

Centro Nacional de Investigación y Desarrollo Tecnológico

CENIDET

TEACHING TECHNICAL ENGLISH WRITING

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REPORTE DE INFORMACION TECNICA

1.- Naturaleza de los Reportes Técnicos

Hay quienes creen que la redacción de los reportes técnicos consiste únicamente en una buena redacción sin cualidades que la distingan de otros tipos de redacción expositiva tales como el ensayo, el artículo periodístico o el recuento de noticias. Existen también quienes se ubican en el extremo opuesto sosteniendo que los escritores de reportes técnicos deben usar un tipo de redacción tan peculiar y especializado que esté esencialmente divorciado de todo otro tipo de redacción.

La verdad es que la realidad se encuentra entre estas actitudes extremas. Es un hecho que la redacción técnica es sin duda una especialidad dentro del campo de la redacción. Aquellos que se inician en esta especialidad, necesitan pasar por un período de aprendizaje familiarizándose con su nueva materia y su terminología. Deben aprender a desarrollar un estilo de prosa que sea claro, objetivo y económico. Deben aprender diversos tipos de reporte, variaciones en formato, estándares para abreviaturas, las reglas que gobiernan la escritura de números, los usos de tablas y gráficas, los diferentes tipos de personas que leen reportes técnicos y sus expectativas. En otras palabras, los aprendices tienen que dominar de manera integral los elementos especiales que conforman esta especialidad para llegar a ser escritores técnicos.

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INTRODUCTION

The book Teaching Technical English Writing (TTEW) is a long time project that has finally become a reality and will eventually be published in the summer of 2002 sponsored by the DGIT and by CENIDET where I have been working as Head of the English Department since 1988. In most respects TTEW is a response to the following situation. The majority of students who enter CENIDET for post-graduate studies, come from technological institutes modelled on the lack of English instruction during the five years of their first degree. Their previous years of preparatory English instruction were based on structural/behaviorist methodological models. What learners are taught at this level is not a communicative knowledge of English language use, but knowledge of how the syntactic and lexical rules of English operate. The language system is taught, suitably contextualised by means of techniques based on habit formation theory of learning and a structuralist description of English. What students succeed in learning in this way is what is necessary in order to pass examinations. At a post-graduate level they are generally highly conscious of the use they intend to put the foreign language. That use is associated with an occupational, vocational, academic or professional requirement.

When needs are clear, learning aims can be defined in terms of these specific purposes to which the language will be put, whether it be writing technical reports or papers, reading scientific papers or communicating with technicians on an oil rig. Thus, the learner will begin to demonstrate communicative ability in the required area.

The courses I have been giving at CENIDET concentrate on the productive skills: writing and speaking in the classroom. This is a decision that has come under criticism; however, I am still inclined to think that the decision is right for the English Department now, and may well be right for an English department in a similar position.

My experience of the learning environment has shown that the students are mainly concerned in their course work with studying their science textbooks, reading lecture notes, eventually listening to lectures, carrying out instructions _ which might be in Spanish in the laboratories and workshops_ and, most important of all, considering the possibility of one day writing a technical paper that can be published in a scientific journal. In the meantime, their main writing tasks consist of taking notes from classroom lectures and writing reports of various kinds in the Listening Comprehension and Note-taking class. Therefore, the students' needs in terms of the traditional language skills could be ranked in decreasing order of importance as Reading, Listening, Writing and Speaking. Now, it has usually been taken for granted that such skill priorities should be directly reflected in a properly-established ESP (English for Specific Purposes) programme. Even though students do not take any English courses during their first-degree studies at the technological institutes, it is a final requirement to pass a reading comprehension test in order to obtain their degree. It seems to me, however, that it does not necessarily follow from the fact that reading has been identified as being the greatest need that it should be assigned the largest

proportion of language time. It does not follow because it is equally important to consider what the language teacher can most usefully do in the limited time available to him. Post-graduate students at CENIDET have forty hours of English classes per school term. In other words, decisions about course priorities should be partly based on an assessment of the circumstances under which teacher intervention in the learning process is essential, where it is useful and where it is of marginal advantage.

The main features of this book have grown out and taken shape from my class-room experience. Two of these features are worth commenting on. First, TTEW is fairly explicit about language forms and functions, including some notes in Spanish; secondly, the Units are not standardized in any way other than for approximate length. The book is “heavy” on explanations for several reasons. One is that I believe that science and engineering students are used to coping with generalized concepts, technical expositions and symbolic representations. I therefore have seen, and eventually found, no good reason for not trying to utilise this capacity for abstract thinking, and for not trying at the same time to enhance the subject of English in the students’ eyes by making it appear somewhat technical.

This book does not attempt to thoroughly cover the very extense field of English grammar, but rather, introduce the students to the writing skill of technical English for communicative purposes, which is after all what they are willingly aiming at. The purpose of this book is to teach students those aspects of basic grammar oriented primarily to improve their writing skill, and then to focus on technical composition as the main goal. For this, I have considered the valuable amount of knowledge students have as a direct consequence of their several years of contact with reading scientific literature in English. Their constant visualisation of written material has had an important effect in the way they view the language. They may not know, for example, the rules that govern the use of intransitive verbs or the use of the passive voice, but they definetely understand the meaning of sentence structures where these issues are present. The next step is writing. After having read in English all kinds of text books, papers, handouts, etc. for more than five years, they have grown accustomed to a lot of the most common ways of writing technical reports; not to mention the specialized terminology of their own scientific areas which they are well acquainted with.

