

7

Supporting Your Ideas



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A confirmed believer in holistic medicine, Danielle Ashman decided to give her first classroom speech on the uses and benefits of aromatherapy. Part of her speech ran like this:

"All of us suffer from things like colds, headaches, nausea, and stress. How would you like to cure these problems without expensive pills or visits to the doctor? Well, you can with aromatherapy. Aromatherapy has been proven to treat many common ailments, and it works great for me. More than any pill you can buy, aromatherapy just works. You should try it!"

After the speech, Danielle's classmates were polite but skeptical. As one remarked, "Danielle made some interesting points, but she's no doctor. I'd be more convinced if she had some medical evidence to back up her opinion."

Good speeches are not composed of hot air and generalizations. They need strong supporting materials to bolster the speaker's point of view. In Danielle's case, there is evidence that aromatherapy may help in treating some ailments, but most of the claims about its health benefits have yet to be verified by research. So Danielle's listeners were right to be skeptical about her vague, unsupported generalizations.

The problem with generalizations is that they don't answer the three questions listeners always ask of a speaker: "What do you mean?" "Why should I believe you?" "So what?" Consider, for example, the following statements:

General

Childhood obesity is a serious problem in the United States.

Less General

The incidence of childhood obesity is now so high as to endanger the health of a whole generation of Americans.

Specific

At least 15 percent of American children are obese—more than twice the percentage only 25 years ago. The Department of Health and Social Services estimates that in the coming decades obesity will decrease life expectancy in the U.S. by two to five years.

supporting materials

The materials used to support a speaker's ideas. The three major kinds of supporting materials are examples, statistics, and testimony.

Which statement do you find most interesting? Most convincing? Chances are you prefer that in the right-hand column. It is sharp and specific, clear and credible—just what a speech needs to come alive.

The skillful use of supporting materials often makes the difference between a poor speech and a good one. In Chapters 14 and 16, we will look at special uses of supporting materials in informative and persuasive speeches. In this chapter, we focus on the basic kinds of supporting materials—examples, statistics, and testimony—and on general principles for using them effectively and responsibly.

Examples

The attack came after daybreak. The *Delta Ranger*, a cargo ship carrying bauxite, was steaming through the ink-blue Indian Ocean about 200 miles off Somalia's coast. A crewman on the bridge spied two speedboats zooming straight at the port side of his vessel.

Moments later, bullets tore into the bridge, and vapor trails from rocket-propelled grenades streaked across the bow—pirates.

These lines are from the opening of an article in *Smithsonian* magazine about modern-day pirates that prey on international shipping. It illustrates a device well known to magazine writers—and public speakers: Get the audience involved.

See how skillfully this example accomplishes the goal. It gives us a specific incident to focus on (the attack on the *Delta Ranger*). It sets the stage with details of time, place, color, and action. We can almost see ourselves on the bridge of the *Delta Ranger*, watching the pirates' speedboats and hearing their bullets tear into the ship. We would not be nearly as involved if the article had merely said, "Pirates are a growing menace to international shipping."

Research has shown that vivid, concrete examples have strong impact on listeners' beliefs and actions.¹ Without examples, ideas often seem vague, impersonal, and lifeless. With examples, ideas become specific, personal, and lively. This is nowhere better illustrated than in the Bible and the Koran, both of which use all manner of stories, parables, and anecdotes to make abstract principles clear and compelling. There are several kinds of examples you may want to try in your speeches.

BRIEF EXAMPLES

Brief examples—also called specific instances—may be referred to in passing to illustrate a point. The following excerpt uses a brief example to illustrate the miraculous nature of recent advances in creating artificial limbs for accident victims:

Changes in technology have made it possible for doctors to work wonders that once seemed impossible. *Roger Charter, for example, lost both his feet when they were crushed in a truck accident. Now he has new feet—made of a springy plastic alloy that duplicates a normal arch. Not only can Roger walk normally, but he can run and play sports again!*

Another way to use brief examples is to pile them one upon the other until you create the desired impression. Here is how the technique might be used to reinforce the point that Mexican Americans have made many valuable contributions to U.S. life and culture:

Many of us are familiar with prominent Mexican Americans such as actress Eva Longoria, boxer Oscar De La Hoya, and guitarist Carlos Santana. But you may be less familiar with other Americans of Mexican origin who have made important contributions to U.S. society. Nancy Lopez played a crucial role in popularizing women's professional golf and won 48 tour championships. Dr. Ellen Ochoa is an astronaut who has logged more than 480 hours in space and has invented several optical methods that aid space exploration. Dr. Mario Molina won the 1995 Nobel Prize in Chemistry for his research on the formation and decomposition of the ozone layer.

EXTENDED EXAMPLES

Extended examples are often called narratives, illustrations, or anecdotes. By telling a story vividly and dramatically, they pull listeners into the speech. Here is such an example, from a speech by Sun Yan, a student at Fudan University in Shanghai, China. Participating in China's national English-language speech competition, Sun Yan used an extended example to illustrate the spirit of the Olympic Games:

example

A specific case used to illustrate or to represent a group of people, ideas, conditions, experiences, or the like.

brief example

A specific case referred to in passing to illustrate a point.

extended example

A story, narrative, or anecdote developed at some length to illustrate a point.



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View this excerpt from “The Olympic Spirit” in the online Media Library for this chapter (Video Clip 7.1).

In the history of the Olympic Games, there have been many shining stars. Among them was a European girl. With the lapse of time, her name has faded from memory, yet her unbending spirit shall never perish. It was she who highlighted the Olympic Creed.

In the lead though she had been, she stumbled near the terminus and her leg was injured. Competitors passed her from behind in succession until finally only her weak and lonely figure remained on the track. Doctors came and offered to take her away. Yet she refused. With the only strength left in her, she managed to get up and shuffled feebly to the endpoint with drops of blood along her trail.

But cheers broke out. Though she failed in the race, the girl won applause from people all over the world. It was she who elucidated the Olympic creed of participation. It was she who instilled perseverance in our minds.²

This long example captures vividly the courage of the Olympic runner and her personification of the Olympic spirit. The speaker could merely have said, “Olympic athletes often display great fortitude,” but the story makes the point far more vividly.

HYPOTHETICAL EXAMPLES

All the examples presented up to now have been factual; the incidents they refer to really happened. Sometimes, however, speakers will use a hypothetical example—one that describes an imaginary situation. Usually such examples are brief stories that relate a general principle.

