1 Driving Blindfolded

Cavan Images/Getty Images

Students will learn to . . .

1. **Define critical thinking**
2. **Explain the role of beliefs and claims in critical thinking**
3. **Identify issues in real-world situations**
4. **Recognize an argument**
5. **Define and identify the common cognitive biases that affect critical thinking**
6. **Understand the terms "truth" and "knowledge" as used in this book**

"What gets us into trouble is not what we don't know. It's what we know for sure that just ain't so."

—Not by Mark Twain, apparently

For a while there, the Bird Box challenge was providing lots of great examples of poor critical thinking. In case you forgot (or never knew in the first place), the Bird Box challenge came from the movie *Bird Box,* in which Sandra Bullock and others must wear blindfolds when outside, to protect them from a force that makes people kill themselves. The challenge went viral and people had friends video them doing all sorts of things while blindfolded. One teenager in Utah attempted to drive blindfolded and crashed into another vehicle. Police reminded people not to wear a blindfold when they were driving.*

This book is about critical thinking. We are going out on a limb here, but we bet you don't need this book to avoid driving blindfolded. If you do drive that way, the book may not help you.

So what is critical thinking? Almost everyone would agree, driving blindfolded is *not* thinking critically—but what exactly *is* critical thinking? Why do people say it is so important?

Yes, critical thinking involves considering the possible outcomes of an action, such as what might happen if you drive down this street blindfolded. But it involves more. Speaking generally, just thinking and doing stuff doesn't amount to thinking critically. Critical thinking kicks in when we *evaluate* beliefs and actions—when we *critique* them. *Critical thinking is thinking that critiques.* To critique something is to evaluate it according to standards of some sort. So you can think critically about anything it makes sense to evaluate according to standards. Among the most important things you can critique—and what we are concerned with in this book—is *reasoning,* the thinking that comes into play when we form opinions, make judgments, arrive at decisions, develop plans, come to conclusions, offer hypotheses, and the like. So for our purposes, *critical thinking is reasoning evaluation.* We engage in it when we consider whether reasoning, broadly construed, passes muster by the standards of logic and good sense.

If you are a student at a college or university, chances are your *instructor* will think critically about the work you turn in. He or she will offer critical commentary on what you submit. If you want to think critically, you have to do this yourself to your own work. Try to leave your instructor with nothing to say except, "Good job!"

It can be the same in the workplace or in the military. You might perhaps be asked to solve a problem or troubleshoot a situation or come up with a recommendation, or any number of other things that involve arriving at conclusions. Your colleagues or friends or supervisors may give you feedback or commentary. They are thinking critically about your reasoning.

Of course, if you are so brilliant that you never err in your thinking, then you may not need feedback from others. Unfortunately, there is evidence that people who think they are experts are more likely to believe they know things they don't really know.* Anyway, almost everyone makes mistakes. We overlook important considerations, ignore viewpoints that conflict with our own, or in other ways don't think as clearly as we might. Most of us benefit from a little critical commentary, and this includes commentary that comes from ourselves. The chances of reaching defensible conclusions improve if we don't simply conclude willy-nilly, but reflect on our reasoning and try to make certain it is sound.

Being able to think critically can be useful in another way. Others try to influence what we think and do. There is much to be said for being able to critically evaluate a sales pitch, whether it comes from a stranger or a friend, or is about kitchen gadgets or for whom to vote for president. Critical thinking helps us recognize a scam when we see it.

Some educators equate critical thinking with problem solving or innovative thinking ("thinking outside the box"). This is fine, though at a certain point proposed solutions and possible innovations have to be tested. That's where critical thinking comes in.

This is a book in *critical* thinking because it offers guidance about *critiquing* thinking. The book and the course you are using it in, if you are, explain the minimum criteria of good reasoning—the requirements a piece of reasoning must meet if it is worth paying attention to, *no matter what the context*. Along the way we will explore the most common and important obstacles to good reasoning, as well as some of the most common mistakes people make when coming to conclusions. Other courses you take offer refinements. In them you will learn what considerations are important from the perspective of individual disciplines. But in no course anywhere, at least in no course that involves arriving at conclusions, will thinking that violates the standards set forth in this book be accepted.