UNIT ONE
ANALYSIS AND FUNCTION OF THE ELEMENTS CONTAINED
IN SENTENCES AND CLAUSES

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The Pronoun
The Adjective
The Verb
The Adverb
The Preposition
The Conjunction
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The Sentence

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Sentences Classified According to Structure

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Analyzing How Audience Affects Writing

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Applying the Standards of Written English
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DEVELOPMENT

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SEMICOLONS, SLASHES

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- b) Periods with Parentheses
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- d) Use periods to indicate abbreviations.
- e) Period Faults

Question marks

Semicolons

Slashes

UNIT ONE

ANÁLISIS AND FUNCTION OF THE ELEMENTS CONTAINED IN SENTENCES AND CLAUSES

Words are classified according to the jobs they perform in sentences. Some name or otherwise identify people and objects; others express action, connect other words, or do still other kinds of work. There are eight main ways in which words are used in sentences; the eight kinds of words that perform these jobs are called *parts of speech*. They are *noun, pronoun, adjective, verb, adverb, preposition, conjunction, and interjection*. If you want to use a machine for the first time, it is indispensable to know each one of its parts in order to operate it adequately. Something similar takes place with a language. You have to know each part of the language so that you can use it efficiently. When people who are not acquainted with the name of tools are in the need of one particular tool, a drill for example, they start by using all the wrong words and end up describing it bodily. From a technical point of view, it is necessary to know the name of the different objects you are working with. Knowing the name of things, does not tell you how to use them, but it does help you to differentiate and classify them. The word used to name a person, place, thing, or idea is *the noun*.

THE NOUN

A noun names something. Your own name is a noun. The name of your country is a noun. *Computer* is a noun. The names of things you cannot see or touch are nouns: for example, *width, accuracy, error, length, depth, scheme*. These words do not name tangible things, but they do name qualities or ideas. The name of a quality or an idea is just as much a noun as the name of anything that has size or shape. A noun names the thing we are talking about.

TYPES OF NOUNS

The Proper Noun and the Common Noun

Nouns may be divided into two classes: proper nouns and common nouns. A proper noun names a particular person, place, or thing; a common noun names a class of things.

PROPER NOUNS

México, Cuernavaca, Tepoztlan, Palmira,
Carlos Fuentes, President Fox,
Palacio de Cortés, the Latino Americana

COMMON NOUNS

country, city, village, municipality
writer, president
palace, building

Nouns that name a quality or an idea are called *abstract nouns*. For example, *energy* is an abstract noun. A good way to make abstract nouns clear is to give examples using nouns that a person can clearly picture in his mind.

- strength: A tool steel is the hardest.

Count Nouns and Mass Nouns

Count nouns as the name implies are the nouns that can be counted, the number of tools on a table, for example, whereas mass nouns cannot be counted, Water, for example. Mass nouns do not accept the article *a* before them, since "a" implies "one-of-something". Although *water, oxygen, aluminium*, (etc.) are true mass nouns, the names of many other materials, such as *metal, plastic, wood*, (etc.) can often be used as count nouns.

- metal is a material (*mass* noun)
- Aluminium is a metal (*count* noun)

NOUN USAGE

Nouns function as subjects of **verbs**, objects of verbs and **prepositions, complements, or appositives**.

SUBJECTS	The <i>metal</i> bent as <i>pressure</i> was applied to it.
DIRECT OBJECT OF A VERB	The bricklayer cemented the <i>blocks</i> efficiently.
INDIRECT OBJECT OF A VERB	The center awarded our <i>department</i> a plaque for safety.
OBJECT OF A PREPOSITION	The event occurred within the <i>year</i> .
SUBJECTIVE COMPLEMENT	a dynamo is a <i>generator</i> .
OBJECTIVE COMPLEMENT	We elected the academic head <i>chairperson</i> .
APPOSITIVE	Kevin Smith, the <i>treasurer</i> , gave his report last.

Words normally used as nouns can also be used as adjectives and adverbs.

ADJECTIVE	It is <i>company</i> policy.
ADVERB	He went <i>home</i> .

Noun Strings

One of the problems with nouns is: noun strings. Noun strings are another way that writers sometimes complicate and compress their sentences beyond tolerable limits. A noun string is a sequence of nouns that serves to modify another noun: for example, *multichannel microwave radiometer*, where the nouns *multichannel* and *microwave* serve to modify *radiometer*. Sometimes the string may also include an adjective, as in *special multichannel microwave radiometer*.

Nothing is gramatically wrong with the use of nouns for modifiers. Such use is an old and perfectly respectable custom in the use of English. The problem occurs when writers either string many nouns together in one sequence or use many noun strings in a passage, as it is quite evident in the following passage:

We must understand who the initiators of *water-oriented greenway efforts* are before we can understand the basis for *community environment decision-making processes*. *State government planning agencies and commissions and designated water quality planning and management agencies* have initiated such efforts. They have implemented *water resource planning and management studies* and have aided *volunteer group greenway initiators* by providing *technical and coordinative assistance*.

This kind of strings make it very difficult for the reader to sort out the relationships among the words. In *volunteer group greenway initiators* does *volunteer* modify *group* or *initiators*? There is no way the reader can tell.

The solution to untangling difficult noun strings is to include the relationships clues such as prepositions, relative pronouns, commas, apostrophes, and hyphens. For instance, placing a hyphen in *volunteer-group* would clarify that volunteer modified group. The strung-out passage just quoted was much improved by the inclusion of such clues:

We must understand who the initiators of efforts to promote water-oriented greenways are before we can understand the process *by which* a community makes decisions *about* environmental issues. Planning agencies and commissions *of* the state government and agencies which have been designated to plan and manage water quality have initiated such efforts. They have implemented studies *on* planning and managing water resources and have aided volunteer groups *that* initiate efforts to promote greenways by providing them with technical advice and assistance *in* coordinating their activities.

The use of noun strings in technical English is common place and will no doubt continue. Technical writers are very fond of them and they definetely have their uses, but it is advisable to ask writers to hold their strings to no more than three words and to use no more than one in paragraph.

THE PRONOUN

A *pronoun* is a word that is used as a substitute of a noun or of more than one noun.

