphasis is not negative but positive. Your aim is to improve your ideas.

Not every idea, of course, requires refinement. With the problem of the string that slips out of your sweatpants, for example, there is little or no need for refinement and no need to present the solution for others’ approval. Once you have decided on a solution, you can just implement it. Most of the important problems and issues you will encounter, however, are more demanding.

Later chapters will develop the refinement and presentation of ideas more fully. The basic approach that follows will enable you to begin using these steps and developing skill in applying them even while you are studying each in greater depth. The approach consists of asking and answering these four questions.

1. How exactly will your solution be applied? List all steps and all important details.
2. What difficulties could arise in its implementation, and how would these best be overcome?
3. What reasons might others find for opposing this solution? What modifications could you make to overcome their opposition?
4. Who, specifically, will have to be persuaded of the merit of your solution? What kind of presentation would be most likely to persuade them?

A SAMPLE PROBLEM

The following problem was included in Chapter 9’s applications.

You are the editor of the college newspaper. Your staff consists of two other people who limit their work to a few hours a week. To get the paper out each week, you’ve had to spend many more hours than your course load permits. On several occasions, you’ve stayed up all night and slept through the next morning’s classes. You’ve tried putting ads in the paper to get more staff members, but no one answers them.

Let’s say you identified the problem as “How to reward students for joining the staff.” (This is one good expression of the problem, though not, of course, the only one.) Let’s say further that after investigating the problem and producing a number of possible solutions, you chose giving some form of college credit
to those who work on the paper as the best one. You’d apply the critical approach as follows.

1. How exactly will your solution be applied?
Here you’d have to decide and list the requirements for obtaining credit for the work. You’d also have to decide which department(s) would grant credit, how much credit would be granted, and whether it would be elective credit or would fulfill some course requirement.

2. What difficulties could arise in its implementation, and how would these best be overcome?
The most obvious difficulty would involve course requirements and the evaluation of student performance. Who would teach the course? Where? (In a classroom? In the newspaper office?) How could one, two, or three time periods per week satisfy the demands of producing the paper? How would the instructor evaluate performance? Would the editor have to meet a different standard than a reporter or a layout person? If so, how would the registrar clarify on each student’s transcript what standard was met? These and other questions would have to be raised and answered satisfactorily.

3. Why might others resist this solution? What modifications could you make to overcome this resistance?
Here you’d consider such reasons as the inappropriateness of the new course to any curriculum on campus (if the campus did not offer a journalism major), the lack of journalistic expertise among most campus faculty, and the possible course overload the solution would represent for faculty. You would also have to consider the reality that faculty do not look kindly on anyone suggesting what they should (or should not) be teaching in their courses.

In light of all these considerations, you might modify your idea as follows: Instead of establishing a special course for newspaper staff members, you would recommend that certain existing courses give staff extra credit for working on the newspaper. For example, reporters might receive extra credit in an English course, layout staff in a graphic arts course, and editors in a business course.

4. Whom would you have to persuade of the solution’s value? What kind of presentation would be most likely to persuade them?
You’d surely have to persuade the individual faculty members who teach the related courses.

REFINING YOUR POSITIONS ON ISSUES

We noted earlier that though the terms problem and issue both refer to disagreeable situations that challenge our ingenuity, an issue also tends to divide people into opposing camps, each sure that it is right and the opposition wrong. We noted, too, that whereas the aim of problem solving is to find the best course of
action, the aim of issue resolving is to find the most reasonable belief, and so we express problems and issues differently and produce different kinds of ideas for each.

Now we will consider another difference. Your approach to refining your positions on issues is to decide not whether the idea works but whether it meets the tests of logic. Thus you must take the following steps.

1. State your argument. That is, state the belief you have decided to be most reasonable concerning the issue, and give your reasons for so deciding.

2. Examine your evidence for relevance, comprehensiveness, and reliability.

3. Examine your argument for flaws in reasoning—for example, oversimplification or contradiction.

In cases where your aim is solely to form a reasonable belief and not to take any action about it, this approach will constitute refinement of the issue. However, in cases in which you wish not only to establish what belief is most reasonable but also to take action on that belief, you will next answer questions quite similar to those used for refining solutions to problems, questions designed to plan a course of action and then to evaluate it critically. Here are those questions.

What action do you recommend be taken, and how exactly will it be taken? List all steps and important details.

What difficulties could arise in taking this action, and how would they best be overcome?

To see how this approach works, let’s consider a sample issue.

A SAMPLE ISSUE

Let’s say that you are addressing the matter of the United States giving monetary aid to foreign governments that victimize their citizens and deny them their human rights and that you have expressed the main issue as “Is it morally right for the U.S. government to provide such aid?” (Note: In Chapter 8, you addressed the larger issue of which this is a part.) Let’s also say that your argument is as follows.

It is morally wrong for the U.S. government to provide monetary aid to foreign governments that victimize their citizens and deny them their human rights because the United States is a democracy and holds that government exists for the good of the people and that the people are “endowed with certain unalienable rights.” To support tyranny in this way, while preaching human rights, is hypocritical.

