

SCENARIO

You've been on the job for six months as a plant geneticist for a large seed company. As you're settling into work one morning, enjoying your second cup of coffee, and turning on your computer to run some figures on a seed corn project, your boss drops by your cubicle.

"Got an invitation here," your boss says. "The Rincon Kiwanis chapter wants a speaker, week from Thursday morning—twenty minutes and a question-and-answer period. Think you can handle it?"

"Ah, sure, yes, why not?" you manage.

"Good," says your boss. "I hear they're worried about genetically engineered plants, especially the ones with built-in insecticide capabilities. Work that in somehow." With that your boss drops off the invitation and saunters out.

"What have I got myself in for," you wonder. You think about some of the ways to plan a speech. Know your audience. Find out about the place where you'll be speaking. Plan your speech well, but deliver it extemporaneously. Visual aids? Maybe some of the slides you have from the corn project might work.

You remember reading that some people want insect-proof corn to be classified as an insecticide. Who are Kiwanians, anyway? Local business people, mainly? How do the Rincon Kiwanians feel about the genetic engineering of foods? Will they be hostile? You decide that a call to the president of the local chapter is in order. The telephone number is on the invitation. You reach for the phone.

For more about planning and delivering a speech, look into this chapter.

chapter 19

Oral Reports

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Oral reports are a major application of reporting technical information. You will have to report committee work, laboratory experiments, and research projects. You will give reports at business or scholarly meetings. You will instruct, if not in a teacher-student relationship, perhaps in a supervisor-subordinate relationship. You may have to persuade a group that a new process your section has devised is better than the present process. You may have to brief your boss about what your department does, in order to justify its existence. In this chapter we discuss preparing and presenting your oral report and place heavy emphasis on the ways in which you can provide visual support.

PREPARATION

In most ways, preparing an oral report is much like composing a written report. The situational analysis is virtually identical to the situational analysis described in Chapter 2, Composing. You have to consider your purpose and audience, discover your material, and arrange your material.

For an oral report, you may have to pay even more attention to questions about persona, audience attitude, and your relationship to the audience than you do for a written report (see pages 15–20). These questions are particularly crucial ones, as you need to know whether your audience will consider you trustworthy and credible. To be an effective speaker, you must establish an effective relationship between you and the audience. You must not only be sincere and knowledgeable about your subject but also conform to the audience's expectations about dress, demeanor, and choice of language.

If your audience is not North American, you must be aware of how they expect to be addressed (see Chapter 7, Writing for International Readers). Often, such awareness requires expert guidance. For example, certain hand gestures common in the United States may be considered obscene in other cultures. In some cultures, too casual dress for men would be insulting, and bare arms on a woman would be sacrilegious. Don't overlook the obvious: How well do your listeners understand English? Will an idiomatic expression such as "we're going to shoot the works on this project" leave them wondering what violence is intended? Chapter 7 lists some sources that will give you a start. Your library will provide further help, as will the World Wide Web.

Find out as much as you can about the conditions under which you'll speak. Inquire about the size of the room you will speak in, the time allotted for

the speech, and the size of the audience. If you have to speak in a large area to a large group, will a public address system be available? Find out whether you will have a lectern for your notes. Check on the availability of any equipment you need, whether it be a computer program, such as PowerPoint or Excel, or something as simple as an overhead projector to show transparencies. Plan to bring your own equipment if necessary.

Find out whether there will be someone to introduce you. If not, you may have to work your credentials as a speaker into your talk. Consider the time of day and day of the week. An audience listening to you at 3:30 on Friday afternoon will not be nearly as attentive as an audience earlier in the day or earlier in the week. Feel free to ask the sponsoring group any of these questions. The more you know beforehand, the better prepared and therefore the more comfortable you'll be.

DELIVERY TECHNIQUES

There are four basic delivery techniques, but you really need to think about only two of them. The four are (1) impromptu, (2) speaking from memory, (3) extemporaneous, and (4) reading from a manuscript.

Impromptu speaking involves speaking "off the cuff." Such a method is too risky for a technical report, in which accuracy is so vital. In speaking from memory, you write out a speech, commit it to memory, and then deliver it. This gives you a carefully planned speech, but we cannot recommend it as a good technique. The drawbacks are (1) your plan becomes inflexible; (2) you may have a memory lapse in one place that will unsettle you for the whole speech; (3) you think of words rather than thoughts, which makes you more artificial and less vital; and (4) your voice and body actions become stylized and lack the vital spark of spontaneity. We consider the best delivery techniques to be extemporaneous speech and reading a speech from a manuscript, and we will discuss these in more detail.

The Extemporaneous Speech

Unlike the impromptu speech, with which it is sometimes confused, the extemporaneous speech is carefully planned and practiced. In preparing for an extemporaneous speech, you go through the planning and arranging steps described in Chapter 2, composing. But you stop when you complete the outline stage. You do not write out the speech. Therefore, you do not commit yourself to any definite phraseology. In your outline, however, include any vital facts and figures that you must present accurately. You want no lapses of memory to make your presentation of a technical report inaccurate.

Before you give the speech, practice it, working from your outline. Give it several times, preferably, before a live audience—perhaps a roommate or a

friend. As you practice, fit words to your outlined thoughts. Make no attempt to memorize the words you choose at any practice session, but keep practicing until your delivery is smooth. When you can go through the speech without faltering, you are ready to present it. When you practice a speech, pay particular attention to timing. Depending on your style and the occasion, plan on a delivery rate of 120–180 words per minute. Nothing, but nothing, will annoy program planners or an audience more than to have a speaker scheduled for thirty minutes go for forty minutes or an hour. The long-winded speaker probably cheats some other speaker out of his or her allotted time. Speakers who go beyond their scheduled time can depend upon not being invited back.

We recommend that you type your outline. Use capitals, spacing, and underlining generously to break out the important divisions. Use boldface type if you use a word processor. But don't do the entire outline in capitals. That makes it hard to read. As a final refinement, place your outline in a looseleaf ring binder. By so doing you can be sure it will not become scattered or disorganized.

The extemporaneous speech has several real advantages over the speech read from manuscript. With the extemporaneous speech you will find it easier to maintain eye contact with your audience. You need only glance occasionally at your outline to keep yourself on course. For the rest of the time you can concentrate on looking at your audience.