- John finished the experiment. **He** had worked three days to prepare **it**. [The pronoun *he* takes the place of the noun *John*. The pronoun *it* takes the place of the noun *experiment*.]
- Helen and David are excellent engineers, and **they** plan to open a firm. The pronoun *they* takes the place of the nouns *Helen* and *David*.]

The word to which a pronoun refers (whose place it takes) is called the *antecedent* of the pronoun. Using pronouns in place of nouns relieves the monotony of repeating the same noun over and over. In the preceding example, *John* is the antecedent of *he*, and *experiment* is the antecedent of *it*.

Not all pronouns have antecedents. For example, in the sentence “*Nobody* was in the room,” the pronoun *nobody* does not stand for a specific noun. However, it is used “in place of” a noun in the sense that it is used in a sentence in the place where a noun would ordinarily occur, as in the sentence “A *person* was in the room.”

There are several kinds of pronouns: personal (including the *possesive* and *reflexive* forms), *relative*, *interrogative*, *demonstrative*, and *indefinite*.

Personal Pronouns

Personal pronouns are so called because they refer to the person or people speaking (*I, me, my, mine; we, us, our, ours*), the person or people spoken to (*you, your, yours*), or the person, people, or thing(s) spoken of (*he, him, his; she, her, hers; it, its; they, them, their, theirs*).

Of all the words in modern English, personal pronouns have the most varied and complex forms.

Pronouns have number. Like nouns, personal pronouns take different forms for singular and plural numbers (he, they). Pronouns have person. Pronouns change forms in three different persons—first, second, and third (I, you, he).

Pronouns have gender. In the third person, singular, personal pronouns have three genders: masculine (he), feminine (she), and neuter (it).

It is convenient to remember that when (it) is used as personal pronoun, it should not be translated into Spanish since we do not use the equivalent (ello) as the subject of a

Spanish sentence, e.g. “It is an interesting paper” should be understood as “ Es un artículo interesante”.

Pronouns have case. Many personal pronouns take different forms for the nominative, objective, and possessive cases.

Case Forms of Personal Pronouns

Pronouns have forms to show the subjective, objective, and possessive cases, as the following chart shows.

Singular	NOMINATIVE CASE	OBJECTIVE CASE	POSSESSIVE CASE
FIRST PERSON	I	me	my, mine
SECOND PERSON	you	you	your, yours
THIRD PERSON	he (masculine) She (feminine) It (neuter)	him her it	his her, hers its
Plural			
FIRST PERSON	we	us	our, ours
SECOND PERSON	You	you	your, yours
THIRD PERSON	They	them	their, theirs

At this point we will concentrate on the nominative and objective case forms of the personal pronouns. Since the “the” pronouns *you* and *it* do not have different nominative and objective case forms, we may ignore them. However, you do have to memorize the following lists of nominative and objective forms.

NOMINATIVE CASE	OBJECTIVE CASE
I	me
he	him
she	her
we	us
they	them

Two other pronouns *who* and *whoever* have different forms in the nominative and objective cases. Who and whoever are not personal pronouns. They may be used either as *interrogative* pronouns, to ask a question, or as *relative* pronouns, to introduce a subordinate clause.

NOMINATIVE CASE	OBJECTIVE CASE
Who, whoever	whom, whomever

Possesive Forms

my, mine	his	its	their, theirs
you, yours	her, hers	our, ours	

Personal pronouns combined with –self, -selves may be used in two ways.

(1) They may be used reflexively.

- John hurt himself at the laboratory.

(2) They may be used intensively for emphasis.

- John himself gave the information to the doctor.

Reflexive and Intensive Forms

myself	himself, herself	ourselves	themselves
yourself	itself	yourselves	

Relative Pronouns

Relative pronouns are used to introduce subordinate clauses, as we will see in further units.

Who	whom	whose	which	that
-----	------	-------	-------	------

- The article **that you read** is about geothermal plants.
- The man whose name is on the article works at the university.

Interrogative Pronouns

Interrogative pronouns are used in questions.

Who whom which what whose

- **What** is the answer to the problem?
- **Whose** name was submitted?

Demonstrative Pronouns

Demonstrative pronouns point out a particular person or thing. When they are used before nouns, they are considered adjectives (*these books, that project, those reports*).

This these that those

- This is the best answer.
- **Those** are the notes I wrote.

Commonly Used Indefinite Pronouns

Indefinite pronouns refer generally, not specifically, to persons, places, or things.

all	either	most	one
another	everybody	much	several
any	everyone	neither	some
anybody	everything	nobody	somebody
anyone	few	none	someone
both	many	no one	such
each	more		

- Everything was very clear.
- Anybody could have taken the camera.

THE ADJECTIVE

An adjective makes the meaning of a **noun** or a **pronoun** more specific by highlighting one of its qualities (descriptive adjective) or by imposing boundaries on it (limiting adjective).

- a **hot** iron. (descriptive)
- **ten** computers. (limiting)
- **his** desk. (limiting)

Limiting Adjectives

Limiting adjectives include these categories:

- Articles (*a, an, the*)
- Demonstrative adjectives (*this, that, these, those*)
- Possessive adjectives (*my, your, his, her, its, our, their*)
- Numerical adjectives (*two, first*)
- Indefinite articles (*all, none, some, any*)

Also, we can say that an adjective *is* a word used to modify a noun or a pronoun. *To modify* means “to describe or make more definite” the meaning of a word. Adjectives may modify nouns or pronouns in one of three different ways.

1. By telling what kind:

personal computer, **operating** systems, **power** electronics

2. By pointing out *which one*:

those pumps, **this** project

3. By telling how many

ten boxes, **several** books

Usually an adjective precedes the noun it modifies. Sometimes, for emphasis, a writer may place it after the noun.

- The project, **expensive** and **time consuming**, was discarded.

One of the most common problems a writer has to face when he is not an English native writer is the construction of a sentence, which has two or more adjectives. As it happens with modifiers in general, they should be placed as close as possible to the element modified.