Here is how one student used a hypothetical example to illustrate the use of honor codes to reduce cheating:

Imagine this: You’re taking your psychology exam when you notice the student sitting next to you is staring at your answers. You also see his open notebook under his desk. You feel your cheeks redden as you become angry that he may get a high score by cheating while you’ve worked hard to earn your grade. And you feel helpless because you think telling the professor will do nothing.

But now imagine that you attend a school with an honors system. At the beginning of each exam, you sign a statement that says you will not cheat and that you accept the responsibility to report cheating. After the professor hands out the exam, she leaves the room. In this case, you have the power and the duty to report cheaters rather than feel robbed by them.

Such a system has worked elsewhere and it can work at our school. Professor Donald McCabe, president of the Center for Academic Integrity, has surveyed more than 20,000 students at 70 colleges throughout the country, and his research shows that the level of cheating is significantly lower at schools with honor codes than at schools without them.

This hypothetical example is especially effective. The speaker creates a realistic scenario, relates it directly to her listeners, and gets them involved in the speech. In addition, she uses figures from the president of the Center for Academic Integrity to show that honor codes do help reduce the incidence of cheating on college campuses. Whenever you use a hypothetical example, it is a good idea to follow it with statistics or testimony to show that the example is not far-fetched.

TIPS FOR USING EXAMPLES

Use Examples to Clarify Your Ideas

You probably use clarifying examples all the time in everyday conversation. If you were explaining to a friend about different body types, you might say, “Look at Professor Shankar. He’s a typical ectomorph—tall, thin, and bony.”

hypothetical example

An example that describes an imaginary or fictitious situation.



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View this excerpt from “College Cheating: A National Epidemic” in the online Media Library for this chapter (Video Clip 7.2).

Examples are an excellent way to clarify unfamiliar or complex ideas. They put abstract ideas into concrete terms that listeners can easily understand.

This principle works exceptionally well in speeches. Suppose you are talking about suspension bridges. You could give a technical description:

The suspension bridge has a roadway suspended by vertical cables attached to two or more main cables. The main cables are hung on two towers and have their ends anchored in concrete or bedrock.

If your audience were made up of people familiar with structural systems, they might be able to visualize what a suspension bridge looks like. But for listeners lacking this background, you might want to add a simple example:

Two well-known suspension bridges are the Golden Gate Bridge in San Francisco and the Brooklyn Bridge in New York.

Because almost everyone has at least seen a picture of the Golden Gate Bridge or the Brooklyn Bridge, using them as examples clarifies your meaning quickly and effectively.



No matter what the occasion, personal examples are an excellent way to clarify ideas and to build audience interest. To be most effective, they should be delivered sincerely and with strong eye contact.

Use Examples to Reinforce Your Ideas

In a speech titled “Coming Home: The Other Side of War,” one student focused on the incidence of post-traumatic stress disorder among soldiers returning from Iraq. He cited figures from the Department of Veterans Affairs noting that 18 percent of American soldiers in Iraq experience post-traumatic stress disorder. He also explained their most common symptoms, including flashbacks, nightmares, depression, anxiety, alcohol or drug abuse, and a sense of social isolation.

To reinforce his ideas, the speaker cited the example of Robert E. Brown, a Marine from Peru, Indiana, who was part of the first wave of troops deployed to Iraq. He talked of how Brown lost his wife and began drinking heavily after returning home. How he recoiled from loud noises and shunned even his friends and family. How his dreams were filled “with ghastly memories that left him a shadow of the strong, confident man he had once been.”

This example was especially effective. It put the medical facts about post-traumatic stress disorder in vivid, human terms that everyone could understand. When you use such an example, make sure it is representative—that it does not deal with rare or exceptional cases. Your listeners are likely to feel betrayed if they suspect you have chosen an atypical example to prove a general point.

Use Examples to Personalize Your Ideas

People are interested in people. As social psychologist Elliot Aronson explains, “Most people are more deeply influenced by one clear, vivid, personal example than by an abundance of statistical data.”³ Whenever you talk to a general audience (such as your speech class), you can include examples that will add human interest to your speech. So far in this section we have seen a number of



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View this portion of “Coming Home: The Other Side of War” in the online Media Library for this chapter (Video Clip 7.3).

such examples—the heroic Olympic runner, accident victim Roger Charter, and so on. The abstract becomes more meaningful when applied to a person. Which of the following would you be more likely to respond to?

There are many hungry families in our community who could benefit from food donations.

Or:

Let me tell you about Arturo. Arturo is four years old. He has big brown eyes and a mop of black hair and an empty belly. In all his four years on this earth, Arturo has never once enjoyed three square meals in a single day.

Try using examples with human interest in your speeches. You will soon discover why accomplished speakers consider them “the very life of the speech.”⁴

Make Your Examples Vivid and Richly Textured

The richly textured example supplies everyday details that bring the example to life. Recall the example on page 144 of the Olympic runner. The speaker provided us with many details about the runner’s bravery in the face of adverse conditions. The runner stumbles and injures her leg near the end of the race. She is passed by other competitors until she alone is left on the track. Doctors offer to help, but she refuses their assistance and shuffles to the finish line with drops of blood along her trail.

How much less compelling the example would have been if the speaker had merely said:

One Olympic runner courageously completed her race despite being injured and exhausted.

Instead, the details let us *see* the runner as she battles through her pain and misfortune. She is much more likely to stay in our minds than a “brave runner who completed her race.” The more vivid your examples, the more impact they are likely to have on your audience.

Practice Delivery to Enhance Your Extended Examples

An extended example is just like a story or narrative. Its impact depends as much on delivery as on content. Many students have discovered this the hard way. After spending much time and energy developing a splendid example, they have seen it fall flat because they did not make it vivid and gripping for listeners.

Look again at the speaker in Video Clip 7.1. Notice how she uses her voice to increase the impact of her story about the Olympic runner. Like that speaker, you should think of yourself as a storyteller. Don’t rush through your examples as though you were reading the newspaper. Use your voice to get listeners involved. Speak faster here to create a sense of action, slower there to build suspense. Raise your voice in some places; lower it in others. Pause occasionally for dramatic effect.

Most important, maintain eye contact with your audience. The easiest way to ruin a fine example is to read it dully from your notes. As you practice the speech, “talk through” your extended examples without relying on your notes.

