

the American academic or scholarly reader who values efficiency.

Another difficulty is determining what is considered an “academic style” because spoken academic style is often quite different than written academic style. Lecturers, conference presenters, professors and other academic and professional speakers often use very informal language such as *things*, or *a lot of*. In addition, it is common to hear informal transitions such as rhetorical questions: *So what should be done?* However, formal academic writing is usually very different than speech. Even textbooks, like this one, often use a more informal style than research papers or papers for publication. In order to learn the academic expectations of your field, it is essential that you begin studying journals and papers in your own field. This textbook will often ask you to examine specific aspects of writing in your field by looking closely at journals published in your academic discipline.

In this book, we define “academic writing” as papers you would do for a professor or articles for publications in technical journals and conference proceedings. In most cases, graduate writing and scholarly writing follow the same principles, so unless there are some distinctions, the term “academic writing” will be used to include both graduate writing and professional scholarly writing.

PRINCIPLES OF ACADEMIC AND PROFESSIONAL WRITING

Principle 1: Focus on the Readers' Needs

In order to communicate well to an academic and professional American audience, you must consider what the readers need to understand and then write in a way that makes it easy for them. You must think first about the needs of the **reader**, not the needs of the writer. In academic writing, the reader wants to find information quickly and efficiently. It is the job of the writer to make it easy for the reader. If the readers do not understand a piece of writing, they are not at fault for being stupid; it is the **writer's fault** for not making it easy for the reader. This is exactly opposite of many countries' expectations. Writers in many other countries, especially academic writers, often try to show their intelligence by using large and beautiful words, making concepts overly complicated, and reporting difficult concepts or theories without much explanation. Of course, there are times when this is appropriate in English writing as well, but most American academic writing is meant to convey information in a way that the reader **CAN** understand. The goal of the writer should be to help the reader

understand the information quickly and easily at the technical level of knowledge of the reader (not the writer). Low-context cultures such as the United States do not assume their readers have the same background, so writers must learn who their primary readers are and then write information that fits the needs of those writers. In order to determine the readers' needs, you will need to ask the following questions.

1. *What does the reader know?* What is the reader's level of technical knowledge? It is very frustrating for readers to read something that is too far above or below their level of knowledge. Determine who your primary readers are, and write in the style and level of technicality that they expect and can understand.
2. *What does the reader need to know?* Put the most important information the reader needs to know first. American readers usually prefer not reading "unnecessary" information that does not follow the main point closely, even if it is interesting to the writer. For example, it is common for reviewers' comments to include statements such as this one from a recent reviewer of a computer science paper: "This is interesting, but does it really relate to the core idea of your paper? I don't think so, so then it is just extraneous and confusing to the reader. You shouldn't include things that aren't part of your story, especially not in the middle of the description of the results."
3. *What is the clearest and simplest way to get the information across to this particular audience?* For most academic writing, the clearest and simplest format will include headings, subheadings, numbers, bullets and other writing devices that make reading easier.

Consider helping the reader by using the following strategies:

- Give adequate detail and explanations - probably more than you would give to an intelligent audience in your country.
- Define key words and concepts - even if some of your readers understand the key words, it is necessary to help ALL readers understand.
- Determine the level of formality according to your readers' needs.
- Provide enough background for readers who are not familiar with the concepts.

It is the writer's responsibility to make the ideas, connections, and definitions clear. (We cannot say this strongly enough!) The reader should have to do no original thinking or "filling in the blanks" in order to understand the information. This is very different from some countries where it would be an insult or considered a wordy writing style to tell the reader everything you are thinking. In

many countries, it is common to leave unwritten what might be considered obvious. In North America, however, it is important to use relevant examples, definitions and other techniques that help the reader understand the points.

Definitions

One of the more common techniques to help the readers is to define the most important words for the reader. It is important that all readers understand the key words, so academic writers often begin sections or new ideas by defining the key terms. Even if the primary audience understands the term, definitions are used to do the following:

- Control the scope of terms (limit the meaning to how it is used in the study).
- Establish the importance of the subject and terms.
- Help readers understand the main topic of the paper.

Definitions often have the following construction:

Key term + category/class + explanation.

Debt is money that one person, organization or country owes to another.

Create one definition from your field following this construction.

Exercise 1.1 Definitions

In the following definitions, the key term is italicized. Underline the category or class of the defined word. Number one is finished for you.