The Same Word used as Adjective and as a Pronoun

A word may be used as one part of speech in one context and as a different part of speech in a context. This is especially true of the following words, which may be used as either *pronouns* or *adjectives*:

all	either	much	some	what
another	few	neither	that	which
any	many	one	these	
both	more	other	this	
each	most	several	those	

ADJECTIVE	Which article did you write? [Which modifies the noun <i>article</i> .]
PRONOUN	Which did you write? [Which takes the place of the noun <i>article</i> .]
ADJECTIVE	I wrote this article. [This modifies <i>article</i> .]
PRONOUN	I wrote this . [This takes the place of the noun <i>article</i> .]

TIPS FOR USING ADJECTIVES

Unlike many other languages, adjectives in English have only one form. **Do not add –s or –es to an adjective to make it plural.**

The **long** trip.
The **long** letters.

Capitalize adjectives of origin (city, state, nation, continent).

The **Venetian** canals.
The **Mexican** hat.
The **French** government.
The **African** desert.

In English, verbs of feeling (for example, *bore*, *interest*, *surprise*) two adjectival forms: the present participle (-ing) and the past participle (-ed). Use the present participle to describe what causes the feeling. Use the past participle to describe the person who experiences the feeling.

- We heard the **surprising** election results. [The *election results* cause the feeling.]
- Only the candidate was **surprised** by the election results. [The *candidate* experienced the feeling of surprise.]

Adjectives follow the noun in English in only two cases: when the adjective functions as a subjective complement, as in

- That project is not **finished**

And when an adjective phrase or clause modifies the noun, as in

- The project **that was suspended temporarily.....**

In all other cases, adjectives are placed before the noun.

When there are multiple adjectives, it is often difficult to know the right order. The guidelines illustrated in the following example would apply in most circumstances, but there are exceptions. (Normally do not use a phrase with so many stacked **modifiers**.)

The	six	extra	large	rectangular	brown	Chinese
<i>Determiner</i>	<i>Number</i>	<i>comment</i>	<i>size</i>	<i>shape</i>	<i>colour</i>	<i>origin</i>

Cardboard	take-out	containers
<i>material</i>	<i>noun</i>	<i>qualifier</i>

THE VERB

A verb is a word or group of words that describe an action or otherwise helps to make a statement. Some verbs make a statement by expressing action. The action may be physical, as in *push*, *throw*, *extract*, and *write*, or mental, as in *calculate* and *believe*.

Types of Verbs

Verbs are either transitive or intransitive. A *transitive verb* requires a direct object to complete its meaning.

- They *laid* foundation on October 24.

[The word *foundation* is the direct object of the transitive verb *laid*.]

- Kevin Smith *wrote* the Head Master a letter.

[The word *letter* is the direct object of the transitive verb *wrote*.]

An *intransitive verb* does not require an object to complete its meaning. It makes a full assertion about the subject without assistance (although it may have modifiers)

- The engine *ran*.
- The engine *ran* smoothly and quietly.

A *linking verb* is an intransitive verb that links a complement to the subject. When the complement is a noun or a pronoun, it refers to the same person or thing as the noun or the pronoun that is the subject.

- The winch is rusted.

[*Rusted* is an adjective modifying *winch*.]

- A calculator *remains* a useful tool.

[A *useful tool* is a subjective complement-renaming *calculator*.]

Properties of Verbs

Verbs must always agree in person with personal pronouns functioning as subjects, and verbs must agree in tense and number with their subjects. Verbs must also be in the appropriate voice.

Person is the grammatical term for the form of a personal pronoun that indicates whether the pronoun refers to the speaker, the person spoken to, or the person (or thing) spoken about. Verbs change their forms to agree in person with their subjects.

- I *see* [first person] yellow tint, but she *sees* [third person] a yellow green-hue.
- I *am* [first person] convinced, but you *are* [second person] not convinced.

Tense refers to verb forms that indicate time distinctions. There are **six tenses** present, past, future, present perfect, past perfect, and future perfect.

Tense is the grammatical term for **verb** forms each tense having a corresponding progressive form.

TENSE	BASIC FORM	PROGRESSIVE FORM
Past	I began	I was beginning
Past Perfect	I had begun	I had been beginning
Present	I begin	I am beginning
Present Perfect	I have begun	I have been beginning
Future	I will begin	I will be beginning
Future Perfect	I will have begun	I will have been beginning

THE ADVERB

An adverb is a word used to modify a verb, an adjective, or another adverb; however, the adverb is most commonly used to modify the verb. It may tell *how*, *when*, *where*, or *to what extent* (*how often* or *how much*) the action of the verb is done. We can say that an adverb modifies the action or condition expressed by a **verb**.

- The machine performed poorly. [Poorly tells how the machine performed.]
- John revised the paper earlier. [Earlier tells when John revised the paper.]
- John revised the paper there. [There tells where John revised the paper.]
- John revises papers frequently. [Frequently tells how often John revises papers.]

An adverb may modify an adjective.

- The operators are exceptionally competent. [Exceptionally modifies the adjective *competent*, telling *how* competent they are.]

An adverb may modify another adverb.

- John writes **very** well. [Very modifies the adverb *well*, telling *to what extent* John writes well, or *how* well he writes.]

An adverb answers one of the following questions:

Where? (adverb of place)

- Move the throttle *forward* slightly.

When? (adverb of time)

- Replace the thermostat *immediately*.

How? (adverb of manner)

- Add the chemical *cautiously*.

How much? (adverb of degree)

- The *nearly* completed report was deleted from his disk.

Placement of adverbs

An adverb usually should be placed in front of the verb it modifies.

- Kevin *meticulously* performed the devices check.

An adverb may, however, follow the verb (or the verb and its **object**) that it modifies.

- The gauge dipped *suddenly*.

They repaired the computer *quickly*.

An adverb may be placed between a helping verb and a main verb.

- In this temperature range, the pressure will *quickly* drop.