Using Examples

Checklist

	YES	NO
1. Do I use examples to clarify my ideas?	<input type="checkbox"/>	<input type="checkbox"/>
2. Do I use examples to reinforce my ideas?	<input type="checkbox"/>	<input type="checkbox"/>
3. Do I use examples to personalize my ideas?	<input type="checkbox"/>	<input type="checkbox"/>
4. Are my examples representative of what they are supposed to illustrate or prove?	<input type="checkbox"/>	<input type="checkbox"/>
5. Do I reinforce my examples with statistics or testimony?	<input type="checkbox"/>	<input type="checkbox"/>
6. Are my extended examples vivid and richly textured?	<input type="checkbox"/>	<input type="checkbox"/>
7. Have I practiced the delivery of my extended examples to give them dramatic effect?	<input type="checkbox"/>	<input type="checkbox"/>



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This checklist is also available in the online Study Tools for this chapter.

By the day of your speech, you should be able to deliver your extended examples as naturally as if you were telling a story to a group of friends.

Statistics

We live in an age of statistics. Day in and day out we are bombarded with a staggering array of numbers: U2 has sold more than 170 million albums; 25 percent of U.S. teenage girls have some form of sexually transmitted disease; Colombia produces 190 million barrels of oil annually; China uses 45 billion pairs of disposable chopsticks each year.

What do all these numbers mean? Most of us would be hard-pressed to say. Yet we feel more secure in our knowledge when we can express it numerically. According to Lord Kelvin, the 19th-century physicist, “When you can measure what you are speaking about, and express it in numbers, you know something about it. But when you cannot measure it, when you cannot express it in numbers, your knowledge is . . . meager and unsatisfactory.” It is this widely shared belief that makes statistics, when used properly, such an effective way to clarify and support ideas.⁵

Like brief examples, statistics are often cited in passing to clarify or strengthen a speaker’s points. The following examples show how two students used statistics in their speeches:

To document the role of community colleges in the U.S. educational system: “According to the *Chronicle of Higher Education*, 45 percent of all undergraduates in America study at a community college.”

To illustrate the growing popularity of organic foods: “According to MSNBC News, sales of organic crops now exceed \$20 billion a year and are increasing 23 percent annually.”

Statistics can also be used in combination to show the magnitude or seriousness of an issue. We find a good instance of this technique in a student presentation on the economic benefits of opening casinos on Native American tribal land. To demonstrate his point that these businesses provide economic

statistics
Numerical data.

benefits to Native Americans and to the surrounding communities, the speaker cited the following figures:

Across the nation, Native American casinos have created more than 100,000 jobs. Four years after a casino opens, employment in the local area has typically increased by 26 percent, and the percentage of working adults who work but are poor has declined by 14 percent. Among some tribes, the decrease in unemployment is truly startling: Among the Ojibwa of Wisconsin, unemployment plummeted from 70 percent to less than 5 percent. Many other tribes have reported similar results.



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View this excerpt from “The Economics of Native-American Casinos” in the online Media Library for this chapter (Video Clip 7.4).

This is a well-supported argument. But what if the speaker had merely said:

Casinos increase employment among Native Americans.

This statement is neither as clear nor as convincing as the one containing statistics. Of course, the audience didn’t remember all the numbers, but the purpose of presenting a series of figures is to create an *overall* impact on listeners. What the audience did recall is that an impressive array of statistics supported the speaker’s position.

UNDERSTANDING STATISTICS

In his classic book *How to Lie with Statistics*, Darrell Huff exploded the notion that numbers don’t lie. Strictly speaking, they don’t. But they can be easily manipulated and distorted. For example, which of the following statements is true?

- Enriched white bread is more nutritious than whole-wheat bread because it contains as much or more protein, calcium, niacin, thiamine, and riboflavin.
- Whole-wheat bread is more nutritious than white bread because it contains seven times the amount of fiber, plus more iron, phosphorus, and potassium.

As you might expect, *both* statements are true. And you might hear either one of them—depending on who is trying to sell you the bread.

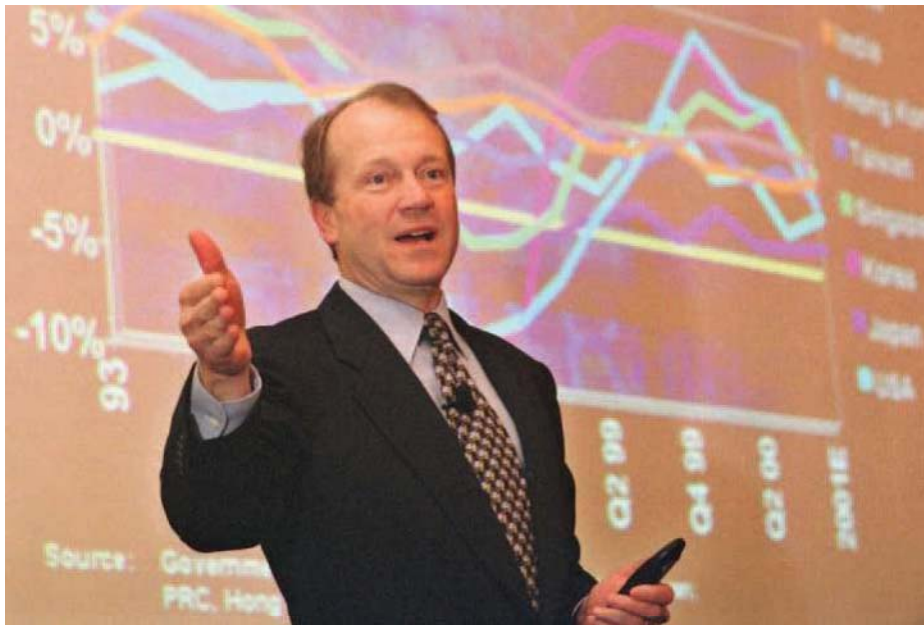
One can play with statistics in all kinds of areas. Which of these statements is true?

- The cheetah, clocked at 70 miles per hour, is the fastest animal in the world.
- The pronghorn antelope, clocked at 61 miles per hour, is the fastest animal in the world.

The cheetah, right? Not necessarily. The cheetah can go faster, but only for short sprints. The antelope can maintain its high speed over a much greater distance. So which is faster? It depends on what you’re measuring. Put in terms of human races, the cheetah would win the hundred-yard dash, but the antelope would win the marathon.

When you are dealing with money, statistics become even trickier. Consider the following facts:

- In 1942 President Franklin D. Roosevelt earned a salary of \$75,000.
- In 1972 President Richard Nixon earned a salary of \$200,000.
- In 2002 President George W. Bush earned a salary of \$400,000.