You have greater flexibility with an extemporaneous speech. You are committed to blocks of thought but not words. If by looking at your audience you see that they have not understood some portion of your talk, you are free to rephrase the thought in a new way for better understanding. If you are really well prepared in your subject, you can bring in further examples to clarify your point. Also, if you see you are running overtime, you can condense a block by leaving out some of your less vital examples or facts.

Finally, because you are not committed to reciting specific words, you retain conversational spontaneity. You are not faltering or groping for words, but neither are you running by your audience like a well-oiled machine.

The Manuscript Speech

Most speech experts recommend the extemporaneous speech over reading from a manuscript. We agree in general. However, speaking in a technical situation often requires giving a manuscript speech. Papers delivered to scientific societies are frequently written and then read to the group. Often, the society will later publish your paper. Often, technical reports contain complex technical information or extensive statistical material. Such reports do not conform well to the extemporaneous speech form, and you should plan to read them from a manuscript.

Planning and writing a speech are little different from writing a paper. However, in writing your speech try to achieve a conversational tone. Certainly, in speaking you will want to use the first person and active voice. Remember that speaking is more personal than writing. Include phrases like “it seems to me,” “I’m reminded of,” and “just the other evening, I.” Such phrases are common in conversation and give your talk extemporaneous overtones. Certainly, prefer short sentences to long ones.

Type the final draft of your speech. Just as you did in the outline for your extemporaneous speech, be generous with capitals, spacing, and underlining. Plan on about three typed pages per five minutes of speech. Put your pages in order, and place them in a looseleaf binder.

When you carry your written speech to the lectern with you, you are in no danger of forgetting anything. Nevertheless, you must practice it—again, preferably aloud to a live audience. As you practice, remember that because you are tied to the lectern, your movements are restricted. You will need to depend even more than usual on facial expression, gestures, and voice variation to maintain audience interest. Do not let yourself fall into a singsong monotone as you read the set phrases of your written speech.

Practice until you know your speech well enough to look up from the manuscript for long periods of good eye contact. Plan an occasional departure from your manuscript to speak extemporaneously. This will help you regain the direct contact with the audience that you so often lose while reading.

ARRANGING CONTENT

For the most part, you will arrange your speech as you do your written work. However, the speech situation does call for some differences in arrangement and even content, and we concentrate on these differences. We discuss the arrangement in terms of introduction, body, and conclusion.

Introduction

A speech introduction should accomplish three tasks: (1) create a friendly atmosphere for you to speak in, (2) interest the audience in your subject, and (3) announce the subject, purpose, scope, and plan of development of your talk.

Be alert before you speak. If you can, mingle and talk with members of the group to whom you are going to speak. Listen politely to their conversation. You may pick up some tidbit that will help you get off to a favorable start. Look for bits of local color or another means to establish a common ground between you and the audience. When you begin to speak, mention some member of the audience or perhaps a previous speaker. If you can do it sincerely, compliment the audience. If you have been introduced, remember to acknowledge and thank the

speaker. Unless it is a very formal occasion, begin rather informally. If there is a chairperson and a somewhat formal atmosphere, we recommend no heavier a beginning than “Mr. Chairman (or Madam Chairwoman), ladies and gentlemen.”

Gain your audience’s attention by mentioning some particularly interesting fact or bit of illustrative material. Anecdotes are good if they truly tie in with the subject. But take care with humor. Avoid jokes that really don’t tie in with the subject or the occasion. Forget about risqué stories.

Be careful also about what you draw attention to. Do not draw attention to shortcomings in yourself, your speech, or the physical surroundings. Do not begin speeches with apologies.

Announce your subject, purpose, scope, and plan of development in a speech just as you do in writing. (See pages 622–628.) If anything, giving your plan of development is more important in a speech than in an essay. Listeners cannot go back in a speech to check on your arrangement the way that a reader of an essay can. So the more guideposts you give an audience, the better. No one has ever disputed this old truism: (1) Tell the audience what you are going to tell them. (2) Tell them. (3) Tell them what you just told them. In instructional situations, some speakers provide their audiences with a printed outline of their talk.

Body

When you arrange the body of a speech, you must remember one thing: A listener’s attention span is very limited. Analyze honestly your own attention span—be aware of your own tendency to let your mind wander. You listen to the speaker for a moment, and then perhaps you think of lunch, of some problem, or an approaching appointment. Then you return your attention to the speaker. When you become a speaker, remember that people do not hang on your every word.

What can you do about the problem of the listener’s limited attention span? In part, you solve it by your delivery techniques. (We discuss these in the next section of this chapter.) It also helps to plan your speech around intelligent and interesting repetition.

Begin by cutting the ground you intend to cover in your speech to the minimum. Build a five-minute speech around one point, a fifteen-minute speech around two. Even an hour-long talk probably should not cover more than three or four points.

Beginning speakers are always dubious about this advice. They think, “I’ve got to be up there for fifteen minutes. How can I keep talking if I have only two points to cover? I’ll never make it.” Because of this fear, they load their speeches

with five or six major points. As a result, they lull their audience into a state of somnolence with a string of generalizations.

In speaking, even more than in writing, your main content should be masses of concrete information—examples, illustrations, little narratives, analogies, and so forth—supporting just a few generalizations. As you give your supporting information, repeat your generalization from time to time. Vary the way you state it, but cover the same ground. The listener who was out to lunch the first time you said it may hear it the second time or the third. You use much the same technique in writing, but you intensify it even more in speaking.

We have been using the same technique here in this chapter. We began this section on the speech body by warning you that a listener's attention span is short. We reminded you that *your* listening span is short—same topic but a new variation. We asked you what you can do about a listener's limited span—same topic with only a slight shift. In the next paragraph, we told you not to make more than two points in a fifteen-minute speech. We nailed this point down in the next paragraph by having a dubious speaker say, "I've got to be up there for fifteen minutes. How can I keep talking if I have only two points to cover?" In the paragraph just preceding this one we told you to repeat intelligently so that "the listener who was out to lunch the first time you said it may hear it the second time or the third." Here we were slightly changing an earlier statement that "you listen to the speaker for a moment, and then perhaps you think of lunch.□.□.□." In other words, we are aware that attention sometimes wanders. When you're paying attention, we want to catch you. Try the same technique in speaking, because a listener's attention span is even more limited than a reader's.

Creating suspense as you talk is another way to generate interest in your audience. Try organizing a speech around the inductive method. That is, give your facts first and gradually build up to the generalization that they support. If you do this skillfully, using good material, your audience hangs on, wondering what your point will be. If you do not do it skillfully or use dull material, your audience will tune you out and tune into their private worlds.