Adverbs such as *nearly, only, almost, just, and hardly* should be placed immediately before the words they limit.

- The color copier with the high-speed document feeder/collator only costs \$47,000.

Putting the word *only* before the word *costs* is ambiguous because the sentence may be understood to mean that only the copier *with the high-speed document feeder/collator* costs \$47,000. Reversing the words *only* and *costs* clearly implies that the \$47,000 price is low.

THE PREPOSITION

A preposition is a word used to link a **noun** or **pronoun** (its object) to another sentence element by expressing such relationships as direction (*to, into, across, toward*), location (*at, in, on, under, over, beside, among, by, between, through*), time (*before, after, during, until, since*). Prepositions show the relationship of a noun or pronoun to some other word in the sentence. In the following sentences, the prepositions are shown in boldfaced type. The words related by the preposition are in italics. Note that the sentences are alike in wording except for the prepositions *across, inside, and around*. The change in relationship between *ran* and *yard* is due to the change of preposition.

A preposition always introduces a phrase. (A phrase is a group of related words used as a single part of speech and not containing a verb and its subject.) A prepositional phrase is a group of words beginning with a preposition and usually ending with a noun or a pronoun.

- in the laboratory before the class
- under the table along the street

The object of a preposition (the word or phrase following it) is always in the objective **case**. The noun or pronoun that ends the phrase is the *object* of the preposition that begins the phrase. Prepositional phrases do not stand by themselves. They are parts of a sentence and are used as modifiers, sometimes as adjectives and at other times as adverbs. When the object is a compound noun, both nouns should be in the objective case. For example, the phrase “between you and *me*” is frequently and incorrectly written as “between you and *I*.” *Me* is the objective form of the pronoun, and *I* is the subjective form.

Many words that function as prepositions also function as **adverbs**. If the word takes an object and functions as a connective, it is a preposition; if it has no object and functions as a modifier, it is an adverb.

PREPOSITIONS The manager sat *behind* the desk *in* her office.
ADVERBS The customer lagged *behind*; then he came *in* and sat down.

Commonly Used Prepositions

About	below	for	throughout
Above	beneath	from	to
Across	beside	in	toward
After	besides	into	under
Against	between	like	underneath
Along	beyond	of	until
Amid	but (meaning “except”)	off	unto
Among	by	on	up
Around	concerning	over	upon
At	down	past	with
Before	during	since	within
Behind	except	through	without

Sometimes a group of words may act as a preposition: *on account of*, *in spite of*, *along with*, *together with*.

THE CONJUNCTION

A conjunction is a word that connects words or groups of words, **phrases**, or **clauses** and can also indicate the relationship between the elements it connects. In the following sentences, the conjunctions are printed in boldfaced type; the words or groups of words that the conjunction join italicized.

John left the computer **when** *the clock struck midnight.*

John **and** *Peter* won the Science Award.

Their project *succeeded* **because** *they had worked hard.*

They **neither** *had* a holiday **nor** *took* any days off.

There are three kinds of conjunctions: *coordinating*, *correlative*, and *subordinating*.

Coordinating Conjunctions

A *coordinating conjunction* joins two sentence elements that have identical functions. The following are the coordinating conjunctions:

And but or not for yet so

- Nature *and* technology are two conditions that affect petroleum operations around the world. [joins two **nouns**]
- To hear *and* to listen are two different things. [joins two phrases]
- I would like to include the test results, *but* that would make the report too long. [joins two clauses]

Correlative Conjunctions

either.... or both.... and whether.... or
neither.... nor not only.... but (also)

Correlative conjunctions are always used in pairs.

Both students **and** lecturers must work for long hours.

Either the fuel line is clogged **or** the carburetor needs adjusting.

Subordinating conjunctions are used to connect sentence elements of different weights, normally independent and dependent clauses. They begin subordinate clauses, usually adverb clauses, as we will see in a further unit.

In the following sentences, the subordinating conjunctions are printed in boldfaced type, and the subordinate clauses that the conjunctions begin are italicized.

- Susan didn't understand the process **until** she took a course.
- John and Peter arrived late **because** their plane was delayed.
- A test is administered **when** the unit is finished.

A subordinating conjunction need not come between the sentence parts it joins. It may come at the beginning of a sentence.

While Dr. Watson explained his theory, Peter listened attentively.

Commonly Used Subordinating Conjunctions

after	before	provided	though	whenever
although	how	since	till	where
as	if	so that	unless	wherever
as much as	inasmuch as	than	until	while
because	in order that	that	when	

SUMMARY OF PARTS OF SPEECH

Part of Speech	Use	Examples
Noun	names	researcher, John, university
Pronoun	takes the place of a noun	I, her, theirs, who, it
Adjective	modifies a noun or pronoun	interesting, hard, significant
Verb	shows action or otherwise helps to make a statement	write, might, see, is
Adverb	modifies a verb, an adjective, or another adverb	easily, rather, often, rapidly
Preposition	relates a noun or a pronoun to another word	at, near, with
Conjunction	joins words or groups of words	and, either.... or, because

UNIT TWO

THE CLAUSE

A clause is a syntactic construction, or group of words, that contains a **subject** and a predicate and that functions as a sentence or as part of a sentence. Every subject predicate word group in a sentence is a clause, and every sentence must contain at least one independent clause; otherwise, it is a **sentence fragment**. (see Unit Four page 32)

Subordination is a technique that writers use to show, by the structure of a sentence, the appropriate relationship of ideas of unequal importance by subordinating the less important ideas to the more important ideas.

When you first begin to write, you use simple sentences. Later you write more complicated sentences, in order to express your thoughts more effectively. One sign of maturity in writing is the use of subordination.

The essay, **which was chosen by the committee**, is on power electronics. [An adjective clause modifies the noun *essay*.]

John hopes **that it will be published**. [The original sentence has become a noun clause used as a direct object of the verb *hope*.]