A speech that is supported by statistics is usually more persuasive than an undocumented presentation. Here John Chambers, CEO of Cisco Systems, uses economic data when addressing the Boston Chamber of Commerce.

Which President was paid the most money? In purely mathematical terms, Bush is the highest earner. But a dollar today does not buy as much as it did in 1942, when Franklin Roosevelt was President. One measure of the inflation rate is the Consumer Price Index, which allows us to gauge the value of the dollar in any given year against its purchasing power in 1972. If we apply the Consumer Price Index to the three Presidents' salaries, we can see how much each earned in 1972 dollars:

- a In 1942 President Franklin D. Roosevelt earned a salary of \$192,000.
- b In 1972 Richard Nixon earned a salary of \$200,000.
- c In 2002 George W. Bush earned a salary of \$92,800.

In other words, although Bush had the highest salary, the value of his \$400,000 was less than half the value of Roosevelt's \$75,000.

The point is that there is usually more to statistics than meets the eye.⁶ When you track down statistics for your speeches, be sure to evaluate them in light of the following questions.

Are the Statistics Representative?

Say that on your way to class you choose ten students at random and ask them whether they favor or oppose banning recreational vehicles on public lands. Say also that six approve of such a ban and four do not. Would you then be accurate in claiming that 60 percent of the students on your campus favor banning recreational vehicles from public lands?

Of course not. Ten students is not a big enough sample. But even if it were, other problems would arise. Do the ten students interviewed accurately reflect your school's proportion of freshmen, sophomores, juniors, and seniors? Do they mirror the proportion of male and female students? Are the various

majors accurately represented? What about part-time and full-time students? Students of different cultural and religious backgrounds?

In short, make sure your statistics are representative of what they claim to measure.

Are Statistical Measures Used Correctly?

Here are two groups of numbers:

Group A	Group B
7,500	5,400
6,300	5,400
5,000	5,000
4,400	2,300
4,400	1,700

mean

The average value of a group of numbers.

Let us apply to each group three basic statistical measures—the mean, the median, and the mode.

The *mean*—popularly called the average—is determined by summing all the items in a group and dividing by the number of items. The mean for group A is 5,520. For group B it is 3,960.

The *median* is the middle figure in a group once the figures are put in order from highest to lowest. The median for both group A and group B is exactly the same—5,000.

The *mode* is the number that occurs most frequently in a group of numbers. The mode for group A is 4,400. For group B it is 5,400.

Notice the results:

	Group A	Group B
Mean	5,520	3,960
Median	5,000	5,000
Mode	4,400	5,400

median

The middle number in a group of numbers arranged from highest to lowest.

mode

The number that occurs most frequently in a group of numbers.

All these measures have the same goal—to indicate what is typical or characteristic of a certain group of numbers. Yet see how different the results are, depending on which measure you use.

The differences among the various measures can be striking. For instance, the *mean* salary of local TV news anchorpersons is \$79,500 a year. But the mean is inflated by the huge salaries (up to \$1 million a year) paid to a few star anchors in media centers such as New York, Los Angeles, and Chicago. In contrast, the *median* salary of local news anchors is \$65,000—not a sum to scoff at, but still \$14,500 less than the mean.⁷

How might a speaker use these different measures? The owner of a television station would probably cite the *mean* (\$79,500) to show that local news anchors are handsomely compensated for their work. An organization of news anchors might emphasize the *median* (\$65,000) to demonstrate that salaries are not nearly as high as the station owner makes them out to be. Both speakers would be telling the truth, but neither would be completely honest unless she or he made clear the meaning of the statistics.

Are the Statistics from a Reliable Source?

Which is the more reliable estimate of the environmental dangers of toxic waste in a landfill—one from the U.S. Environmental Protection Agency or one compiled by the company that owns the landfill? Easy—the estimate by the EPA, which does not have a vested interest in what the figures look like. What about nutritional ratings for fast foods offered by Consumers Union (a highly respected nonprofit organization) or by Burger King? That’s easy too—Consumers Union.

But now things get tougher. What about the competing statistics offered by groups for and against Social Security reform? Or the conflicting numbers tossed out by a school board and the teachers striking against it? In these cases the answer is not so clear, since both sides would present the facts according to their own partisan motives.

As a speaker, you must be aware of possible bias in the use of numbers. Since statistics can be interpreted so many ways and put to so many uses, you should seek figures gathered by objective, nonpartisan sources.

TIPS FOR USING STATISTICS

Use Statistics to Quantify Your Ideas

The main value of statistics is to give your ideas numerical precision. This can be especially important when you are trying to document the existence of a problem. Examples can bring the problem alive and dramatize it in personal terms. But your listeners may still wonder how many people the problem actually affects. In such a situation, you should turn to statistics. Research has shown that the impact of examples is greatly enhanced when they are combined with statistics that show the examples to be typical.⁸

Suppose you are talking about the need for college students to avoid credit-card debt. Part of your speech deals with the large amount of such debt the typical college student faces by the time he or she graduates. You give an example, you personalize the subject, you provide many details, as follows:

Charles Perkins left college a changed person. Not only had he earned his degree in geography, but he had racked up almost \$4,000 in credit-card debt. Charles was sure he would be able to pay off his debt easily once he got a full-time job. But when he received his first paycheck, he found, to his dismay, that after paying taxes and his living expenses, he could make only the minimum monthly payment on his credit cards. Rather than getting rid of his debt, it would take him years to pay it off.

Confronted with this example, a listener might think, “Poor Charles. But I’m not going to end up in his spot because I don’t plan to leave college with a lot of credit-card debt.” Anticipating just such a response, a sharp speaker would include figures to quantify the extent of credit-card debt among college students in general:

According to the latest issue of *U.S. News & World Report*, the average credit-card debt of a graduating college student is \$2,900 and new graduates spend almost 25 percent of their income on debt payments. If someone makes only the minimum monthly payment on his or her credit cards—which is what most people do—they will rack up more than \$3,800 in interest charges alone before paying off their original \$2,900 debt. Perhaps this explains why in the past few years the number of people under 25 filing for bankruptcy has increased by over 50 percent.

Now the audience is much more likely to agree that they need to keep a closer eye on their credit-card balance.