Another interest-getting technique is to relate the subject matter to some vital interest of the audience. If you are talking about water pollution, for example, remind the audience that the dirtier their rivers get, the more tax dollars it will eventually take to clean them up.

Visual aids often increase audience interest. Remember to keep your graphics big and simple. No one is going to see captions from more than three or four feet away. Stick to big pie and bar graphs. If you have tables, print them in letters from two to three inches high. If you are speaking to a large group, put your graphic materials on transparencies and project them onto a screen. Prepare your transparencies with care. Don't just photocopy typed or printed pages or graphics from books. No one behind the first row will see them. To be

effective, letters and numbers on transparencies should be at least twice normal size. Word processing makes it easy to print graphics with large type. If you need an assistant to help you project visual aids, ask someone to help or bring someone with you.

Do not display a graphic until you want the audience to see it. While the graphic is being displayed, call your listeners' attention to everything you want them to see. Take it away as soon as you are through with it. If using a projector, turn it off whenever it is not in use. Be sure to key every graphic into your speaker's script. Otherwise, you may slide right by one.

Conclusion

In ending your speech, as in your written reports, you have your choice of several closes. You can close with a summary, a list of recommendations including a call for some sort of action, or what amounts to "Good-bye, it's been good talking to you." As in the introduction, you can use an anecdote in closing to reinforce a major point. In speaking, never suggest that you are drawing to a close unless you really mean it. When you suggest that you are closing, your listeners perk up and perhaps give a happy sigh. If you then proceed to drag on, they will hate you.

Remember that audience interest is usually highest at the beginning and close of a speech. Therefore, you will be wise to provide a summary of your key points at the end of any speech. Give your listeners something to carry home with them.

PRESENTATION

After you have prepared your speech, you must present it. For many people, giving a speech is a pretty terrifying business. Before speaking they grow tense, have hot flashes and cold chills, and experience the familiar butterflies in the stomach. Some people tremble before and even during a speech. Try to remember that these are normal reactions, for both beginning and experienced speakers. Most people can overcome them, however, and it is even possible to turn this nervous energy to your advantage.

If your stage fright is extreme, or if you are the one person in a hundred who stutters, or if you have some other speech impediment, seek clinical help. The ability to communicate ideas through speech is one of humanity's greatest gifts. Do not let yourself be cheated. Some of the finest speakers we have ever had in class were stutterers who admitted their problem and worked at it with professional guidance. Remember, whether your problems are large or small, the audience is on your side. They want you to succeed.

Physical Aspects of Speaking

What are the physical characteristics of good speakers? They stand firmly but comfortably. They move and gesture naturally and emphatically but avoid fidgety, jerky movements and foot shuffling. They look directly into the eyes of people in the audience, not merely in their general direction. They project enthusiasm into their voices. They do not mumble or speak flatly.

We will examine these characteristics in detail—first movement and then voice.

Movement A century ago, a speaker's movements were far more florid and exaggerated than they are today. Today we prefer a more natural mode of speaking, closer to conversation than oratory. To some extent, electronic devices such as amplifying systems, radio, and television have brought about this change. However, you do not want to appear like a stick of wood. Even when speaking to a small group or on television (or, oddly enough, on the radio), you will want to move and gesture. If you are speaking in a large auditorium, you will want to broaden your movements and gestures. From the back row of a 2,500-seat auditorium, you look about three inches tall.

Movement during a speech is important for several reasons. First, it puts that nervous energy we spoke of to work. The inhibited speaker stands rigid and trembles. The relaxed speaker takes that same energy and puts it into purposeful movement.

Second, movement attracts attention. It is a good idea to emphasize an idea with a pointing finger or a clenched fist; and a speaker who comes out from behind the lectern occasionally and walks across the stage or toward the audience awakens audience interest. The speaker who passively utters ideas deadens the audience.

Third, movement makes you feel more forceful and confident. It keeps you, as well as your audience, awake. This is why good speakers gesture just as emphatically while speaking on the radio as they would if the audience could see them.

What sorts of movements are appropriate? To begin with, movement should closely relate to your content. Jerky or shuffling motions that occur haphazardly distract an audience. But a pointing finger combined with an emphatic statement reinforces a point for an audience. A sideward step at a moment of transition draws attention to the shift in thought. Take a step backward and you indicate a conclusion. Step forward and you indicate the beginning of a new point. Use also the normal descriptive gestures that all of us use in conversation—gestures to indicate length, height, speed, roundness, and so forth.

For most people, gesturing is fairly natural. They make appropriate movements without too much thought. Some beginning speakers, however, are

body-inhibited. If you are in this category, you may have to cultivate movement. In your practice sessions and in your classroom speeches, risk artificiality by making gestures that seem too broad to you. Oddly enough, often at the very point where your gestures seem artificial and forced to you, they will seem the most natural to your audience.

Allow natural gestures to replace nervous mannerisms. Some speakers develop startling mannerisms and remain completely oblivious of them until some brave but kind soul points them out. Some that we have observed include taking eyeglasses off and putting them back on; repeatedly knocking a heavy ring on the lectern; fiddling with a pen, pointer, chalk, necklace, microphone cord, ear, mustache, nose—you name it; shifting from foot to foot in time to some strange inner rhythm; and pointing with the elbows while the hands remain in the pants pockets. Mannerisms may also be vocal. Such things as little coughs or repeating comments such as “OK” or “You know” to indicate transitions can become mannerisms.

Listeners are distracted by such habits. Often they will concentrate on the mannerisms to the exclusion of everything else. They may know that a speaker put her eyeglasses on and off twenty-two times but not have the faintest notion of what she said. If someone points out such mannerisms in your speaking habits, don't feel hurt. Instead, work to remove the mannerisms.

Movement includes facial movement. Do not be a deadpan. Your basic expression should be a relaxed, friendly look. But don't hesitate to smile, laugh, frown, or scowl when such expressions are called for. A scowl at a moment in your speech when you are expressing disapproval makes the disapproval that much more emphatic. Whatever you do, do not freeze into one expression, whether it be the stern look of the man of iron or the vapid smile of a model in a television ad.

Voice Your voice should sound relaxed, free of tension and fear. In a man, people consider a deep voice to be a sign of strength and authority. Most people prefer a woman's voice to be low rather than shrill. If your voice does not have these attributes, you can develop them to some extent. A speech teacher can give you voice exercises. If, despite hard work, your voice remains unsatisfactory in comparison with the conventional stereotypes, do not despair. Many successful speakers have had somewhat unpleasant voices but through force of character or intellect they directed their audiences' attention to their ideas, not their voices.