Tomorrow he will call the publisher **because he wants to know his decision**. [An adverbial clause shows the reason for doing something.]

Each of these three sentences contains a subordinate clause. Studying the different kinds of subordinate clauses __ the adjective, the adverb, and the noun clause__ will help you to write sentences that have greater clarity, smoothness, and force.

Effective subordination can be used to achieve **sentence variety, conciseness, and emphasis**. For example, consider the sentence, “The researcher’s report was carefully illustrated, and it covered five pages.” See how it can be rewritten, using subordination, in any of the following ways:

DEPENDENT CLAUSE The researcher’s report, which covered five pages, was carefully illustrated.

PHRASE The researcher’s report, covering five pages, was carefully illustrated.

SINGLE MODIFIER The researcher’s five-page report was carefully illustrated.

INDEPENDENT CLAUSES

When an independent clause stands alone, it is called a simple sentence.

- On Friday John bought a new computer.

It is called an independent clause only when it is combined with one or more additional clauses in a sentence.

- On Friday John bought a new computer, *but* he hasn't paid for it yet. [The conjunction *but* joins two independent clauses.]

It is a good computer because he needs it for his work. [In this sentence the independent clause *it is a good computer* is combined with a subordinate clause.]

SUBORDINATE CLAUSES

Subordinate clauses cannot stand alone as sentences. They are always joined in some way to an independent clause.

that you bought
who the lecturer is
when they started

Combined with an independent clause, each of these subordinate clauses plays a part in completing the meaning of the sentence.

The best computer was the computer **that you bought**.

Peter knows **who the lecturer is**.

When they started, John was tired.

The Adjective Clause

An *adjective clause* is a subordinate clause that, like an adjective, modifies a noun or a pronoun.

- The paper **that you are writing** is an interesting work of research.
- The room **where the equipment is kept** is air-conditioned.

The first student **who won the Science and Technology Award** was John. [The subordinate clause *who won the Science and technology Award* modifies the noun *John*.]

Relative Pronouns

Adjective clause often begin with the pronouns who, whom, whose, which, that. When used in this way these relative pronouns refer to, or are related to, some word or idea that has preceded them.

A *relative pronoun* is a pronoun that begins a subordinate clause and is related to another word or idea. It may be the subject of the clause it begins.

The principal awarded the student **who had won the contest**.
[The relative pronoun *who* is the subject of the verb *had won*.]

A relative pronoun may be the object of the verb in the clause it begins.

The book **that** you want is from Oxford University.
[The relative pronoun *that* is the object of the verb *want*.]

The Noun Clause

A noun clause is a subordinate clause used as a noun.

- We understood **what the lecturer explained**. [The entire clause *what the lecturer explained* is the direct object of the verb *understood*.]

In the following sentences see how a noun clause may be the subject of the verb, a predicate nominative, a direct object, an indirect object, or the object of a preposition.

His interest was evident. [Interest is a noun used as the subject of the verb *was*.]

That he was interested was evident. [*That he was interested* is a noun clause used as the subject of the verb *was*.]

This is his **article**. [*Article* is a noun used as a predicate nominative.]

This is **what he wrote**. [What he wrote is a noun clause used as a predicate nominative]

They like your **article**. [*Article* is a noun used as a direct object.]

They think **that you wrote well**. [*That you wrote well* is a noun clause used as direct object.]

The committee will give the best **researcher** the job. [*Researcher* is a noun used as an indirect object.]

The committee will give **whoever performs the best** the job. [*Whoever performs the best* is a noun clause used as an indirect object.]

The efficiency of his **projects** helped him a lot. [Projects is a noun used as the object of the preposition *of*.]

The efficiency of **what he had done** helped him a lot. [*What he had done* is a noun clause used as the object of the preposition *of*.]

The Adverb Clause

The adverb clause is a subordinate clause that, like an adverb, modifies a verb, an adjective, or an adverb. In the following examples, the adverb clauses modify the verb by telling *how*, *when*, *where*, *why*, *to what extent*, or *under what conditions*.

- John felt **as though he already had the job**. [*how* he felt]
Before he left, he said good-bye. [when he left]
They sat down **wherever they could find seats**. [*where* they sat down]
Since the office was closed, we left. [*why* we left]
He understands mathematics **better than I do**. [*how much* or *to what extent* he understands mathematics]
Will you apply for the scholarship **if you have to go to England?** [*under what conditions* you will apply]

ADVERB CLAUSE MODIFYING AN ADJECTIVE

John was sure **that he would obtain the scholarship**. [The adverb clause *that he would obtain the scholarship* modifies the adverb *sure*.]

ADVERB CLAUSE MODIFYING AN ADVERB

Peter arrived earlier **than I did**. [The adverb clause *than I did* modifies the adverb *earlier*.]

The Subordinating Conjunction

A conjunction that begins an adverb clause is called a *subordinating conjunction*. It joins the clause to the rest of the sentence.

Common Subordinating Conjunctions

After	as though	since	when
Although	because	so that	whenever
As	before	than	where
As if	if	though	wherever
As long as	in order that	unless	while
As soon as	provided that	until	

UNIT THREE

THE SENTENCE

A sentence is the most fundamental and versatile tool available to the writer. Sentences generally flow from a subject, to a **verb**, to any objects, **complements**, or **modifiers**, but can be ordered in a variety of ways to achieve **emphasis**. When shifting word order for emphasis, however, be aware that word order in the meaning of a sentence.

He was *only* the accountant.
He was the *only* accountant.

We can define a sentence as a group of words that express a complete thought

Consider the following group of words:

The weary technicians

According to the definition, a sentence must express a *complete* thought. It is true that the words *The weary technicians* create a mental image, but in terms of communicating a thought to the reader, something is lacking.

To complete the thought started by the words, you must tell what the technicians did, or what happened to the technicians, or what the technicians are.