1. *Import Substitution* is a development strategy that employs trade barriers and heavy subsidies to promote industrialization and economic growth.
2. *Thermal convection* is motion of a fluid due to non-uniform temperature distribution.
3. *Bimetals* are components made up of two separate metallic units, each occupying a distinct position in the component.
4. *Stakeholder analysis* is a strategic planning tool used for analyzing the main players in an organization, decision-making process, or given situation.

Where do you think you would find these definitions in these writers' papers? How do these key words help the reader understand the focus of each of these papers?

Exercise 1.2 Definitions

Analyze the following definition.

Does it follow the correct pattern?

Does it help the reader understand the fundamental meaning of “time-value of money”?

The “time-value of money” concept is one of the most important concepts in all of corporate finance. It is important in such areas as capital budgeting, financial arrangements, and mergers. Two basics of time-value of money are future value and present value.

Principle 2: Reduce Wordiness and Beautiful Words

Non-native writers tend to add large, sophisticated (beautiful, rare) words to sound more intelligent. If your readers often have to grab the dictionary when reading your paper, you are doing something wrong. Choosing big words does not make your writing interesting. Instead, it only annoys your American readers.

Academic writers in North America usually state the point more directly with less wordiness and fancy words than in most other countries. (Note: this is not true of American poetry or literature where the beauty of the language is appropriate.) In academic writing, the beauty of the language is not so important as the clarity and directness of the message. One international student described it this way, “Americans throw out all the flowers and leave the dirt.” American readers are almost always more interested in the key message than how beautifully the message is delivered. This should be good news for non-native writers since it is easier to write without the fancy words.

Consider the following examples. How has the writer changed the original sentences to be more direct or less wordy?

1. The administration is responsible for soliciting, collecting and distributing graduate research grants so that graduate students have the ability to find employment by doing research projects.

Change to: The administration solicits, collects, and distributes graduate research grants for graduate students’ employment.

2. I write to you to let you know about our new grant distribution policy that has been discussed and decided upon.

Change to: We have decided upon a new grant distribution policy.

3. A new rod is necessary to insert into the machine.

Change to: The machine requires a new inserted rod. (or) A new rod must be inserted into the machine. (or) Insert a new rod into the machine.

4. Fluoride has been banned for use in AC units. This has lessened the ozone layer's depletion.

Change to: Fluoride has been banned for use in AC units, lessening the ozone layer's depletion.

5. The financial analyst who dealt with finances tried to determine the outcome of the market which was very unpredictable.

Change to: The financial analyst tried to determine the outcome of the unpredictable market.

Exercise 1.3 Wordiness

Change each of the following sentences to reduce the wordiness.

1. Each product on the market has a limited period of time of life.
2. You may be interested to learn that there are a number of references in the literature citing support for this research study.
3. The reason why we had a disaster is because in the month of April the project team did not cooperate together to come to a consensus of opinion on the necessary requirements for the procedure.
4. This is to let you know that you should use the department's 50XX account number for the purpose of purchasing miscellaneous items.

Avoid filler words

Words such as *basically*, *essentially*, or *as a matter of fact* are also considered unnecessary in formal academic writing. Speakers often use these "filler words," but academic writers remove these words because they add nothing to the meaning of the text. *In general*, *Generally*, or *Overall* are sometimes used as adequate substitutes.

It...that phrases can also be removed in most academic writing. Especially non-native writers often try to soften the strength of their claims by adding these words, but American readers consider these words unnecessary or wordy. Phrases such as, “It is interesting to note that....” are usually considered unnecessary or wordy. The exception to this principle is when describing highlights from figures, writers often add these types of phrases.

Avoid, or at least reduce, the following phrases, especially double negatives such as “**not impossible**.”

It is not impossible to imagine that....

It seems that there can be little doubt that....

In light of the fact that....

It is considered that....

Principle 3: Put Major Points First and Emphasize Key Points

Organization of key points is different than in many other countries. Major points are usually put **in the first part** in papers, in sections, in paragraphs, and in many sentences. Background and details almost always FOLLOW the key point. Americans usually want to know what the main point(s) is before reading the details. If you organize your papers so that you build a case like a mystery story (giving background first, then slowly revealing details before giving the main point) your readers will be very frustrated.