Many beginning speakers speak too fast, probably because they are anxious to be done and sit down. A normal rate of speech falls between 120 and 180 words per minute. This is actually fairly slow. Generally, you will want a fairly slow delivery rate. When you are speaking slowly, your voice will be deeper and more impressive. Also, listeners have trouble following complex ideas delivered

at breakneck speed. Slow down and give your audience time to absorb your ideas.

Of course, you should not speak at a constant rate, slow or fast. Vary your rate. If you normally speak somewhat rapidly, slowing down will emphasize ideas. If you are speaking slowly, suddenly speeding up will suggest excitement and enthusiasm. As you speak, change the volume and pitch of your voice. Any change in volume, whether from low to loud or the reverse, will draw your listeners' attention and thus emphasize a point. The same is true of a change in pitch: If your voice remains a flat monotone and your words come at a constant rate, you deprive yourself of a major tool of emphasis.

Many people worry about their accent. Normally, our advice is *don't worry*. If you speak the dialect of the educated people of the region where you were raised, you have little to worry about. Some New Englanders, for example, put r's where they are not found in other regional dialects and omit them where they are commonly found. Part of America's richness lies in its diversity. In most countries accents vary from one region to another, but certainly not enough to hinder communication.

If, however, your accent is slovenly—"Ya wanna cuppa coffee?"—or uneducated, do something about it. Work with your teacher or seek other professional help. Listen to educated speakers and imitate them. Whatever your accent, there is no excuse for mispronouncing words. Before you speak, look up any words you know you must use and about whose pronunciation you are uncertain. Speakers on technical subjects have this problem perhaps more than other speakers. Many technical terms are jawbreakers. Find their correct pronunciations and practice them until you can say them easily.

Audience Interaction

One thing speakers must learn early in their careers is that they cannot count on the audience's hanging on every word. Some years ago an intelligent, educated audience was asked to record its introspections while listening to a speaker. The speaker was an excellent one. Despite his excellence and the high intelligence level of the audience, the introspections revealed that the audience was paying something less than full attention. Here are some of the recorded introspections:

God, I'd hate to be speaking to this group. . . . I like Ben—he has the courage to pick up after the comments. . . . Did the experiment backfire a bit? Ben seems unsettled by the introspective report. . . . I see Ben as one of us because he is under the same judgment. . . . He folds his hands as if he was about to pray. . . . What's he got in his pocket he keeps wriggling around. . . . I get the feeling Ben is playing a role. . . . It is interesting to hear the words that are emphasized. . . . This is a hard spot for a speaker. He really must believe in this research. . . .

Ben used the word “para-social.” I don’t know what that means. Maybe I should have copied the diagram on the board. . . . Do not get the points clearly . . . cannot interrupt . . . feel mad. . . . More words. . . . I’m sick of pedagogical and sociological terms. . . . An umbrella dropped. . . . I hear a funny rumbling noise. . . . I wish I had a drink. . . . Wish I could quit yawning. . . . Don’t know whether I can put up with these hard seats for another week and a half or not. . . . My head itches. . . . My feet are cold. I could put on my shoes, but they are so heavy. . . . My feet itch. . . . I have a piece of coconut in my teeth. . . . My eyes are tired. If I close them the speaker will think I’m asleep. . . .

Backside hurts. . . . I’m lost because I’m introspecting. . . . The conflict between introspection and listening is killing me. . . . If he really wants me to introspect, he must realize himself he is wasting his time lecturing. . . . This is better than the two hour wrestling match this afternoon. . . . This is the worst planned, worst directed, worst informed meeting I have ever attended. . . . I feel confirmation, so far, in my feelings that lectures are only 5% or less effective. . . . I hadn’t thought much about coming to this meeting but now that I am here it is going to be O.K. . . . Don’t know why I am here. . . . I wish I had gone to the circus. . . . Wish I could have this time for work I should be doing. . . . Why doesn’t he shut up and let us react. . . . The end of the speech. Now he is making sense. . . . It’s more than 30 seconds now. He should stop. Wish he’d stop. Way over time. Shut up. . . . He’s over. What will happen now? . . .¹

As some of the comments reveal, perhaps being asked to record vagrant thoughts as they appeared made some members of the audience less attentive than they normally would have been. But most of us know that we have very similar thoughts and lapses of attention while we attend classes and speeches.

The reasons for audience inattention are many. Some are under the speaker’s control; some are not. The speaker cannot do much about such physical problems as hard seats, crowded conditions, a stuffy room, or physical inactivity. The speaker *can* do something about psychological problems such as the listeners’ passivity and their sense of anonymity, their feeling of not participating in the speech.

Audience Analysis Even before they begin to speak, good speakers have taken audience problems into account. They have analyzed the audience’s education and experience levels. They have planned to keep their points few and to repeat major points through carefully planned variations. They plan interesting examples. While speaking, they attempt to interest the audience through movement and by varying their speech rate, pitch, and volume.

But good speakers go beyond these steps and analyze their audience and its reactions as they go along. In an extemporaneous speech and even to some extent in a written speech, you can make adjustments based on this audience analysis.

To analyze your audience, you must have good eye contact. You must be looking at Ben, Bob, and Irma. You must not merely be looking in the general direction of the massed audience. Look for such things as smiles, scowls, fidgets, puzzled looks, bored expressions, interested expressions, sleepy eyes, heads nodded in agreement, heads nodded in sleep, heads shaken in disagreement. You will not be 100 percent correct in interpreting these signs. Many students have learned to smile and nod in all the proper places without ever hearing the instructor. But, generally, such physical actions are excellent clues as to how well you are getting through to your audience.

Reacting to the Audience If your audience seems happy and interested, you can proceed with your speech as prepared. If, however, you see signs of boredom, discontent, or a lack of understanding, you must make some adjustments. Exactly what you do depends to some extent on whether you are in a formal or informal speaking situation. We will look at the formal situation first.

In the *formal situation*, you are somewhat limited. If your audience seems bored, you can quickly change your manner of speaking. Any change will, at least momentarily, attract attention. You can move or gesture more. Having gained the audience's attention, you can supply some interesting anecdotes or other illustrative material to better support your abstractions and generalizations. If your audience seems puzzled, you know you must supply further definitions and explanations and probably more concrete examples. If your audience seems hostile, you must find some way to soften your argument while at the same time preserving its integrity. Perhaps you can find some mutual ground upon which you and the audience can agree and move on from there.