Use Statistics Sparingly

As helpful as statistics can be, nothing puts an audience to sleep faster than a speech cluttered with numbers from beginning to end. Insert statistics only when they are needed, and then make sure they are easy to grasp. Even the most attentive listener would have trouble sorting out this barrage of figures:

According to the *World Factbook*, life expectancy at birth in the United States ranks 18th among 25 industrialized countries. Life expectancy of women in Japan is 84.25 years compared with 80.2 years for American women, and 77.73 years for Japanese men compared with 74.5 years for American men. The United States ranks 23rd among 25 industrialized nations in infant mortality, with a rate almost twice as high as Japan's. Canada ranks 13th. Americans spend more each year on health care than any other nation—\$1 trillion dollars, or 13.7 percent of gross domestic product—yet the World Health Organization ranks the U.S. health care system 37th in overall performance among member nations.

Instead of drowning your audience in a sea of statistics, use only those that are most important. For example:

According to the *World Factbook*, people in the United States have one of the lowest life expectancies among industrialized nations. We also have one of the highest rates of infant mortality. Even though we spend more on health care than any other nation, the World Health Organization ranks 36 other nations ahead of us with regard to the overall performance of our health care system.

This second statement makes the same point as the first statement, but now the ideas are not lost in a torrent of numbers.

Identify the Sources of Your Statistics

As we have seen, figures are easy to manipulate. This is why careful listeners keep an ear out for the sources of a speaker's statistics. One student learned this by experience. In a speech titled "Tax Reform: Fact Versus Fiction," he claimed that the wealthiest 1 percent of U.S. taxpayers pay 39 percent of federal income taxes, even though they account for only 21 percent of all earned income. He also noted that the wealthiest 25 percent of Americans pay 86 percent of federal income taxes. These are startling statistics. But because the student did not say where he got them, his classmates were sure he must be wrong.

As it turned out, the figures were quite reliable. They had come from a study by the Internal Revenue Service reported in *The New York Times*. If the speaker had mentioned the source in his speech, he would have been more successful.⁹

Explain Your Statistics

Statistics don't speak for themselves. They need to be interpreted and related to your listeners. Notice how effectively one student did this in a speech about Chinese culture in the United States:

Food is another aspect of Chinese culture that has become part of American life. According to Jennifer Lee's *The Fortune Cookie Chronicles*, published in 2008, there are

Using Statistics

Checklist

	YES	NO
1. Do I use statistics to quantify my ideas?	<input type="checkbox"/>	<input type="checkbox"/>
2. Are my statistics representative of what they purport to measure?	<input type="checkbox"/>	<input type="checkbox"/>
3. Are my statistics from reliable sources?	<input type="checkbox"/>	<input type="checkbox"/>
4. Do I cite the sources of my statistics?	<input type="checkbox"/>	<input type="checkbox"/>
5. Do I use statistical measures (mean, median, mode) correctly?	<input type="checkbox"/>	<input type="checkbox"/>
6. Do I round off complicated statistics?	<input type="checkbox"/>	<input type="checkbox"/>
7. Do I use visual aids to clarify statistical trends?	<input type="checkbox"/>	<input type="checkbox"/>
8. Do I explain my statistics and relate them to the audience?	<input type="checkbox"/>	<input type="checkbox"/>



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This checklist is also available in the online Study Tools for this chapter.

some 43,000 Chinese restaurants in the United States. That's more than all the McDonalds, Burger Kings, and KFCs combined.

Explaining what statistics mean is particularly important when you deal with large numbers, since they are hard to visualize. How, for example, can we comprehend the \$9 trillion U.S. national debt? We could explain that a trillion is a thousand billion and a billion is a thousand million. But millions and billions are almost as hard to visualize as trillions. Suppose, instead, we translate the huge numbers into terms a listener can relate to. Here is one speaker's solution:

How much money is a trillion dollars? Think of it this way. If you had \$1 million and spent it at the rate of \$1,000 a day, you would run out of money in less than three years. If you had \$1 billion and spent it at the rate of \$1,000 a day, you would not run out of money for almost 3,000 years. And if you had \$1 trillion and spent it at the rate of \$1,000 a day, you wouldn't run out of money for nearly 3 million years!

Whenever you use statistics in your speeches, think of how you can make them meaningful to your audience. Rather than simply reciting figures about, say, the continuing destruction of the world's rainforests, find a way to bring those figures home to your audience. You might say, as did one speaker:

According to the Rainforest Action Network, rainforest is disappearing at an alarming rate. Within the next second, we will lose an area of rainforest equal to two football fields. Within the next fifteen minutes, an area the size of this campus will be erased. By this time tomorrow, 214,000 acres, an area equivalent to the size of New York City, will be gone forever.

Be creative in thinking of ways to relate your statistics to your audience. This is probably the single most important step you can take to make statistics work in your speeches.



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View this excerpt from "The Rainforests: Nature's Pharmacy" in the online Media Library for this chapter (Video Clip 7.5).

Round Off Complicated Statistics

Mount Kilimanjaro is 19,341 feet high; the official world land speed record is 763.065 miles per hour; the population of Saudi Arabia is 27,601,038 people; the moon is 238,855 miles from earth.

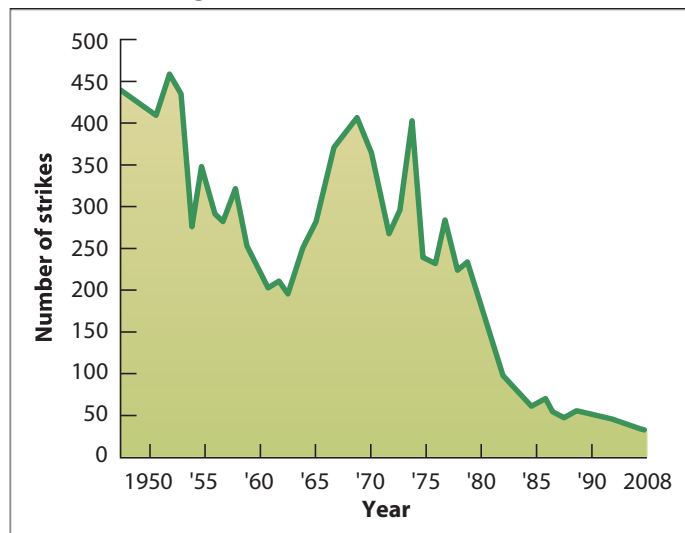
These are intriguing figures, but they are too complicated to be readily understood by listeners. Unless there is an important reason to give exact numbers, you should round off most statistics. You might say that Mount Kilimanjaro is 19,300 feet high; the world land speed record is 763 miles per hour; the population of Saudi Arabia is more than 28 million; and the moon is 239,000 miles from earth.