INCOMPLETE THOUGHT

The weary technicians

COMPLETE THOUGHT

arrived today
were congratulated warmly
are from Cenidet
repaired the damage
reported the situation
went to rest

SUBJECT AND PREDICATE

A sentence consists of two basic parts, the subject and the predicate. The subject of a sentence, a **noun** or a **pronoun** (and its **modifiers**) is the part about which something is being said. The predicate is the part that says something about the subject. Although a subject may appear anywhere in a sentence, it most often appears at the beginning.

Subject
Lightning

Predicate
strikes

The Simple Predicate, or Verb

The *simple predicate* is the verb (or verb phrase) alone; the *complete predicate* is the verb and its modifiers and complements. A *compound* predicate consists of two or

more verbs with the same subject. It is an important device for **conciseness** in writing. The principal word or group of words in the predicate is called the *simple predicate*, or the *verb*. The predicate is the part of a sentence that contains the main verb and any other words used to complete the thought of the sentence (the verb's modifiers and **complements**).

- Helen **worked** quickly and efficiently. [The complete predicate is *worked quickly* and *efficiently*. The simple predicate, or verb, is *worked*.]
- The secretary **typed** the letter fast. [The complete predicate is *typed the letter fast*. The verb is *typed*.]

The Simple Subject

The simple subject is the main word or combination of words that names the person, place, thing, or idea about which something is being said.

- The **performance** of these engines shows the expertise of industrial technicians in the late 1800's. [The complete subject is *The performance of these engines*. The simple subject is *performance*.]
- **Students** on various specialities received awards. [The complete subject is *Students on various specialities*. The simple subject is *Students*.]

Compound subjects and compound verbs

A *compound subject* consists of two or more subjects that are joined by a conjunction and have the same verb. The usual connecting words are *and* and *or*.

- The books and all the documents were at the library. [compound subject: books and documents]
- Electronics, **Mechanics**, and **Computation** are specialities at Cenidet. [compound subject: *Electronics, Mechanics, and Computation*]

A compound verb consists of two or more verbs that are joined by a conjunction and have the same subject.

- Helen chose a seat near the door and sat down. [compound verb: chose and sat]
- Cenidet offers academic teaching, provides workshop training, and **strengthens** knowledge. [compound verb: *offers, provides, and strengthens*]

CLASSIFICATION OF SENTENCES

Sentences may be classified according to their purpose.

Sentences may have four purposes: (1) to make a statement, (2) to ask a question, (3) to command or request, or (4) to exclaim.

(1) A declarative sentence is a sentence that makes a statement.

- Mechatronics is a branch of Mechanics dealing with electronics.

(2) An interrogative sentence is a sentence that asks a question.

- Have you seen the IIIE Journal yet?

(3) An imperative sentence is a sentence that gives a command or makes a request.

- Deliver your paper in the usual way.
- Please send me the data next week.

(4) An exclamatory sentence is a sentence that expresses strong feeling or emotion.

- Ah, you have solved the problem!

NB It is rather unlikely that in a piece of technical report you should have to use an exclamatory sentence; however, it is convenient to remember the purpose of such sentences.

SENTENCES CLASSIFIED ACCORDING TO STRUCTURE

Classified according to their structure, there are four kinds of sentences: *simple*, *compound*, *complex*, and *compound-complex*.

(1) A *simple sentence* is a sentence with one independent clause and no subordinate clauses.

- The invention of the microchip is the beginning of personal computing.

(2) A *compound sentence* is a sentence that is composed of two or more independent clauses but no subordinate clauses.

- The invention of the microchip is the beginning of personal computing but it meant the end of macrocomputers.

NB Es necesario tener cuidado para no confundir el “compound subject” o predicado de una oración simple con las cláusulas de una oración compuesta.

The research was made in the spring and was published in the fall. [simple sentence with compound predicate]

The research was made in the spring, and it was published in the fall. [compound sentence with two subjects and two verbs]

Independent clauses may be joined by coordinating conjunctions (and, but, for, nor, or, yet) or by conjunctive adverbs (accordingly, also, besides, consequently, furthermore, hence, however, moreover, nevertheless, still, then, therefore, thus)

(3) **A *complex sentence* is a sentence that contains one independent clause and at least one subordinate clause.**

The person who looks for success often finds it. [The independent clause is *the person often finds it*. The subordinate clause is *who looks for success*.]

(4) **A *compound-complex sentence* is a sentence that contains two or more independent clauses and at least one subordinate clause.**

The person who looks for success often finds it, but then he does not know what to do with it.

UNIT FOUR

COMPLETE SENTENCE

A sentence is a group of words containing a subject and a verb and expressing a complete thought. This is a rather simple definition, but a definition is not going to do your writing for you. Sentence errors are among the most common faults in the writing of people. As you do more reading and writing, you will develop what might be called a “feeling for sentences” or a “sentence sense” that will allow you to recognize almost at once whether a group of words is or is not a complete sentence. To a great extent, this sense can be developed consciously by studying each of your sentences after you have written it and by being careful against the carelessness that causes most sentence errors. Above all, you must learn to watch for the two basic errors, the *sentence fragment* and the *run-on sentence*.

SENTENCE FRAGMENTS

A sentence fragment is an incomplete grammatical unit that is punctuated as a sentence. It is a group of words that does not express a complete thought. Because it is part of a sentence, it must not be allowed to stand by itself; it should be kept in the sentence of which it is a part.

A sentence fragment is a *part* of a sentence used as though it were a *whole* sentence. The fragment may be written with a capital letter at the beginning and an end mark (a period, question mark, or exclamation point) at the end; nevertheless, it is not a sentence because it does not express a complete thought. A sentence fragment lacks either a subject or a **verb** or is a subordinate **clause** or **phrase**.

Compare the following sentence and sentence fragment.

SENTENCE	Photovoltaic energy systems became an option for some people.
FRAGMENT	Photovoltaic energy systems becoming an option for some people.