Obviously, such flexibility during a speech requires some experience. Also, it requires that the speaker have a full knowledge of the subject. If every bit of material the speaker knows about the subject is in the speech already, the speaker has little flexibility. But don't be afraid to adjust a speech in midstream. Even the inexperienced speaker can do it to some extent.

Many of the speaker's problems are caused by the fact that the speech situation is a one-way street. The listeners sit passively. Their normal desires to react, to talk back to the speaker, are frustrated. The problem suggests the solution, particularly when you are in a more informal speech situation, such as a classroom or a small meeting.

In the more *informal situation*, you can stop when a listener seems puzzled. Politely ask him how you have confused him and attempt to clarify the

situation. If a listener seems uninterested, give her an opportunity to react. Perhaps you can treat her as a puzzled listener. Or, you can ask her what you can do to interest her more. Do not be unpleasant. Put the blame for the listeners' lack of interest on yourself, even if you feel it does not belong there. Sometimes you may be displeased or shocked at the immediate feedback you receive, but don't avoid it on these grounds. And do not react unpleasantly to it. You will move more slowly when you make speaking a two-way street, but the final result will probably be better. Immediate feedback reveals areas of misunderstanding—or even mistrust—of what is being said.

In large meetings where such informality is difficult, you can build in some audience reaction through the use of informal groups. Before you talk, divide your audience into small groups. Use seating proximity as the basis for your division if you have no better one. Explain that after your talk, the groups will have a period of time in which to discuss your speech. They will be expected to come up with questions or comments. People do not like to seem unprepared, even in informal groups. As a result, they will be more likely to pay attention to your speech in order to participate well in their groups.

Regardless of whether you use groups, often you will be expected to handle questions following a speech. If you have a chairperson, he or she will field the questions and repeat them, and then you will answer them. If you have no chairperson, you will perform this chore for yourself. Be sure everyone understands the question. Be sure *you* understand the question. If you do not, ask the questioner to repeat it and perhaps to rephrase it.

Keep your answers brief, but answer the questions fully and honestly. When you do not know the answer, say so. Do not be afraid of conflict with the audience. But keep it on an objective basis; talk about the conflict situation, not personalities. If someone reveals through his question that he is becoming personally hostile, handle him courteously. Answer his question as quickly and objectively as you can, and move on to another questioner. Sometimes the bulk of your audience will grow restless while a few questioners monopolize your time. If this occurs, release your audience and, if you have time, invite the questioners up to the platform to continue the discussion. Above all, during a question period, be courteous. Resist any temptation to have fun at a questioner's expense.

VISUAL AIDS

Most technical talks require visual aids.

Purpose of Visual Aids

You will use a visual aid (1) *to support and expand* the content of your message and (2) *to focus the audience's attention* on a critical aspect of your presentation.²

Support The first purpose of any visual material is *to support your message*—to enlarge on the main ideas and give substance and credibility to what you are saying. Obviously, the material must be relevant to the idea being supported. Too often a speaker gives in to the urge to show a visually attractive or technically interesting piece of information that has little or no bearing on the subject.

Suppose, for the purposes of our analysis, that you were asked to meet with government representatives to present a case for your company's participation in a major federal contract. Your visual support would probably include information about the company's past performance with projects similar to the one being considered. You would show charts reflecting the ingenious methods used by the company's development people to keep costs down; performance statistics indicating your high-quality standards; and your best conception-to-production times, to show the audience how adept you are at meeting target dates.

In such a presentation, before an audience of tough-minded officials, you wouldn't want to spend your time showing them aerial views of the company's modern facilities or photographs of smiling employees, antiseptic production lines, and the company's expensive air fleet. Such material would hardly support and expand your arguments that the company is used to working and producing on a spartan budget.

Focus Your second reason for using visual aids is *to focus the audience's attention*. A good visual can arrest the wandering thoughts of your audience and bring their attention right down to a specific detail of the message. It forces their mental participation in the subject.

When you are dealing with very complex material, as you often will be, you can use a simple illustration to show your audience a single, critical concept within your subject.

Criteria for Good Visual Aids

What about the visual aids themselves? What makes one better than another for a specific kind of presentation? Before we consider individual visual aids, let's look at the qualities that make a visual aid effective for the technical speaker.

Visibility First, a visual aid must be *visible*. If that seems so obvious that it hardly need be mentioned at all, it may be because you haven't experienced the frustration of being shown something the speaker feels is important—and not being able to read it, or even make out detail. To be effective, your visual support material should be clearly visible from the most distant seat in the house. If you have any doubts, sit in that seat and look. Remember this when designing visual

material: **Anything worth showing the audience is worth making large enough for the audience to see.**

Clarity The second criterion for a good visual is *clarity*. The audience decides this. If they're able to determine immediately what they are seeing, the visual is clear enough. Otherwise, it probably needs further simplification and condensation. The obvious mistake of showing a photograph that is out of focus or close-ups of a complex device that will confuse the audience is easy to understand. But what about the chart that shows a relationship between two factors on x- and y-axes when the axes are not clearly designated or when pertinent information is unclear or missing?

One way to achieve clarity is to choose fonts, type styles, and colors wisely (see Chapter 11, Document Design). The following are good ground rules:

- Use boldface type in a size that can be read easily.
- Limit yourself to two fonts per figure.
- Avoid all-cap styling except in single-line headings.
- Avoid visuals that use too many colors—more than four in any one visual is too many.

Visual material should be immediately clear to the audience, who should be able to understand it at a glance without specific help from the speaker.

Simplicity The third criterion for good visual support is *simplicity*. No matter how complex the subject, the visual itself should include no more information than absolutely necessary to support the speaker's message. If it's not carrying the burden of the message, it need not carry every detail. Limit yourself to *one* idea per visual—mixing ideas will totally confuse an audience, causing them to turn you off midsentence.

When using words and phrases on a visual, limit the material to key words that act as visual cues for you and the audience. If a visual communications expert giving a speech wished to present the criteria for a good visual, he might *think* something like this:

- A good visual must be visible.
- A good visual must be clear.
- A good visual must be simple.
- A good visual must be easy for the speaker to control.

What would he show the audience? If he knows his field as well as he should, he'll offer the visual shown in Figure 19-1.