Use Visual Aids to Clarify Statistical Trends

Visual aids can save you a lot of time, as well as make your statistics easier to comprehend. Suppose you are discussing the number of major strikes by labor unions in the United States since World War II. You could start by explaining that after the war, during the early 1950s, there were a record number of strikes involving 1,000 or more workers. Then, after the start of Dwight Eisenhower's presidency in 1953, the number of strikes declined fairly steadily until 1964, when they started climbing to a peak of more than 400 in 1968. After a sharp decline in the early 1970s, they jumped again in 1975, before taking a dramatic turn downward during the 1980s and reaching a record low under President George W. Bush.

These are interesting statistics, and you could build a good speech around them. But strung together in a few sentences they are hard to digest. Figure 7.1 below shows how much more clearly the points can be made with a simple graph. We shall discuss visual aids in detail in Chapter 13. For the moment, keep in mind that they can be helpful in presenting statistical information.

Strikes involving 1,000 workers or more



• FIGURE 7.1

Testimony

Imagine you are talking with a friend about the classes you plan to take next term. You are not sure whether to sign up for Psychology 230 or Accounting 181. Both are requirements; both meet at the same time of day. Your friend says, “I took those classes last year. They’re both good, but Professor Hassam was excellent in Psych 230. If she’s teaching it next term, I’d take it for sure.” You check the timetable and find that Professor Hassam is indeed slated for Psychology 230. You sign up for her course.

As this story illustrates, we are often influenced by the *testimony* of other people. Just as you are likely to be swayed by your friend’s recommendation about which class to take, so audiences tend to respect the opinions of people who have special knowledge or experience on the topic at hand. By quoting or paraphrasing such people, you can give your ideas greater strength and impact. The two major kinds of testimony are expert testimony and peer testimony.

EXPERT TESTIMONY

In most speeches you will probably rely on expert testimony—testimony from people who are acknowledged authorities in their fields. Citing the views of people who are experts is a good way to lend credibility to your speeches. It shows that you are not just mouthing your own opinions, but that your position is supported by people who are knowledgeable about the topic.¹⁰

Expert testimony is even more important when a topic is controversial or when the audience is skeptical about a speaker’s point of view. The following story explains how one student enlisted expert testimony for a speech on household antibacterial products:

As Rebecca Shannon investigated the topic of household antibacterial products, she became convinced that they did not produce the health benefits they claimed and, in fact, could be harmful to consumers and the environment alike. Yet Rebecca was not an expert. How could she convince her classmates to accept her ideas?

Statistics helped, and so did examples. But on such a controversial topic that was not enough. So, to reinforce her credibility, Rebecca quoted a wide range of experts who agreed with her—including the U.S. Centers for Disease Control; Eric Kupferberg, associate director of the Harvard School of Public Health; Stuart Levy, professor of microbiology at Tufts University; Elaine Larson of Columbia University’s School of Nursing; Myron Genel, chair of the American Medical Association’s council on scientific affairs; and Rolf Halden of the Johns Hopkins University School of Public Health. By citing the views of these experts, Rebecca made her speech much more persuasive.

PEER TESTIMONY

Another type of testimony often used in speeches is peer testimony—opinions of people like ourselves; not prominent figures, but ordinary citizens who have firsthand experience on the topic. This kind of testimony is especially valuable because it gives a more personal viewpoint on issues than can be gained from expert testimony.

For example, if you were speaking about the barriers faced by people with physical disabilities, you would surely include testimony from doctors and other medical authorities. But in this case, the expert testimony would be limited

testimony
Quotations or paraphrases used to support a point.

expert testimony
Testimony from people who are recognized experts in their fields.



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View an excerpt from “Bursting the Antibacterial Bubble” in the online Media Library for this chapter (Video Clip 7.6).

peer testimony
Testimony from ordinary people with firsthand experience or insight on a topic.

because it cannot communicate what it really means to have a physical disability. To communicate that, you need a statement from someone who can speak with the voice of genuine experience—as in the following case:

Itzhak Perlman, the world-renowned violinist whose legs are paralyzed, once said: “When you are in a wheelchair, people don’t talk to you. Perhaps they think it is contagious, or perhaps they think crippled legs mean a crippled mind. But whatever the reason, they treat you like a thing.”

There is no way expert testimony can express these ideas with the same authenticity and emotional impact.

QUOTING VERSUS PARAPHRASING

The statement from Itzhak Perlman is presented as a direct quotation. Testimony can also be presented by paraphrasing. Rather than quoting someone verbatim, you present the gist of that person’s ideas in your own words—as did one student in her speech about America’s potential water crisis:

Writing in *Audubon* magazine, Dr. Peter Bourne, president of Global Water, a nonpartisan educational group in Washington, D.C., said most Americans do not yet realize the extent and urgency of the water problem. At the present rate, he says, we are headed for a crisis that will change the way we live in every part of the nation.

When should you use a direct quotation as opposed to paraphrasing? The standard rule is that quotations are most effective when they are brief, when they convey your meaning better than you can, and when they are particularly eloquent, witty, or compelling. If you find a quotation that fits these criteria, then recite the quotation word for word.

Paraphrasing is better than direct quotation in two situations: (1) when the wording of a quotation is obscure or cumbersome, as is often the case with government documents; (2) when a quotation is longer than two or three sentences. Audiences often tune out partway through lengthy quotations, which tend to interrupt the flow of a speaker’s ideas. Since the rest of the speech is in your own words, you should put longer quotations in your own words as well.

TIPS FOR USING TESTIMONY

Quote or Paraphrase Accurately

Accurate quotation involves three things: making sure you do not misquote someone; making sure you do not violate the meaning of statements you paraphrase; making sure you do not quote out of context. Of these, the last is the most subtle—and the most dangerous. By quoting out of context, you can twist someone’s remarks so as to prove almost anything. Take movie advertisements. A critic pans a movie with these words:

This movie is a colossal bore. From beginning to end it is a disaster. What is meant to be brilliant dialogue is about as fascinating as the stuff you clean out of your kitchen drain.

But when the movie is advertised in the newspapers, what appears in huge letters over the critic’s name? “COLOSSAL! FROM BEGINNING TO END—BRILLIANT! FASCINATING!”

direct quotation
Testimony that is presented word for word.

paraphrase
To restate or summarize a source’s ideas in one’s own words.

quoting out of context
Quoting a statement in such a way as to distort its meaning by removing the statement from the words and phrases surrounding it.