If it does nothing else, what you read here and learn in your critical thinking course should help you avoid at least a few of the more egregious common errors people make when they reason. If you would have otherwise made these mistakes, you will have become smarter. Not smarter in some particular subject, mind you, but smarter in general. The things you learn from this book (and from the course you may be reading it for) apply to nearly any subject people can talk or think or write about.

> Critical thinking is thinking that critiques. In this book we critique *reasoning,* broadly construed—the thinking used in arriving at decisions, developing plans, coming to conclusions, offering hypotheses, coming up with solutions, and so forth.

To a certain extent, questions we should ask when critiquing our own—or someone else's—thinking depend on what is at issue. Deciding whom to vote for, whether to buy a house, whether a mathematical proof is sound, which toothpaste to buy, or what kind of dog to get involve different considerations. In all cases, however, we should want to avoid making or accepting weak and invalid arguments. We should also avoid being distracted by irrelevancies or ruled by emotion, succumbing to fallacies or bias, and being influenced by dubious authority or half-baked speculation. These are not the only criteria by which reasoning might be evaluated, but they are central and important, and they provide the main focus of this book.

Critical Thinking, the Long Version

The Collegiate Learning Assessment (CLA) Project of the Council for Aid to Education has come up with a list of skills that covers almost everything your authors believe is important in critical thinking. If you achieve mastery over all these or even a significant majority of them, you'll be well ahead of most of your peers—and your fellow citizens. In question form, here is what the council came up with:

How well does the student

- determine what information is or is not pertinent;
- distinguish between rational claims and emotional ones;
- separate fact from opinion;
- recognize the ways in which evidence might be limited or compromised;
- spot deception and holes in the arguments of others;
- present his/her own analysis of the data or information;
- recognize logical flaws in arguments;
- draw connections between discrete sources of data and information;
- attend to contradictory, inadequate, or ambiguous information;
- construct cogent arguments rooted in data rather than opinion;
- select the strongest set of supporting data;
- avoid overstated conclusions;
- identify holes in the evidence and suggest additional information to collect;
- recognize that a problem may have no clear answer or single solution;
- propose other options and weigh them in the decision;
- consider all stakeholders or affected parties in suggesting a course of action;
- articulate the argument and the context for that argument;
- correctly and precisely use evidence to defend the argument;
- logically and cohesively organize the argument;
- avoid extraneous elements in an argument's development;

- present evidence in an order that contributes to a persuasive argument?

www.aacu.org/peerreview/pr_sp07_analysis1.cfm.

Judges on *So You Think You Can Dance* critique the singers on the show, but this book is mainly about how to critique reasoning.

FOX Image Collection/Getty Images

BELIEFS AND CLAIMS

Why bother thinking critically? The ultimate objective in thinking critically is to come to conclusions that are correct and to make decisions that are wise. Because our decisions reflect our conclusions, we can simplify things by saying that *the purpose of thinking critically is to come to correct conclusions.* The method used to achieve this objective is to evaluate our thinking by the standards of rationality. Of course, we can also evaluate someone else's thinking, though the objective there might simply be to help the person.

When we come to a conclusion, we have a belief. Concluding involves believing. If you *conclude* that the battery is dead, you *believe* that the battery is dead. Keeping this in mind, let's define a few key terms.

A belief is, obviously, something you believe. It is important to understand that a belief is *propositional,* which means it can be expressed in a declarative sentence—a sentence that is either true or false. A good bit of muddleheaded thinking can be avoided if you understand that beliefs are propositional entities, but more on this later.

As we use these words, *beliefs* are the same as *judgments* and *opinions.* When we express a belief (or judgment or opinion) in a declarative sentence, the result is a *statement* or *claim* or *assertion,* and for our purposes these are the same thing. Claims can be used for other purposes than to state beliefs, but this is the use we're primarily concerned with.

Beliefs and claims are *propositional:* they can be expressed in true-or-false declarative sentences.

Objective Claims and Subjective Judgments

Before we say something more about conclusions, we should make a distinction between objective claims and subjective judgments. An **objective claim** has this characteristic: Whether it is true or false is independent of whether you or anyone else thinks it is true or false. "There is life on Mars" is thus an objective claim, because whether or not life exists there doesn't depend on whether you (or anyone else) thinks it does. If you (or anyone else) suddenly believes there is life on Mars, that doesn't mean that suddenly there would be life on Mars. Likewise, "God exists" is an objective claim because whether it is true doesn't depend on what you (or anyone else) thinks.