One of the most common features of North American writing is this direct, up-front approach. For example, the introduction or initial summary includes the key points so the reader can STOP reading after the introduction if he or she chooses to do so. In contrast to the typical American style of academic writing, some country’s writing styles, particularly Asian writing, can be compared to painting a picture. The picture (main idea) slowly emerges as more and more details are added. Finally, by the end of the essay, the full picture is revealed and the reader understands the overall picture (the key message).

In North America, on the other hand, the writer describes a miniature picture (summary) of the content at the beginning instead of waiting for the end to reveal the full picture. At the beginning, the writer explains the purpose of the piece of writing, the key point(s) of the document and sometimes the main conclusions. Then the writer gives the background and the details.

In memos, for example, the key point is almost always found in the subject line and the first or second sentence. It is NOT stated like: “I will present some

information and give you some recommendations.” Instead, the key point is stated directly: “We are changing our orientation schedule to include....” (presenting key information first).

E-mail

This principle can be easily illustrated in e-mail messages and letters. American professional writers rarely start with background including “my name is...” or even “I am from...” Instead, they start with the main message in the first sentence and then give background information, if needed. Most non-native writers are surprised that Americans do not use their names in the first sentence of the e-mail message and do not start with the person’s background.

Exercise 1.4: Main message first

Answer the following questions about this e-mail. Then rewrite the e-mail according to the above principle by putting the main message first and eliminating unnecessary background.

1. What is the main message of this e-mail?
2. Where would an American audience expect to find this main message?
3. What details would an American audience want added in this e-mail?
4. What details are unnecessary in this e-mail?

Dear Sir:

My name is Lisong Li. I am from China. I am a student at Tsinghua University and will graduate next year with a degree in Mechanical Engineering. I have been looking at your Ph.D. program in Mechanical Engineering at your university. I would like to receive more information about your program. Thank you for your consideration.

Sincerely,
Lisong Li

Academic essay papers

For academic essay papers, the main point is not usually found in the first sentence. Instead it is usually stated clearly in the last sentence of the introduction paragraph. This sentence is called the “thesis statement,” a clear statement of the overall point or argument of the paper. In many other cultures, this type of sentence often appears in the middle or the last paragraph of the paper (the conclusion), but in North America, the reader will expect it to be placed in the introduction.

Exercise 1.5 Thesis statements in the introduction

Read the following introduction paragraph from an academic paper that presents and argues a point. You could imagine that this paragraph is an introductory paragraph for a TOEFL-type essay question asking, “Should the music industry limit sexual and violent images shown on music channels?”

1. Underline the main point or the thesis statement in this paragraph.
2. Why do you think this writer put the main point (main argument) in the introduction of this paper instead of in the conclusion paragraph?
3. What is the purpose of the middle sentences?

The birth of Music Television Video (MTV) in the early 1980s revolutionized the music industry, giving them immediate access to millions of homes. Music videos shown on MTV usually show images that represent the lyrics of a song and graphically illustrate the singer’s message. However, increasingly music videos depict explicit sex and violence in the lyrics. Songs and their representative music videos such as “I Want Your Sex” by George Michael and “Cop Killer” by Ice T represent this trend. While musicians claim they have freedom of speech to express their ideas, it must be questioned whether young viewers should see images of sex and violence in these music videos. MTV is viewed by millions of viewers, many of whom are under 16 years of age. Currently, no government or industry restrictions are placed on the music or television industry to censor the lyrics or images except voluntary self-censorship. MTV executives claim that the responsibility for censorship lies with the parents, but parents are left with little choice but simply refusing to allow their children to watch any MTV images. MTV has an obligation to censor violent and sexual images, and to arm parents with tools such as rating warnings and time-of-day restrictions.

Key points in research paper introductions

In research papers, the introduction usually states the purpose and gives a description of the study such as in the following paragraph. The “thesis statement” is not a presentation of the argument, but a presentation of the key points of the study. The main ideas of the study are given in the introduction including the purpose of the study, background about the issue and the significance of the research focus.

Exercise 1.6 Main ideas in research papers

Examine the following research paper introduction about communication styles.

1. What is the purpose of the first sentence?
2. What is the purpose of the middle sentences?
3. How does this introduction end?