The same information is there. The visual is being used appropriately to provide emphasis while the speaker supplies the ideas and the extra words. The

very simplicity of the visual has impact and is likely to be remembered by the audience.

Controllability The fourth quality of a good visual aid is that the speaker can control it. As the speaker, you should be able to add information or delete it, to move forward or backward to review, and, finally, to *take the visual away* from the audience to bring their attention back to you.

Some very good visual aids can meet the other criteria and prove almost worthless to a speaker because they cannot be easily controlled. The speaker, who must maintain a flow of information and some kind of rapport with the audience, can't afford to let visual material interfere with this task. Remember, visual material is meant *to support* you as a speaker, not to replace you.

Visual Content

So far, we have discussed the purpose for using visual aids and criteria for good visual aids. The remaining two questions of concern to you are (1) What do I use? and (2) How do I use it? Let's consider them in that order. Visual content falls into seven categories:

- Graphs
- Tables
- Representational art, such as line drawings
- Photographs
- Words and phrases
- Cartoons
- Hardware

Graphs, tables, representational art, and photographs are discussed in detail in Chapter 12 Using Illustrations. You will want to apply the suggestions made there to the visuals you choose for oral reports. Apply also the visibility, clarity, simplicity, and control criteria. For example, the table in Figure 19-2 is too complicated for use as a visual aid for an oral report. The table in Figure 19-3 would work well. The graph in Figure 19-4 is too busy. Listeners would be spending their time trying to figure it out instead of attending to the speaker. The graph in Figure 19-5 would work well. The listener can grasp the main point of it immediately, with little help from the speaker. The hard fact is that many visuals taken from articles, books, or the Internet violate one or more of the criteria and are thus unsuitable for use in oral reports. You must either revise them or create your own visuals.

In the following sections, we discuss using words and phrases, cartoons, and hardware.

Words and Phrases There will always be circumstances in which you will want to emphasize key words or phrases visually, as in Figure 19-1. This type of visual can be effective in making the audience aware of major divisions or subdivisions of a topic, for instance.

There is danger, however, in the overuse of words—too many with too much detail. Some speakers tend to use visuals as a “shared” set of notes for their presentation, a self-limiting practice. Audiences who are involved in reading long, detailed piece of information won’t recall what the speaker is saying

For technical presentations, there is still another problem with the use of words. Too often, because they may be parts of a specialized vocabulary, they do more to confuse the audience than to increase their understanding. Such terms should be reserved for audiences whose technical comprehension is equal to the task of translating them into meaningful thoughts.

Cartoons Cartooning is no more than illustrating people, processes, and concepts with exaggerated, imaginative figures—showing them in whatever roles are necessary to your purpose. (See Figure 19-6.) Not only does it heighten audience interest, but cartooning can be as specific as you want it to be in terms of action or position.

You might choose to use cartooned visual material in one of these situations:

- When dealing with a non expert audience
- When showing people-oriented action in a stationary medium (media other than motion pictures or video)

The resourceful speaker will use cartoons to help give additional meaning to other forms of visual support. For example, the use of cartoons as elements in a block diagram tends to increase viewer interest.

Like any other technique, cartooning can be inappropriate or overdone. For example, in a speech discussing a serious or grave situation, you will want to use only the most formal kinds of visual support material. On other occasions, cartooning may distract the audience or call too much attention to itself. Your purpose is not to entertain but to communicate.

Hardware After all this analysis of visual support material, you may wonder if it wouldn’t be somewhat easier to show the real thing instead.

Certainly, there will be times when the best visual support you can have is the actual object you are discussing. Notably, the introduction of a new piece of equipment will be more effective if it is physically present to give the audience an idea of its size and bulk. If it is capable of some unique and important function, it

should definitely be seen by the audience. (The greatest difficulty with the use of actual hardware is control. The device that is small enough for you to carry conveniently may be too small for the audience to see.)

Even when it's possible to present a piece of equipment physically, it's important to back it with supplementary visual materials. Chances are the audience will not be able to determine what is happening inside the machine, even if they understand explicitly the principle involved. With this in mind, you will want to add information, with appropriate diagrams, graphs, and scale drawings. In this discussion of visual support, we've stressed the points of visibility, clarity, simplicity, and control over and over. The reason for this repetition is that these points are vital to the selection and use of visual support by the technical communicator. In the end, it is you who can best decide which visual support form your message and your audience require.

You are also faced with the choice of visual tools for presenting your visual material. The next section will deal with popular visual tools, their advantages, disadvantages, and adaptability to the materials we've already discussed.

Visual Presentation Tools

The major visual tools are these:

- Computer technology
- Overhead projection
- Slides
- Charts
- Movies and videos
- Chalkboards

We have listed these tools in descending order of importance. However, all of them are still in use and are valuable ways of presenting visual material to enhance an oral report.

Computer Technology Numerous computer graphics programs now make it possible to create a dazzling array of graphs, tables, and illustrations. You can create such visuals yourself with the help of the software, or, using a scanner or Internet downloads, you can import visuals from virtually any source into your programs. By using a printer, you can turn your visuals into transparencies for use in your presentations.

A program such as PowerPoint takes the process even further, allowing you to both create your visuals *and* present them. By using PowerPoint, for example, you could create a complete slide show and present it with a few keystrokes, eliminating altogether the need for making transparencies. With

PowerPoint you can even create or import animated visuals and display them with an audio accompaniment.

With PowerPoint and computer graphics programs, you can also print out outlines and notes from your speech that you can hand out *after* you have finished for your audience to carry away as memory aids. After is a key word here. If you hand out such materials before your talk or during it, your audience will spend its time reading your outlines and notes instead of listening to you.

The good news is that such technology opens up possibilities for interesting and well-organized visual presentations unknown to speakers just a few years ago. The bad news is that the temptation to go too far with your visuals looms larger than ever before. It is so easy to type in or import text into graphics programs that speakers create wordy slides that engage the listener in reading rather than listening. Speakers create or import complicated graphs and tables that the listener has to study intently, thus losing the thread of the speaker's oral presentation. Remember the four criteria for the use of any visual:

- Visibility
- Clarity
- Simplicity
- Controllability

If your visual, no matter how beautiful, no matter how dramatic, does not meet all four criteria, don't use it.

Some of the presentation techniques in the sections that follow—particularly Overhead Projection and Movies and Videos—apply as well to computer presentations.