Although objective claims are either true or false, we may not know which a given claim is. "Portland, Oregon, is closer to the North Pole than to the equator" is true. "Portland, Oregon, is closer to the equator than to the North Pole" is false. "More stamp collectors live in Portland, Oregon, than in Portland, Maine" is an objective claim whose truth or falsity is not known, at least not by us.

Maybe he should have read this book?

Brilliant Eagle/Alamy Stock Photo

Not every declarative sentence expresses an objective claim, of course. “Bruno Mars has swag” is not objective, for it lacks the characteristic mentioned previously. That is, whether or not someone has swag *does* depend on whether you think he does. If nobody thinks Bruno Mars has swag, then he doesn’t. If Parker thinks he does and Moore doesn’t, you will say that Parker and Moore are each entitled to their opinions. Whether someone has swag is in the eyes of the beholder.

Judgments like “Bruno Mars has swag” are **subjective.** Whether a subjective judgment is true or false is *not* independent of whether you think it is true or false. On the contrary, a subjective judgment about something is true if you think it is true. Examples of subjective claims would be judgments of taste, such as “Rice vinegar is too sweet.” Is rice vinegar too sweet? It depends on what you think. Some kinds of comparisons also are subjective. Is snowboarding more fun than skiing? Again, it depends on what you think, and there is no further “truth” to consider. However, many statements contain both objective and nonobjective elements, as in “Somebody stole our nifty concrete lawn duck.” Whether the lawn duck is *concrete* is an objective question; whether it is *our* lawn duck is an objective question; and whether it was *stolen* is an objective question. But whether the stolen concrete lawn duck is *nifty* is a subjective question.

Here is an important point. If you think a subjective judgment is true, you can’t be mistaken. If Parker thinks that the tomato he is eating tastes great, his judgment “this tastes great,” as made by him, cannot be incorrect. If Parker says, “this tomato tastes great but I might be wrong about that,” we wouldn’t understand him.

Let’s take an extreme case. Parker peels a lemon, takes a bite, and says, “This tastes sweet.” Let’s assume for the moment that nobody else on the planet would agree that this lemon tastes sweet. Would that mean that Parker’s judgment is incorrect? Not at all. It would just mean that what Parker finds sweet is very odd, not that Parker is mistaken.

Because a subjective judgment cannot be mistaken, it makes no sense to think of it as probable or likely, or improbable or unlikely. If Parker says of the tomato he is eating, “this probably tastes great,” or “this tastes great but there is a chance I am mistaken,” or “it isn’t very likely that this tastes great,” we wouldn’t know what to make of his remark.

Finally, because a subjective judgment cannot be viewed as probably true or as probably false, it isn’t the sort of thing that can be thought of as supportable by evidence. Evidence is something that raises the probability a claim is true. Subjective judgments are not susceptible to varying degrees of probability. If it makes no sense to think of a remark as probable to a greater or lesser extent, then it makes no sense to think of it as something for which evidence as to its probable truth might be produced. If Parker says that the tomato he is eating tastes great, we might ask him what makes him think that, but if we press him for *evidence* he wouldn’t know how to respond. He might have *reasons* for thinking that the tomato he is eating tastes great. He might say, for example, that it tastes great because it isn’t bitter. But that is not *evidence* that it tastes great. It is an explanation of *why* he thinks it tastes great. Parker is telling us what *causes* him to think that the tomato tastes great.

Of course, as a *practical matter,* many *objective* claims also cannot be supported by evidence. Is there life beneath the surface of the rocky planet that circles Proxima Centauri? We currently cannot obtain evidence that bears on the question. But when it comes to Parker’s judgment that the tomato he is eating tastes great, it’s not that he cannot presently provide evidence of its truth, it’s that it makes no sense to even think of providing evidence of its truth.