This study examines cross-cultural communication strategies used by Chinese and American participants. As relations between the United States and China grow increasingly closer, more interactions between Americans and Chinese are seen in business as well as in informal situations. In addition, the past several years have seen the number of Chinese students studying in the United States increase dramatically requiring more verbal interaction between students of the two cultures. Examining the communication problems that may occur between these two groups include not only language differences but also the different framing strategies used for group discussions. For example, Chinese participants report that Americans promptly begin and end a group discussion while the Chinese participants may want to talk about procedural matters before discussion begins. Also, when giving reasons for a point, Americans often frame their reasons as “one, two, three” while Chinese participants often frame their reasons as “storytelling.” Understanding communication characteristics, expectations and motivations of participants from different cultures may help us understand the differences and predict potential points of conflict.

Other techniques to emphasize ideas effectively

Research writers need to know how to emphasize ideas in writing so the contributions they make to the field get noticed. Besides placing important information first, the following techniques describe how to emphasize key information.

1. *Omit or reduce the amount of less important information.* Provide less important information only if it is necessary for understanding the key points. The more “noise,” the more difficult it is to focus on the message.
2. *Use dependent clauses to subordinate less important information.*

For example:

Weak: During the past century, major strides have been made in the discovery of new drugs. (*Obvious fact as background*) These discoveries have led to amazing changes in the quality of people’s lives. (*Obvious fact as background*) More potent and effective new drugs are urgently needed. (*Key point*)

This paragraph seems to be an insult to the reader since the first two statements are so obvious. When written this way, it seems that the main point is “major strides have been made.” The first two sentences do not help the reader understand that the key point is coming in the next sentence.

Improved: Although major strides have been made in the discovery of

new drugs leading to amazing changes in the quality of people's lives, (subordinating the background) more potent and effective new drugs are urgently needed. (Key point)

The order of the information has not changed, but the first subordinate clause leads up to the key point. Using the subordinate clause beginning with "Although," the reader understands that the key point is NOT to teach about the discovery of new drugs but to tell us that more potent drugs are needed.

After, although, as, because, before, despite, even though, since, when, and while are common subordinating conjunctions.

3. *Tell readers what information is important* (or less important). For example,
 The most important finding of this study is....
 One of the most important findings of our study is....
 The most unusual aspect of ... is....
 There were no important changes in....

4. *Repeat important information.*

The main message of a paper can be given several times: in the title, in the abstract, in the discussion (perhaps twice in this section—beginning and end), and in individual paragraphs (stated as a topic sentence at the beginning of the paragraph and as a concluding idea at the end of the paragraph).

5. *Avoid weak references* by overusing "it is considered that..." "it is important to note that..." "it has been suggested that..." or similar phrases that take the focus away from the message. For example,

It has been considered that this method assesses explicit memory (Bauer, 19XX; Mandler, 20XX; Meltzoff, 20XX).

Change to: This method assesses explicit memory... (or)

Several researchers have used this method to assess explicit memory.

6. *Use preview lists at the beginning of a report or section.* A preview list gives the main points that will be discussed below. For example:

Joe Smith has written extensively about demutualization in the *Journal of Business*. He suggests that there are four main reasons why a mutual insurer would demutualize: access to capital, organizational flexibility, avoidance of the income tax setback, and aligning the interests of managers with those of shareholders.

The reader understands that each of these items will be discussed below (probably in separate paragraphs or sections). The preview list also helps the readers skim the information quickly and decide if they want to read more details later.

Principle 4: Reduce Humility, Modesty, Politeness, and Esteem

North American writing demonstrates a general lack of humility, especially compared to most Asian writers. Compared to many other cultures, American academic writing has an overall lack of polite phrases or words of flattery. This may reflect Americans' tendency toward directness, but it also reflects Americans' value of equality—not wanting to treat one class or group of people as inferior to another group of people. Sentences of humility, modesty, politeness, and esteem are seen as flattery (false praise) and not generally appreciated. This seems strange to many internationals who have learned elegant words, phrases and polite gestures to use with people in authority. However, American writers are much more straightforward and direct.

Even when writing a letter of apology, it is common for American business writers to avoid long apologies and focus on the result by saying, "I am sorry that your bill was incorrect, and we will be happy to refund the difference to you." One sentence or less is usually all they say in terms of apology and then they quickly rush on to the solution. At the end of the letter, it is likely to find another sentence such as, "Again, please accept our apologies for the mistake, and I hope that this solution will correct the situation," but this apology is brief.

Likewise, modesty is not usually expressed with words like "your esteemed company" or "I humbly request..." or "Smith's work is beyond compare" as is common in many cultures. These expressions are not seen as sincere or respectful but, in fact, are often seen as comical to the American reader. At the opposite extreme, Americans avoid being overly negative or too demanding by saying things like, "You will do such and such..." Americans try to employ tact or kindness and focus on reader benefits in order to get what they need.