Overhead Projection Throughout this discussion of visual support, we've stressed the importance of maintaining a good speaker-audience relationship. It's an essential in the communication process. And it's fragile. Any time you turn your back to the audience, or darken the room, or halt the flow of ideas for whatever reason, this relationship is damaged.

The overhead projector effectively eliminates all of these rapport-dissolving problems. The image it projects is bright enough and clear enough to be used in a normally lighted room, without noticeable loss of visibility. And just as important from your point of view, it allows you to remain in the front of the room, facing your audience, throughout your presentation. The projector itself is a simple tool, and like all simple tools it may be used without calling attention to itself.

Visual material for an overhead projector is prepared on transparent sheets the size of typing paper. The methods for preparing these transparencies

have become so simplified and inexpensive that the overhead has become a universally accepted visual tool in both the classroom and industry.

Perhaps the most important advantage of the overhead projector is the total speaker control it affords. With it, you may add information or delete it in a variety of ways or move forward or backward to review at will, and you can *turn it off* without altering the communicative situation in any way. By flipping a switch, you can literally remove the visual material from the audience's consideration, bringing their attention back to you and what you are saying. Because the projector is used in a lighted room, this on-and-off process seldom distracts the audience or has any effect on the speaker–audience relationship.

There are three ways to add information to a visual while the audience looks on—an important consideration when you want your listeners to receive information in an orderly fashion. In order of their discussion, they are (1) overlays, (2) revelation, and (3) writing on the visual itself.

The overlay technique (Figure 19-7a) combines the best features of preparing your visuals in advance and creating them at the moment they are needed.

It's the simple process of beginning with a single positive transparency and adding information by "overlying" additional transparencies—that is, placing additional transparencies over the first so they are viewed by the audience as a single, composite illustration. Ordinarily, no more than two additional transparencies should be laid over the first, but it's possible to include as many as four or five. The technical person, who must usually present more complex concepts a step at a time to ensure communication, can immediately see the applications of such a technique.

The technique of revelation is simpler (see Figure 19-7b). It's the process of masking the parts of the visual you don't want the audience to see. A plain sheet of paper will work. By laying it over the information you want to conceal for the moment, you can block out selected pieces of the visual. Then, when you're ready to discuss this hidden information, you simply remove the paper. The advantage is clear enough. If you don't want the audience to read the bottom line on the page while you're discussing the top line, this is the way to control their attention.

Writing information on a transparency (Figure 19-7c) is nearly as easy as writing on a sheet of paper at your desk. You can use felt-tipped pens available for this purpose to create visual material in front of the audience. Often you can achieve your purpose by simply underlining or circling parts of your visual—a means of focusing audience attention on the important aspects of your message.

A final way of directing audience attention with overhead-projection transparencies is simply to use your pencil as a pointer. The profile shadow of the pencil will appear on the screen, directing the audience's attention to the proper place.

Slides The 35-mm slide, with its realistic color and photographic accuracy, has always been a popular visual tool for certain types of technical presentations.

Slide magazines allow you to organize your presentation and keep it intact. Remote controls allow you to operate the projector—even to reverse the order of your material—from the front of the room.

To use slide projectors effectively, however, you must turn off the lights in the room. Any time you keep your audience in the dark, you risk damaging the direct speaker–listener relationship on which communication hinges. In a sense, turning off the lights takes the control of the presentation out of your hands. Long sequences of slides tend to develop a will and a pace of their own. They tire an audience and invite mental absenteeism.

There are ways to handle the built-in problems of a slide presentation, simple techniques that can greatly increase audience attention and the effectiveness of your presentation.

- When using slides in a darkened room, light yourself. A disembodied voice in the dark is little better than a tape recorder; it destroys rapport and allows the audience to exit into their own thoughts. To minimize this effect, arrange your equipment so you may stay in the front of the room and use a lectern light or some other soft, nonglaring light to make yourself visible to the audience.
- Break the presentation into short segments of no more than five or six slides.
- Always tell the audience what they're going to see and what they should look for.

Everything considered, slides are an effective means of presenting visual material. But like any visual tool, they require control and preparation on your part. The important thing to remember is that they are there only to support your message—not to replace you.

Charts Charts take a couple of forms. The first is the individual hardboard chart, rigid enough to stand by itself and large enough to be seen by audience members, wherever they might be seated in the room. It is always prepared before the presentation, sometimes at considerable cost.

The second chart form is the flip chart, a giant-sized note pad that may be prepared before or during the presentation. When you have completed your discussion of one visual, you simply flip the sheet containing it over the top of the

pad, as you would the pages of a tablet. The two types of charts have a common advantage. Unlike the chalkboard, they allow you to reshoot a piece of information when necessary—an important aid to speaker control.

The following techniques will help you use charts more effectively during your presentation. They're really rules of usage, to be followed each time you choose this visual form for support.

Keep it simple. Avoid complex, detailed illustrations on charts. A three-by-five-foot chart is seldom large enough for detailed visibility.

Ask for help. Whenever possible, have an assistant on one side of your charts to remove each one in its turn. This avoids creating a break in your rapport with the audience while you wrestle with a large cardboard chart or a flimsy flip sheet.

Predraw your visuals with very light-colored crayon or chalk. During the presentation, you can simply draw over the original lines in darker crayon or ink. This allows you to create an accurate illustration a step at a time for clarity.

Prime the audience. Tell them what they are going to see and why before you show each visual.

Movies and Videos Whenever motion and sound are important to the presentation, movies and videos are the visual tools that can accomplish the effect. Like slides, they also provide an exactness of detail and color that can be critical to certain subjects. There is really no other way an engineer could illustrate the tremendous impact aircraft tires receive during landings, for instance. The audience will understand the subject only if they are able to view, through the eye of the camera, the distortion of the rubber when the plane touches down.

But movies and videos *are* the presentation. They cannot be considered visual support material in the sense of the term developed in this chapter. They simply replace the speaker as the source of information, at least for their duration. If they become the major part of the presentation, the speaker is reduced to an announcer with little more to do than introduce and summarize their content. This makes movies and videos the most difficult visual forms to control. Yet they can be controlled, and, if they are to perform the support functions we've outlined, they must be. Some effective techniques are given here.

- Prepare the audience by explaining the significance of what you're about to show them.
- Be sure that if a film or video is to be used, it makes up only a small part of the total presentation.

- Whenever possible, break the film or video into short three- or four-minute segments. Between segments you can reestablish rapport with the audience by summarizing what they have seen and refocusing attention on the important points in the next segment.