Citing expert testimony is an excellent way for students to lend credibility to their speeches. It shows that the speaker's views are shared by people who have special knowledge on the topic.

This is so flagrant as to be humorous. But quoting out of context can have serious consequences. Consider the following statement by a political candidate:

Creating a national sales tax would provide needed revenue for programs such as education, health care, and national defense. Several European countries have such a tax, and it could certainly work in the U.S. However, I do not support such a tax here—in fact, I don't support new taxes of any kind.

Now look what happens when the first part of that statement is quoted out of context by a competing candidate:

Americans already pay too much in taxes. Yet my opponent in this election has stated—and I quote: "Creating a national sales tax would provide needed revenue for programs such as education, health care, and national defense. Several European countries have such a tax, and it could certainly work in the U.S." Well, my opponent may think new taxes are good for Europe, but they're the last thing we need in this country.

By quoting the original statement out of context, the competing candidate has created a false impression. Such behavior is highly unethical. Be sure, when you quote or paraphrase someone, that you represent their words and ideas with complete accuracy.

Use Testimony from Qualified Sources


We have all become accustomed to the celebrity testimonial in television and magazine advertising. The professional golfer endorses a brand of clubs. The movie star praises a hair spray or shampoo. So far, so good. These are the tools of the trade for the people who endorse them.



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This checklist is also available in the online StudyTools for this chapter.

Checklist

Using Testimony

YES		NO	
<input type="checkbox"/>		<input type="checkbox"/>	1. Do I use testimony to support my ideas?
<input type="checkbox"/>		<input type="checkbox"/>	2. Do I use testimony from qualified sources?
<input type="checkbox"/>		<input type="checkbox"/>	3. Do I use testimony from unbiased sources?
<input type="checkbox"/>		<input type="checkbox"/>	4. Do I distinguish between expert testimony and peer testimony?
<input type="checkbox"/>		<input type="checkbox"/>	5. Do I identify the sources of all testimony?
<input type="checkbox"/>		<input type="checkbox"/>	6. Do I quote and paraphrase all sources of testimony with complete accuracy?

But what happens when an Academy Award winner endorses a cell phone company? A tennis player represents a line of cameras? Do they know more about these products than you or I? Probably not.

Being a celebrity or an authority in one area does not make someone competent in other areas. Listeners will find your speeches much more credible if you use testimony from sources qualified *on the subject at hand*. As we have seen, this may include either recognized experts or ordinary citizens with special experience on the speech topic.

Use Testimony from Unbiased Sources

In a speech about the use of stun guns by police officers to subdue unruly students in public schools, a student said:

Steve Tuttle, a spokesman for Taser International, said in a statement that “the Taser device has been shown to be medically safe when used on children” and that there is no reason to prohibit its use when necessary to maintain security in the public schools.

As you might expect, the students’ classmates were not persuaded. After all, what would you expect someone at Taser International, the leading manufacturer of stun guns, to say—that its product is unsafe and should be banned?

Careful listeners are suspicious of testimony from biased or self-interested sources. Be sure to use testimony from credible, objective authorities.

Identify the People You Quote or Paraphrase

The usual way to identify your source is to name the person and sketch his or her qualifications before presenting the testimony. The following excerpt is from a speech arguing that excessive hours spent at work is harming the quality of education for many American high-school students:

In their book, *When Children Work*, psychology professors Ellen Greenberger of the University of California and Lawrence Steinberg of Temple University note that intensive

Do you need supporting materials for your speech? Check out Finding Data on the Internet (www.robertniles.com/data/). Created as a handy resource guide for journalists, this site provides links to facts and figures on dozens of topics of national and international interest.

There are a number of think tanks whose Web sites provide excellent resources for speech materials. They include the Brookings Institution (www.brookings.edu/), RAND (www.rand.org/), and the Cato Institute (www.cato.org/).



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levels of work among youth tend to produce higher truancy and lower grades. According to Greenberger and Steinberg, one study after another has found that working more than a few hours a week has a negative impact on teenagers' academic performance.

Had the speaker not identified Greenberger and Steinberg, listeners would not have had the foggiest idea who they are or why their opinion should be heeded.

As we saw in Chapter 2, identifying the source of testimony is also an important ethical responsibility. If you use another person's words or ideas without giving credit to that person, you will be guilty of plagiarism. This is true whether you paraphrase the original source or quote it verbatim.

Citing Sources Orally

We have mentioned more than once in this chapter the importance of citing the sources of your supporting materials. Careful listeners are skeptical. They keep an ear out both for a speaker's information and for the sources of that information.

The bibliography in your speech outline should state the sources you used in constructing the speech (see Chapter 10, page 211). But listeners do not have access to your outline. You have to identify your sources orally, as you are speaking.


Unlike a written bibliography, oral source citations do not follow a standard format. What you include depends on your topic, your audience, the kind of supporting material you are using, and the claim you are making. The key is to tell your audience enough that they will know where you got your information and why they should accept it as qualified and credible. In most cases, you will need to identify some combination of the following:

- The book, magazine, newspaper, or Web document you are citing.
- The author or sponsoring organization of the document.
- The author's qualifications with regard to the topic.
- The date on which the document was published, posted, or updated.

Here is an example of a speech citation that includes all the above:

Checklist

Citing Sources Orally

YES		NO	
<input type="checkbox"/>		<input type="checkbox"/>	1. Do I identify all the print documents cited in my speech?
<input type="checkbox"/>		<input type="checkbox"/>	2. Do I identify all the Web documents cited in my speech?
<input type="checkbox"/>		<input type="checkbox"/>	3. Do I identify the authors or sponsoring organizations of the documents I cite?
<input type="checkbox"/>		<input type="checkbox"/>	4. Do I establish the authors' credentials with regard to the topic?
<input type="checkbox"/>		<input type="checkbox"/>	5. Do I use documents from sponsoring organizations with established expertise and objectivity?
<input type="checkbox"/>		<input type="checkbox"/>	6. Do I include the dates on which the documents were published, posted, or updated?
<input type="checkbox"/>		<input type="checkbox"/>	7. Do I use a variety of methods in citing my sources?



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This checklist is also available in the online StudyTools for this chapter.

While more students are going to college than ever before, they are paying a high price. Kimberly Palmer, financial columnist for *U.S. News & World Report*, reported in the magazine's January 28, 2008, issue that graduating students now owe an average of \$15,500 in student-loan debt, up from \$8,800 just ten years ago.