Exercise 1.7 Reduce humility

Read the following letter received by an American businessman from a Taiwanese client. The American businessman had had no previous contact with this client. According to the principles described above, how do you think the American reader responded to this letter?

Dear Sir:

Your company is famous around the world. You are a very good person. You are very kind to people and a patient manager.

I am interested in learning English and about pronunciation. I teach at a senior high school. I plan to recommend your products to the people who are interested in them. Does your company have a discount for this product? I apologize to you for this request. I plan to buy the following products:

Pronunciation for Success

Success with Presentations

Enclosed you will find a traveler's check I have signed. It is kind of you to help me. Thank you in advance for your kind consideration.

Sincerely,

Xue Ying

1. Where did this writer put the main point?
2. How would you rewrite this memo to reflect the "direct approach"?
3. How would you reduce the humility demonstrated in this letter?
4. What transitions or phrases would help improve the flow of this letter?

Exercise 1.8 Reduce modesty

In contrast to the humility and modesty demonstrated in the above letter, a graduate student had to write to a professor to make a difficult request. He had already written to the professor but had received no reply. So he decided to write a follow-up letter. His first draft was full of flattery and self humility, but he realized he needed to write a more direct letter without the modesty. It felt very strange to him, so he asked his writing teacher to read it before he sent it. She assured him that this approach was the correct one and would probably produce the results he desired.

1. Underline the main message of this letter.
2. Circle the transitions that improve the flow of the letter.
3. Discuss with a partner how you should change this letter if you were writing to a professor in your country.

Dear Professor Nelson:

I am writing to ask you again about possible masters thesis project ideas and to inquire about a TA position.

First, I am looking for a project for my masters thesis which would be available at the beginning of fall semester. In order to prepare to take courses and review some literature in advance, it would be helpful if I knew my research topic.

Second, I am anxious to receive a teaching assistant position to support my studies. I have extensive experience in mechanical engineering and have taken the TA training course. I would be willing to accept TA positions in other areas as well.

If you have any projects available at the beginning of fall semester, I would like to apply so I can engage myself in doing some real research work as soon as possible. Please let me know what the prospects are.

I look forward to receiving your comments.

Nalin

Principle 5: Write Specifically and Concretely

Examples, analogies, explanations and definitions are highly valued in North American scholarly writing. In contrast, abstractions or imbedded meanings are not appreciated in most academic writing. Instead, clear examples and (often) detailed explanations are used throughout the paper. When you are writing, think of ways you can illustrate a point with an example. State your point, use a transitional phrase like “for example,” and then tell the audience how this example relates to your point: “This example illustrates the theory of relativity by...” Even though the connections are clear to you, your readers want you to tell them that this is an example and exactly what part of the example relates to your point.

Exercise 1.9 Introducing and explaining examples

1. Read the following paragraph.
2. Underline the main point of this paragraph.
3. What strategies are used to explain, clarify or illustrate the problems?

Every year, many Korean high school students study abroad because they are dissatisfied with the Korean educational system. In a survey conducted by *Korea Times* called “What do you think about study abroad?” almost 75% of the respondents said they would study abroad if they were given the opportunity. (documentation) Problems with the Korean education system include severe

pressure to get into a college, a focus on memorization instead of creativity, and the final examination system. However, the Korean government has not adequately addressed these issues so they continue to lose intelligent students who leave to study abroad.

Using specific language

Another important aspect of this principle is to avoid ambiguous or vague sentences. A paper with vague or abstract sentences will leave the reader confused without a clear understanding of your topic. Instead, your writing should contain specific, concrete details to help the reader visualize what you are discussing and hold the reader's attention. You can use reasons, examples, names, numbers, and detailed explanations to make your writing more specific.

Exercise 1.10 Avoid abstractions

What are the differences in the following example pairs?

Underline the added detail or explanation in the second sentence of each pair.

1. Internationalization is becoming an important topic of discussion in many MBA programs. Courses related to internationalization have increased recently.

Because of the increasing economic interaction between countries, internationalization is becoming an important topic of discussion in over 70% of MBA programs. Courses related to globalization have increased by 59% in the last 5 years.