However—and this is worth highlighting—the fact that subjective judgments cannot be mistaken, are not subject to probability quantifications, and are not the sort of thing for which evidence could be given, should not be invoked to dismiss any particular statement as unworthy of discussion. In the first place, it isn’t always clear whether a given remark actually is a subjective judgment. As we shall see, for example, moral judgments might not be subjective despite widespread belief and initial appearances that they are. Further, even if someone’s judgment about something unquestionably is subjective, we might learn something from hearing why the individual thinks as he or she does. We might find our own

opinion about *The Simpsons* improved by listening to a friend explain her reasons for thinking it is a great TV series. If somebody tells you a certain outfit you are wearing doesn't look good on you, you might benefit from hearing his or her explanation why he or she thinks that.* Is the case before the Supreme Court analogous to the case the Solicitor General cites as a precedent? Members of the Court and other legal scholars may disagree, but it would be ridiculous to brush off the question as "just subjective." In our opinion, few claims fall into the category of automatically not worth discussing. Offhand, the only claims we can think of that might qualify are nonsense claims, like "weirdness is fattening."

The point is not to employ the objective/subjective distinction to stifle inquiry or discussion.

Fact and Opinion

Sometimes people talk about the difference between "fact" and "opinion," having in mind the notion that *all* opinions are subjective judgments. But some opinions are not subjective judgments, because their truth or falsity is independent of what people think. Again, in this book "opinion" is just another word for "belief." If you believe that Portland, Oregon, is closer to the North Pole than to the equator, that opinion happens to be true, and would continue to be true even if you change your mind. You can refer to objective opinions as *factual* opinions or beliefs, if you want—*but that doesn't mean factual opinions are all true*. "Portland, Oregon, is closer to the equator than to the North Pole" is a factual opinion that is false.

A factual opinion/belief/claim = an objective opinion/belief/claim = an opinion/belief/claim whose truth is independent of whether anyone thinks it is true.

Thinking About Thinking

Remember, an *objective* statement is not made true by someone thinking it is true. "Wait a minute," you might say. "Isn't the statement 'Joanie is thinking about Frank' made true by her thinking that it is true?" The answer is no! It is made true by her *thinking about Frank*.

Relativism

Relativism is the idea that truth is relative to the standards of a given culture. More precisely, relativism holds that if your culture and some other culture have different standards of truth or evidence, there is no independent "God's-eye view" by which one culture's standards can be seen to be more correct than the others.

Whatever may be said of this as an abstract philosophical doctrine, it cannot possibly mean that an objective statement could be made true by a culture's thinking that it is true. If it is universally believed in some culture that "water" is not H_2O, then either the people in that culture are mistaken or their word "water" does not refer to water.

Moral Subjectivism

Moral subjectivism is the idea that moral opinions, such as "Bullfighting is morally wrong" or "Jason shouldn't lie to his parents," are subjective judgments. It is the idea, in other words, that if you think bullfighting is morally wrong, then it is morally wrong for you and you don't need to consider any further truth. It is the idea expressed by Hamlet in the famous passage, "There is nothing either good or bad, but that thinking makes it so."

You should be wary of Hamlet's dictum. Ask yourself this: If someone actually believes there is nothing wrong with torturing donkeys or stoning women to death for adultery, would you say, well, if that's what he thinks, then it's fine for him to torture donkeys or stone women to death? Of course you wouldn't. Those ideas can't be made true by thinking they are true anymore than drinking battery acid can be made good for you by thinking it is.

ISSUES

An **issue,** as we employ that concept in this book, is simply a question. Is Moore taller than Parker? When we ask that question, we raise the issue as to *whether* Moore is taller than Parker. To put it differently, we are considering whether the claim "Moore is taller than Parker" is true. Let us note in passing that as with claims, some issues are objective. Is Moore taller than Parker? Whether he is or isn't doesn't depend on whether we think he is, so this is an objective issue (question).

Other issues, such as whether P. Diddy dresses well, are subjective, in the sense explained previously.

The first order of business when it comes to thinking critically about an issue is to determine what, exactly, the issue *is.* Unfortunately, in many real-life situations, it is difficult to identify exactly what the issue is—meaning it is difficult to identify exactly what claim is in question. This happens for lots of reasons, from purposeful obfuscation to ambiguous terminology to plain muddleheaded thinking. In his inaugural address, President Warren G. Harding said,

> We have mistaken unpreparedness to embrace it to be a challenge of the reality and due concern for making all citizens fit for participation will give added strength of citizenship and magnify our achievement.