Next, you examine your argument for reasonableness and find only one serious flaw: the unwarranted assumption that giving monetary aid to such countries is necessarily supporting tyranny and therefore is hypocritical. On
reflection, you decide that if the money actually assists needy people, giving it would represent the lesser of two evils and therefore a moral course of action. You modify your argument, replacing the last sentence with this one: “Giving monetary aid in such circumstances is justifiable only if the people would be worse off without it and no other effective way to help them can be found.”

Taking Action on the Issue
Recognizing that your argument is a challenge to find a better approach than giving money to corrupt governments, you proceed with your critical thinking as follows:

What action do you recommend be taken, and how exactly will it be taken?

Let’s say that the action you choose is to give aid in the form of technological education and employment opportunities, with the stipulation that the governments end all victimization of the people. You would then detail the kinds of technological education and employment opportunities you have in mind. You would also decide whether the teachers and employers will be sponsored by our government, by private enterprise, or by a combination of the two. Finally, you’d detail any special employment conditions, including wages and benefits.

What difficulties could arise in taking this action, and how would they best be overcome?

The most obvious difficulty would be policing the country’s government—deciding how to ensure that it would end human rights violations. (This problem could be overcome by having a UN task force monitor the situation.) Another difficulty would be preventing the corrupt officials from using your plan in a manner you do not intend, such as by taking advantage of the new cheap labor for their own financial gain. (This difficulty could be overcome by the establishment of profit-sharing plans and cooperatives so that the people would enjoy the fruits of their labor.)

One final suggestion: If you ever become discouraged about imperfections and complications in your work—if you are inclined to say, “How can I ever be expected to work out all the flaws I discover? It’s an impossible task!”—try this approach: Treat each significant imperfection or complication as a miniature problem, first finding the best expression, investigating it if necessary, and generating as many possible solutions as you can. Not every issue warrants such meticulous attention, but the more important ones will. And by using a familiar process to address them, you bolster your confidence, overcome discouragement, and stimulate your imagination.
WARM-UP EXERCISES

10.1 Old dishwashing liquid containers (the plastic ones that Dawn, Joy, and Ivory liquid come in) are usually discarded when empty. But perhaps they could be put to some use. Think of as many uses for them as you can.

10.2 A law student hired a tutor to help him with his law studies. He promised to pay for the tutor’s services as soon as he passed his bar exam, set up practice, and won his first case. He subsequently passed the exam and set up practice, but a year passed and he still had not won a case. The tutor grew tired of waiting and sued him for payment. The young lawyer then wrote the tutor a letter and said, “If your suit against me goes to court and I win it, I won’t have to pay you. And if I lose it, I still won’t have to pay you, because the terms of our agreement (my winning my first case) will not have been met.” Do you agree with the young lawyer’s reasoning? Explain thoroughly.

10.3 In the following dialogue, Lily admits she is confused. Perhaps Daisy is, too. Clear up the confusion for them.

DAISY: What is the meaning of life?
LILY: There is no one meaning.
DAISY: There’s got to be. Otherwise, everyone makes his or her own, and that would create chaos.
LILY: No, everyone decides his or her own. Whatever a person says, that’s it.
DAISY: Do you mean if I say the meaning of life is “Eat, drink, and be merry, for tomorrow we die,” that is the meaning of life?
LILY: Yes, for you it is, though maybe not for me.
DAISY: That would mean that no one can be wrong in his or her view. And if that’s the case, why is everyone so concerned about finding the meaning of life?
LILY: I don’t know. That’s always puzzled me.

APPLICATIONS

10.1 In Application 7.5 you applied your creativity to a question concerning the view of romantic love many people have when they enter marriage (see page 137). Refine your best solution to that application, using the approach explained in this chapter.
10.2 In Application 9.3, you applied your creativity to a question concerning the elderly in this country (see page 178). Refine your best solution, using the approach explained in this chapter.

10.3 Since you graduated from high school, you’ve been wondering what single improvement could be made in your school system between kindergarten and twelfth grade that would have the best and most lasting impact on students. Now you’ve come up with the answer: have the students be taught *how to think*, directly and systematically. Now take that idea and refine it.

10.4 You are a Hollywood film producer. You have just been tried in federal court for agreeing to buy five ounces of cocaine. The judge deferred final judgment of your case for a year but put you on probation and offered you this challenge: “If you put your talents to work fighting drug abuse by children, I will wipe your record clean.” You feel remorse for your own drug use and resolve to meet the challenge. Identify and solve this problem; then refine your best solution.

10.5 Michael is very excited. He has just got his first job, delivering newspapers in a residential neighborhood. The only problem is that he has to pass several large dogs on his route, and he has been afraid of dogs for as long as he can remember. Identify and solve Michael’s problem; then refine your best solution.

10.6 Millions of U.S. adults are functionally illiterate. These people cannot decipher a bus, train, or airline schedule; write a letter; or fill out a job application. Such illiteracy is estimated to cost the United States billions of dollars annually in welfare and unemployment payments. With the federal government decreasing its aid to education, that cost is likely to increase. Apply your creative and critical thinking to this problem as you did in previous applications.