Because this speaker was citing statistics, she needed to show they were up-to-date and came from a credible source. In the following example, the speaker is using testimony, but notice how he also establishes the credibility of his source and the recency of his information:

Human smuggling is big business, and the U.S. government has made little headway in stopping it. Just ask Scott Hatfield, chief of the Human Smuggling division at Immigration and Customs Enforcement, who was quoted last month in *The New York Times*: "Any time we shut down a smuggling organization, there's always somebody to take their place."

On the other hand, if you were quoting Abraham Lincoln's Gettysburg Address of November 19, 1863, about "government of the people, by the people, for the people," you would not need to explain Lincoln's qualifications (because he is so well known) or the date of his statement (because it does not affect the relevance of his words).

The same principles apply if you are citing online sources. It is not enough to say, "As I found on the Web," or "As the Internet states." On the other hand, it is not necessary to recite the entire address of the Web page. If you are citing a specific person, you should identify him or her and the name of the Web site on which you found the information—as in this example:

In an article posted on CNN.com in July 2007, Joseph A. Califano Jr., President of the National Center on Alcohol and Substance Abuse at Columbia University, stated: "I wouldn't be surprised if right now at this point in time, there are more kids abusing prescription drugs than abusing marijuana."

If you are citing an organization, rather than an individual, you need to provide the name of the organization:

The Web page for the Robotics Institute at Carnegie Mellon University explains that scientists at that school have designed and built a six-ton hybrid electric vehicle that can be used by the U.S. Army for armed reconnaissance missions.

Finally, notice how skillfully the speakers quoted above blend their citations into their speeches. They do not always say, “According to . . .” or “As stated by. . . .” Nor do they use words like “quote . . . unquote.” Usually you can modify your tone of voice or use brief pauses to let your listeners know when you are making a direct quotation.

In the online Speech Tools for this chapter, you will find more examples of how you can cite different kinds of sources in your speeches. Whether you are using examples, statistics, or testimony, citing your sources properly is a crucial part of being an effective—and ethical—public speaker.



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For additional examples of how to cite sources in your speeches, check the Sample Oral Citations in the online Speech Tools for this chapter.

SUMMARY

Good speeches need strong supporting materials to bolster the speaker’s point of view. The three basic types of supporting materials are examples, statistics, and testimony.

In the course of a speech you may use brief examples—specific instances referred to in passing—and sometimes you may want to give several brief examples in a row to create a stronger impression. Extended examples are longer and more detailed. Hypothetical examples describe imaginary situations and can be quite effective for relating ideas to the audience. All three kinds of examples help clarify ideas, reinforce ideas, or personalize ideas. To be most effective, they should be vivid and richly textured.

Statistics can be extremely helpful in conveying your message as long as you use them sparingly and make them meaningful to your audience. Above all, you should understand your statistics and use them fairly. Make sure your figures are representative of what they claim to measure, that you use statistical measures correctly, and that you take statistics only from reliable sources.

Citing the testimony of experts is a good way to make your ideas more credible. You can also use peer testimony, from ordinary people who have firsthand experience on the topic. Regardless of the kind of testimony, you can either quote someone verbatim or paraphrase his or her words. Be sure to quote or paraphrase accurately and to use qualified, unbiased sources.

When citing sources in a speech, you need to let your audience know where you got your information and why they should accept it as qualified and credible. In most cases, this means identifying the document you are citing, its date of publication or posting, the author or sponsoring organization, and the author’s credentials.



KEY TERMS

supporting materials (142)
example (143)
brief example (143)

extended example (143)
hypothetical example (144)
statistics (147)

mean (150)
median (150)
mode (150)
testimony (155)
expert testimony (155)

peer testimony (155)
direct quotation (156)
paraphrase (156)
quoting out of context (156)

REVIEW QUESTIONS

After reading this chapter, you should be able to answer the following questions:

1. Why do you need supporting materials in your speeches?
2. What are the three kinds of examples discussed in this chapter? How might you use each kind to support your ideas?
3. What are five tips for using examples in your speeches?
4. Why is it so easy to lie with statistics? What three questions should you ask to judge the reliability of statistics?
5. What are six tips for using statistics in your speeches?
6. What is testimony? Explain the difference between expert testimony and peer testimony.
7. What are four tips for using testimony in your speeches?



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For further review, go to the Study Questions in the online Study Aids for this chapter.

EXERCISES FOR CRITICAL THINKING

1. Each of the following statements violates at least one of the criteria for effective supporting materials discussed in this chapter. Identify the flaw (or flaws) in each statement.
 - a. As Miley Cyrus stated in a recent interview, the Canadian system provides the best model for creating universal health care in the United States.
 - b. According to *The New York Times Almanac*, California has the largest Native American population of any state in the union—421,346. Arizona is second with 294,118; Oklahoma is third with 287,124; and New Mexico is fourth with a total Native American population of 190,826.
 - c. I don't know why insurance companies should charge higher rates for drivers under the age of 25. All my friends drive a lot and none of them have been in car accidents.
 - d. In a random survey conducted last month among members of People for the Ethical Treatment of Animals, 99 percent of respondents opposed using animals for medical experiments. Clearly, then, the American people oppose such experiments.
 - e. In the words of one expert, "The state education budget has been cut so much in recent years that any further cuts will do irreparable harm to our schools and the children they serve."
 - f. Figures compiled by the Bureau of Labor Statistics show that the median salary for lawyers in the U.S. is \$106,121. This shows that lawyers average more than \$106,000 a year in salary.

- g. According to a study by Verizon Wireless, there is no evidence that the use of cell phones is a significant cause of automobile accidents.
2. Analyze “Bursting the Antibacterial Bubble” in the appendix of sample speeches following Chapter 18. Identify the main points of the speech and the supporting materials used for each. Evaluate the speaker’s use of supporting materials in light of the criteria discussed in this chapter.

Applying *the Power of Public Speaking*

After receiving your master’s degree in education administration, you took a job at the state department of education. At the request of the governor, your section of the department has developed a new early childhood intervention program for children from impoverished households. Now you have been asked to help publicize the program and to build support for it. You will be speaking to church groups, teachers’ associations, family advocacy groups, and others with an interest in children’s welfare. You want to prepare a talk that makes good use of statistics and expert testimony to demonstrate the value of early childhood education programs, especially for poor children.

As part of your research, you decide to search the Web for supporting materials. List three reputable Web sites that provide useful statistics or testimony on the value of early childhood education. Explain why each Web site is reputable and list one statistic or expert quotation you obtain from each source.