2. The governor enacted legislation that decreased the amount of aid available to college students.

The governor of Minnesota, Tim Pawlenty, enacted legislation that decreased the amount of direct financial aid available to middle-income college students.

3. Even though many members were absent, the candidate was still approved.

Even though 13 members of the Curriculum Committee were absent, the candidate for assistant professor was still approved.

4. The report on weapons of mass destruction describes their effects.

The statistics from the Powell Report describe the number of potential deaths and life-threatening diseases weapons of mass destruction could inflict.

Exercise 1.11 Adding detailed language

Change each of the following sentences to include more detail or explanations.

1. A substantial segment of the population speaks a second language.
2. We would like to request some information.
3. The data show significant results.
4. There are so many organisms around us all the time.

Provide sufficient evidence

Finally, it is important that you add enough information to prove a point. Many professors complain that non-native writers do not seem to “prove” their points. They expect the professor to “fill in the details.” Many students believe that since the professor is smart, it would be insulting to state what might seem obvious. However, in North America, adequate evidence shows critical thinking and depth, especially in academic writing. Most importantly, the evidence must be sufficient and reliable. Valid evidence may include research data, personal examples, observations, logic, and/or specific, objective and verifiable facts. Intensity or passion of an argument is not usually valid. In science, readers expect evidence to be based mostly on facts or experiment results of previous or current studies. In business writing and social science writing, personal observation and anecdotes are also considered valid evidence as long as the entire argument is not based on these types of evidence.

A partial list of strong evidence includes

- Statistics
- Experimental data
- Direct observation (“According to my experience in the CPT Company...”)
- Opinions (with logical explanation – how you arrived at that personal conclusion)
- Expert testimony (“According to the head of the Environmental Protection Agency...” Not used as often in science or engineering, but used often for business and social sciences.)
- Specific examples—often with details (Instead of “Distribution has decreased,” it is better to say, “Distribution has decreased by 20% in the past 2 years causing a loss of \$25,000. For example in ABC Co., distribution has decreased by...”)

Provide flow

American readers want to be led carefully from one idea to the next. Whereas many non-native writers claim that they want to “leave space for the reader to think,” there should be no gaps in the flow, so transitional words and phrases are essential. To you, it may be clear that you are giving an example of a point, but to the reader, it may not be clear. You have learned common transitions such as *however, in contrast, for example, to illustrate, in addition, while/whereas, although, because, also* and many others. However, it is not enough to know these words, you must be convinced that the American reader needs transitional words, phrases, and sentences often or you may avoid using enough of them. More discussion of this concept and a list of transitions are given in Chapter 2.

Exercise 1.12 Providing flow

Underline all the transitions or words that provide flow in the following paragraph. Notice the repetition of key words in the transitional phrases. The first few have been underlined for you.

Speaking is a complex process involving decoding thoughts, construction of sounds and formation of those sounds into intelligible words and phrases. (*Notice the definition.*) However, simply linking together a string of individual sounds called phonemes does not produce intelligible language. The aspects needed to speak English intelligibly include enunciating sounds appropriately, forming correct intonation patterns, providing adequate word and sentence stress, and speaking at an appropriate rate. (*Notice the preview list of items presented below.*) The first aspect involves learning to form sounds through appropriate lip, tongue and jaw movement, often referred to as enunciation. The second aspect requires learning an adequate intonation range, usually spanning four intonation levels, and using the appropriate level to convey meaning or intention. Another speaking aspect involves providing emphasis or stress on appropriate syllables and words. For example, the word *record*, stressed on the first syllable is a noun, but becomes a verb if it is stressed on the second syllable. In addition, stressing certain words in a sentence can change the intent of the speaker. For example, the listener will understand the following sentences differently: “I want YOU to do it” versus “I want you to DO it.” Finally, speakers must learn the skill of appropriate speed such as stretching out vowels in stressed syllables, slowing down for the most important word in a phrase, and pausing between phrases. Simply focusing on one aspect such as pronouncing individual sounds does not provide intelligible speech. All these aspects must be learned and practiced.