Chalkboards As a visual aid, the chalkboard leaves something to be desired. In the first place, preparing information on a chalkboard, especially technical information in which every sliding scrawl can have significance, takes time. And after the material is in place, it cannot be removed and replaced quickly. Second, the task of writing on a surface that faces the audience requires that you turn your back toward them while you write. And people don't respond well to backs. They want you to face them while you're talking to them. Add to these problems the difficulties of moving a heavy, semipermanent chalkboard around, and you begin to wonder why anyone bothers.

Low cost and simplicity are the reasons. The initial cost of a chalkboard is higher than you may think; but the cost of erasers and chalk is minimal. In spite of its drawbacks, a chalkboard is also easy to use. It may take time, but there's nothing very complicated about writing a piece of information on a chalkboard. This simplicity, of course, gives it a certain flexibility, making it essentially a spontaneous visual aid on which speakers can create their visual material as they go.

There are specific techniques for using a chalkboard that make it a more effective visual tool and help overcome its disadvantages. Let's consider them one at a time.

- **Plan ahead.** Unless there is a clear reason for creating the material as you go, prepare your visual material before the presentation. Then cover it. Later, you can expose the information for the audience at the appropriate point in your speech.
- **Be neat, and keep the information simple and to the point.** If your material is complex, find another way of presenting it.
- **Prime the audience.** Before showing your information, tell them what they're going to see and why they're going to see it.

This last point is especially important when you are creating your visual support as you go. Priming your listeners will allow you to maintain the flow of information and, at the same time, prepare them mentally to understand and accept your information.

PLANNING AND REVISION CHECKLISTS

You will find the planning and revision checklists that follow Chapter 2, Composing, and Chapter 4, Writing for Your Readers, valuable in planning and revising any presentation of technical information. The following questions

specifically apply to oral reports. They summarize the key points in this chapter and provide a checklist for planning and revising.

Planning

- What is the relationship between you and your audience?
- What is the attitude of your audience toward you and your presentation likely to be?
- Is your audience from a culture markedly different from yours? What adjustments to your persona and your presentation will any such difference require?
- What are the conditions under which you will speak?
- What equipment is available to you?
- Which delivery technique will be more appropriate? Extemporaneous? Manuscript?
- If you are speaking extemporaneously, have you prepared a speech outline to guide you?
- If you will be reading from a manuscript, have you introduced a conversational tone into your talk? Is your typed manuscript easy to read from?
- Do you have a good opening that will interest your audience and create a friendly atmosphere?
- Have you limited your major points to fit within your allotted time?
- Does your talk contain sufficient examples, analogies, narratives, and data to support your generalizations? Have you repeated key points?
- Can you relate your subject matter to some vital interest of your audience?
- Which visual aids do you plan to use?

Graphs?

Tables?

Representational art?

Photographs

Words and phrases?

Cartoons?

Hardware?

- Which presentation tools will you use?

Computer programs?

Overhead projection?

Slides?

Charts?

Movies and videos?

Chalkboard?

- Have you prepared your graphics? Do they successfully focus the listeners' attention and augment and clarify your message? Do they meet the four criteria that govern good graphics?

Visibility
Clarity
Simplicity
Controllability

- Do you have a good ending ready, perhaps a summary of key points or an anecdote that supports your purpose?
- Have you rehearsed your talk several times?

Revision

Obviously, you can't revise a talk you have already given—unless, of course, you will have an opportunity to repeat it somewhere. But you can use revision techniques in your practice sessions. Most of the questions listed above under Planning lend themselves to use during revision. Also, you can critique your speeches, looking for ways to improve your delivery techniques in future speeches. The following questions are useful for critiquing a speech. You will find it helpful to ask someone in the audience to give you friendly but honest answers to all the questions listed in the Planning and Revision sections.

- Did your gestures support your speech? Did they seem normal and relaxed? Did you avoid nervous mannerisms?
- Was your speech rate appropriate? Did you vary rate, pitch, and volume occasionally? Could everyone hear you?
- Did you pronounce all your words correctly?
- Did you have good interaction with your audience? Were they attentive or fidgety?
- Did you talk fit comfortably into the time allotted for it?
- Did the questions that followed your talk indicate a good understanding of it? Did the questions indicate friendliness or hostility to your key points?
- Were you sufficiently informed to answer the questions raised?
- Were there any indications that members of your audience could not see or readily comprehend any of your visuals?

EXERCISES

1. You are an instructor at your college. Prepare a short extemporaneous lecture on a technical subject from your field. The students in your audience are not in your field.
2. You are the head of a team that has developed a new product or process. Your job is to persuade a group of senior managers from your own firm to

- accept the process or product for company use. Assume these managers have a layperson's knowledge about your subject. Speak extemporaneously.
3. As a highly regarded expert on your subject, you have been invited to speak about it at the annual meeting of a well-known scientific association. You are expected to write out and read your speech. You are to inform your audience, which is made up of knowledgeable research scientists and professors from diverse disciplines, about your subject or to persuade them to accept a conclusion you have reached.
 4. Imagine you work for a company that manufactures a product with which you quite familiar. You have been given the task of persuading the executives of a either a Latin American or an Asian corporation to purchase this product for their employees. Assume that the executives have a good working knowledge of English but are probably not conversant with American slang or idioms (see Chapter 7, Writing for International Readers).
 5. Adapt for oral presentation a report you have already written. Speak extemporaneously.

FIGURE 19-1 • A Simple Visual: Criteria for Visual Aids

FIGURE 19-2 • A Complicated Table

Source: U.S. Department of Commerce, Statistical Abstract of the United States, 118th ed. (Washington, DC: GPO, 1998), 32.

FIGURE 19-3 • A Simple Table

Source: U.S. Department of Commerce, Statistical Abstract of the United States, 118th ed. (Washington, DC: GPO, 1998), 817.

FIGURE 19-4 • A Complicated Graph

Source: U.S. Department of Commerce, Statistical Abstract of the United States, 118th ed. (Washington, DC: GPO, 1998), 652.

FIGURE 19-5 • A Simple Graph

Source: U.S. Department of Commerce, Statistical Abstract of the United States, 118th ed. (Washington, DC: GPO, 1998), 782.

FIGURE 19-6 • CARTOONING

Source: FOA Consumer, July–August 2000, 15.

FIGURE 19-7 • Using Overhead Projectors

(a) Using overlays. (b) The technique for revelation. (c) Writing on transparencies.