This is formidable. Do you understand what issue Harding is addressing? Neither does anyone else, because his statement is perfectly meaningless. (American satirist H. L. Mencken described it as a "sonorous nonsense driven home with gestures."*) Understanding what is meant by a claim has so many aspects that we'll devote a large part of Chapter 3 to the subject.

However, if you have absolutely no clue as to what an issue actually is, there isn't much point in considering it further—you don't know what "it" is. There also isn't much point in considering it further if you have no idea as to what would count toward settling it. For example, suppose someone asks, "Is there an identical you in a different dimension?" What sort of evidence would support saying either there is or isn't? Nobody has any idea. (Almost any question about different "dimensions" or "planes" or "universes" would be apt to suffer from the same problem unless, possibly, it were to be raised from someone well educated in physics who used those concepts in a technical way.) "Is everything really one?" would also qualify as something you couldn't begin to settle, as would wondering if "the entire universe was created instantly five minutes ago with all false memories and fictitious records."**

Obscure issues aren't always as metaphysical as the preceding examples. Listen carefully and you may hear more than one politician say something like, "It is human nature to desire freedom." Oh, really? This sounds good, but if you look at it closely it's hard to know exactly what sort of data would support the remark.

This isn't to imply that only issues that can be settled through scientific test or via the experimental method are worth considering. Moral issues cannot be settled in that way, for example. Mathematical and historical questions are not answered by experiment, and neither are important philosophical questions. Does God exist? Is there free will? What difference does it make if he does or doesn't or there is or isn't? Legal questions, questions of aesthetics—the list of important questions not subject to purely scientific resolution is very long. The point here is merely that if a question is to be taken seriously, or if you want others to take it seriously, or if you want others who can think critically to take it seriously, you must have *some* idea as to what considerations bear on the answer.

ARGUMENTS

In our experience, lots of college students seriously contemplate getting a dog or cat. But they are conflicted. On the one hand, it would be sweet to have a nice pet; but on the other, it would be extra work and cost money, and they aren't sure what to do with the animal if they take a trip.

If you are such a student, you weigh the arguments pro and con. An **argument** presents a consideration for accepting a claim. For example, this is an argument:

> A dog would keep me company; so I should get one.

Are You Good at Reasoning?

Are you the kind of person who reasons well? Some people are. Unfortunately, maybe people who *aren't* very good at reasoning are the most likely to overestimate their reasoning ability.*

*See Justin Kruger and David Dunning, "Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments," *Psychology* 1 (2009): 30–46.

And so is this:

> My landlord will raise my rent; so I shouldn't get one.

The first example is an argument for getting a dog. The second is an argument for not getting one.

As you can see from these two examples, an argument consists of two parts. One part gives a reason for accepting the other part. The part that provides the reason is called the **premise** of the argument,* though an argument may have more than one premise. The other part is called the conclusion. The **conclusion** of an argument is what the premise supposedly supports or demonstrates.

You should always think of the conclusion of an argument as stating a position on an issue, and of the premise or premises as giving reasons for taking that position.

Want an example? Look at the two arguments previously shown. They both address the issue of *whether I should get a dog.* The premise of the first example ("A dog would keep me company") gives a reason for saying I *should* get a dog. The premise of the second example ("My landlord will raise my rent") gives a reason for saying I *should not* get a dog.

What does this have to do with critical thinking? Everything. You want to make the best decision on an important issue—in this case, whether to get a dog. You evaluate the arguments pro and con. Being able to do this intelligently may not be the sum total of critical thinking, but it is an essential part of it.

A large part of this book is devoted to understanding how to evaluate arguments, and all this will begin in Chapter 2. However, right now, two minor points about arguments are worth noticing:

1. The two arguments given as examples are not very long or complicated. Some arguments can be very long and complicated. Einstein's revolutionary theory that $E = mc^2$ was based on complex mathematical reasoning, and that reasoning was his argument for saying that $E = mc^2$.
2. Not every issue requires an argument for resolution. Is your throat sore? You can just tell directly, and no argument is necessary.

We will now offer you a few exercises to help you understand these fundamental concepts. In the next section we will look at psychological factors that impede clear thought.