10.7 The “don’t ask, don’t tell” policy in the U.S. military was enacted during the Clinton administration to provide a way to gays to serve without directly challenging the long-standing belief that homosexuality is incompatible with military service. President Obama has stated his opposition to that policy and his belief that gays should be allowed to serve openly. His position enjoys considerable public support and it is one that has been adopted in the armed forces of most of our allies. Yet the issue remains controversial. Research the issue, decide which view is most reasonable, and explain your thinking, taking care to anticipate and respond to possible objections.

### ISSUE FOR EXTENDED ANALYSIS

Following is a more comprehensive thinking challenge than the others in the chapter. Analyze and respond to it, following the instructions for extended analysis at the end of Chapter 1. Also, review “The Basis of Moral Judgment” and “Dealing with Dilemmas” in Chapter 2.
THE ISSUE: RELIGION IN SCHOOLS AND PUBLIC PLACES

Hardly a week goes by without some conflict about religion in schools being reported in the news. Many people believe that there is no reason to bar expressions or symbols of religion from public schools. Many others think such expressions and symbols are unconstitutional. Even the U.S. Supreme Court is divided on the issue, so it is understandable that many other Americans aren’t sure what to think.

THE ESSAYS

Welcome Religion in Public Schools  
By Bernard Hoffman

It’s astounding that the same liberal establishment that is forever chanting odes to multiculturalism, diversity, tolerance, and inclusion is fanatical about banning any hint of religion from the public schools. Any hint of traditional Jewish or Christian religion, that is. (Buddhism, Wicca, and Santeria would probably pass muster.)

Liberals believe it is acceptable for students to dress in the costumes, sample the food, and even perform the various rituals of distant cultures but unacceptable for them to practice their own beliefs. Similarly, that it’s fine for students to master the art of putting a condom on a cucumber and to memorize every last position specified in the Kama Sutra but not to learn the biblical perspective on sexuality. There’s a word for such folderol: insanity.

One argument against the mention of religion in schools is that it is a divisive subject. That’s phoney. There are dramatic differences of viewpoint in sociology, psychology, economics, history, and many other subjects, but we don’t call those subjects divisive and we don’t ban them from the schoolhouse. Besides, as attorney Jay Sekulow points out, federal courts begin the day with the

Keep Religion Out of School  
By Lisa Stepanowsky

The most sensible position on the issue of religion and public schools is to keep it out. That means no prayers, no Bible readings, no devotions, no after-school religious clubs. Not even a “moment of silence” at the beginning of the day—that is, after all, just religious exercise in disguise. Permitting it is like letting the proverbial camel’s nose into the tent—before you know it, the whole camel is in.

Why is this the most sensible position on the issue? First, government and religion don’t mix. That is why the Constitution forbids the “establishment” of religion. Second, religion causes dissension. Religious people can’t even agree among themselves about who or what God is or the right way to worship. Back in the days when the “Our Father” was still being read in schools, Catholics and Protestants were at war over whose version should be used, and Jews were offended by both versions.

Finally, having religion in the schools is stressful for nonbelieving students. Conservative Christians argue that nonbelievers can simply stand or sit silently while others are praying, but this reasoning is specious. When school authorities permit religious expression, they are in effect endorsing it and leaving nonbelieving
words “God save the United States and this Honorable Court,” the Ten Commandments are displayed in U.S. Supreme Court, and the world hasn’t ended as a result.

Another argument is that every religion has its own scriptures and no one should be given preference over the others. OK, so don’t single out any one—let all be represented. Post the Ten Commandments alongside the Code of Hammurabi and whatever others there are. Display the Hebrew Scriptures, the New Testament, and the Koran. Problem solved.

To ask students to leave their religious beliefs at the schoolhouse door is like asking them to leave their minds and hearts there. That is a violation of common sense and their constitutional rights.

**CLASS DISCUSSION**

**ED:** It seems to me that students should be encouraged to express their deepest and most important thoughts, including their religious beliefs.

**NORMAN:** The problem is that students express their religious beliefs in a sectarian way. And the schools have to be nonsectarian.

**ED:** When students express their views about UFOs, the Iraq War, the campus dress code, or any other controversial matter, they are being sectarian—that is, partisan. So why should they be held to a nonpartisan standard when they speak about religion?

**NORMAN:** Because religion is about faith rather than reason.

**ED:** The faith/reason distinction is bogus. Reasoning is involved in matters of faith—theological research depends no less on reasoning than does any other research. By the same token, faith is involved in reason—every act of reasoning involves the assumption that careful, logical thinking makes a difference.

**NORMAN:** For me, Stepanowsky’s reference to Jesus’ admonition to pray in secret is the most telling argument against religion.
in the schools. A related fact is that whenever the Gospels mention Jesus praying, they say he went off by himself. In other words, he opposed public prayer by his words and his personal example.

ED: That Scripture quote was taken out of context. Jesus was just admonishing his followers not to be hypocrites and make a big show of their piety. And the fact that he is described as praying in private tells us nothing about whether he also prayed in public.