Principle 6: Show Critical Thinking

Original ideas and showing critical analysis of others' ideas are highly appreciated (particularly in less technical fields). Americans believe that originality is extremely important—even to the point of critiquing the work of the “great masters.” Commonly, professors will ask students to read a well-known author's paper or theory and analyze or criticize (critique) it. Simply repeating what the author has said and mostly agreeing with the ideas are not enough. Likewise, social science and business professors often give situations or case studies where the goal is to come up with an original solution and present it in the paper. Simply repeating the given information does not show critical thinking. The focus of the paper must be on your original solution and recommendations or analysis of the situation. In many countries, criticizing someone with a higher status would be arrogant and insulting. However, Americans believe that new ideas are formed by analyzing and questioning previous work. Overemphasis on praising an author's work is considered a lack of critical thinking. Especially for students in graduate school, this is a very serious problem.

Exercise 1.13 Critical thinking

Do the students in the following examples show critical thinking? Underline the sentences that show critical analysis of the author's work. (You may not understand the difficult vocabulary if it is outside your field, but you should be able to identify the phrases that show critique.)

1. One of the critical problems with introducing the channel model in Cassioli's paper (20XX) is the inconsistency with Smith (20XX). As stated in Smith's paper (20XX), the power ratio of the second arrival path over the first arrival path, r , of the channel follows the lognormal distribution with parameters -4 and 3 . However, in Cassioli's paper (20XX) the parameters of the power ratio r were changed to -0.4 and -0.3 , but the reason for the change was not provided.
2. Lee and Liu (20XX) prepared liquefied bark-based resol resin with the liquefied products formalin and sodium hydroxide aqueous. After reaction, the liquefied resins were used for the particle board product. However, the sodium ion remained in the resins, which will affect the static bending strength and internal bonding strength of particle board... The authors could have made their liquefied bark-based resol resin study more convincing if they had gathered more data to show that the sodium ion had no effect on the resin.

3. Nygen (20XX) suggested that teachers for gifted learners should use a curriculum that provides greater depth, varied topics, and an accelerated pace using technology to support program goals and address the individual needs of the gifted students. This assessment is accurate in that information and communications technology can be used effectively to assist the gifted learners.... However, the positive results for the gifted are not primarily from the integration of technology. These students will likely learn well, even without the integration of technology into the curriculum, but Nugent claims technology is the main variable in gifted children's improvement. Technology is only one type of delivery method of information. Nugent failed to mention that greater depth and accelerated learning can be achieved through many delivery methods, even without technology.

Conclusion

These six major principles of writing should affect much of your academic and scholarly writing to an American academic or professional audience. Many of the exercises presented in this book relate directly to these six principles.

Exercise 1.14 Examine the literature of your field

Choose any article from a North American professional or academic journal. Answer the following questions:

1. Who is the audience? How can you tell? Is every reader of this article at the same professional or technical level? How does the writer help less informed readers understand the concepts through definitions or examples?
2. Underline one key term or phrase that is used several times throughout the paper. Is this term defined or explained anywhere?
3. Look at the introduction. Is there any overall key point described? Particularly look at the last sentence of the introduction or look for a statement about the purpose of the study. Is there an overall statement (thesis statement)?
4. Choose one paragraph in the body of the article. What is the purpose of the first sentence? Does it give an important main idea of the paragraph? What does the middle part of the paragraph include? What is the purpose of the final sentence of this paragraph?

5. Circle at least five different transitional words, phrases, or sentences that help the flow.

Exercise 1.15 Apply the principles

Look at each of the paragraphs below and determine if they are effective or not based on the principles discussed in this chapter. Change them as needed.

1. (*Reduce wordiness and reduce the length of the sentences.*) The main reason of the occurrence of diverse neighborhoods in inner-city areas is because they usually have both a high accessibility to central business districts and a mix of various cultural entertainment such as antique stores, exotic restaurants, and an opera house, so some developers have diverted their attention to inner-city areas as a source of profits by enhancing the attractiveness of the inner-city areas through providing deluxe houses for those who would prefer the inner-city location.
2. (*Is this a clear definition? What else is needed?*) Shear thinning is an important property of fluids that is gaining more and more attention among scientists.
3. (*Improve the flow and subordinate unimportant information so the key point stands out.*) There are so many organisms around us at any given time. They are always trying to gain entrance into our body and cause havoc. It is immunity that protects the body against these organisms. The organizational set up of immunity is very similar to defense forces. There is the skin and the other outer barriers that do not let foreign substances invade.
4. (*Create a more direct approach with the main ideas first and improve the flow.*) To realize cell manipulation, more specifically cell injection in 3-D, and taking all related factors (for example, the more appropriate locations to inject) into consideration, we need to start from constructing some simple but feasible system as in-process research.