Because it lacks a verb, the sentence fragment does not express a complete thought. The lack of a verb is obvious. The word becoming may deceive you momentarily, but it is not a verb. Words ending in *-ing*, like becoming, are not verbs unless *helping verbs* are added to them in order to make a phrase verb.

The Phrase Fragment

A phrase is a group of words that is used as a single part of speech but does not contain a verb and its subject. Phrases have one important characteristic in common: they are *parts* of a sentence. A phrase should never stand alone; it must never be separated from the sentence in which it belongs. In the following examples, the italicized words are

phrase fragments. Notice how the fragments are eliminated by attaching them to the sentences in which the phrases belong.

FRAGMENT Photovoltaic energy systems became an option for some people. *Like the 10 million people in rural areas.* [The prepositional phrase in italic type acts as an adjective modifying the noun *people*. Like any other adjective, the phrase belongs in the sentence that contains the word it modifies.]

FRAGMENT CORRECTED Photovoltaic energy systems became an option for some people like the 10 million people in rural areas.

The Appositive Fragment

An appositive is a word or group of words that closely follows a noun or pronoun and identifies or explains it. Such a word is “in apposition with” the word it explains. It cannot stand alone as a sentence; it is always part of the sentence containing the word it explains.

The Subordinate Clause Fragment

We know that a clause is a group of words that contains a subject and a predicate and is used as part of a sentence. A subordinate clause does not express a complete thought and cannot stand alone. Separated from the main clause, the subordinate clause becomes a sentence fragment.

In the following examples, the subordinate clauses are printed in italics.

FRAGMENT Everybody read the essay on “Power Oscillations.” *Which was written by John Smith.*

FRAGMENT CORRECTED Everybody read the essay “Power Oscillations,” which was written by John Smith.

FRAGMENT Students are still applying for scholarships. *Although the closing date was last week.*

FRAGMENT CORRECTED Students are still applying for scholarships, although the closing date was last week.

Although these are the basic rules for building complete sentences, you may find that even.

When you understand the rules perfectly, sentence fragments still occur in your writing. Almost always, carelessness is responsible for these errors. You can protect yourself against the use of sentence fragments by being certain that all your sentences contain complete thoughts. Reading your first draft aloud helps a great deal.

RUN-ON SENTENCES

A run-on sentence, sometimes called a fused sentence, consists of two or more sentences that may be separated by a comma instead of a period or some other end mark. It can also be two or more sentences without punctuation to separate them. Let us suppose that you have in mind a complete sentence. According to the rules of English usage, the sentence may be closed with a punctuation mark that indicates a full stop- a period, question mark, or exclamation point. If the writer wishes, two sentences may be linked by a semicolon or by a comma and a conjunction. The writer may *not* use any other kind of punctuation or part of speech to link two complete sentences.

When two complete sentences are separated by a comma or are not separated at all, the result is called a “run-on sentence.” The first sentence “runs on” into the second. Of all sentence errors, the run-on sentence is probably the most common. The ordinary run-on sentence, in which comma is misused to separate sentences or main clauses, is sometimes said to contain a “comma fault” or “comma splice.” The run-on sentence in which punctuation is completely omitted between main clauses is less common, probably because even the most casual inspection will show that something is wrong with such a sentence. Both errors are usually caused not by a lack of understanding but by carelessness in punctuation, in writing, and in checking written material.

RUN-ON SENTENCE The outcome of the research was postponed, everything was suspended.

This run-on sentence consists of two independent clauses, each capable of standing alone as a complete sentence. We can eliminate the error by *separating* the two sentences completely, using a period as punctuation.

The outcome of the research was postponed. Everything was suspended.

We can also correct the sentence by using a semicolon.

The outcome of the research was postponed; everything was suspended.

We can link the two main clauses by using a comma and a *coordinating conjunction*.

The outcome of the research was postponed, and everything was suspended.

We can change one of the clauses to a subordinating clause, using a *subordinating conjunction*.

The outcome of the research was postponed **because** everything was suspended.

This last correction shows one possible relationship between the ideas of the two clauses: The second clause explains *why* the outcome of the research was postponed. Using a semicolon and a conjunctive adverb

What is the best way to order a sentence? Is a great deal of variety in sentence structure the mark of a good writer? Professional writers are interested in getting their content across, not in tricky word order. They convey their thoughts in a clear container, not clouded with by extra words. You should do the same.

Sentence Complexity and Density

Research indicates that sentences that are too complex in structure or too dense with content are difficult for many readers to understand. Based on observations of this research, I wish to discuss four particular problem areas: too many words in front of the subject, too many words between the subject and the verb, noun strings, and multiple negatives.

Words in Front of the Subject

Professional writers open with something before their subjects 25 per cent of the time. When these openers are held to a reasonable length, they create no problems for readers. The problem occurs when the writer uses such openers beyond a reasonable length. What is *reasonable* is somewhat open to question and depends to an extent on the reading ability of the reader. However, most would agree that the twenty-seven words and five commas before the subject in the following sentence makes the sentence difficult for many readers:

Because of their ready adaptability, ease of machining, and aesthetic qualities that make them suitable for use in landscape structures such as decks, fences, and retaining walls, preservative-treated timbers are becoming increasingly popular for use in landscape construction.

The ideas contained in this too dense sentence become more accessible when expressed over two sentences:

Preservative-treated timbers are becoming increasingly popular for use in landscape construction. Their ready adaptability, ease of machining, and aesthetic qualities make them highly suited for use in landscape structures such as decks, fences, steps, and retaining walls.

The second version has the additional advantage of putting the central idea in the sequence before the supporting information. The conditional sentence is a particularly difficult version of the sentence with a subject too long delayed. You can recognize the conditional by its *if* beginning:

If heat (20°-35° C or 68°-95° F optimum), moisture (20% + moisture content in wood), oxygen, and food (cellulose wood sugars) are present, spores will germinate and grow.

To clarify such a sentence, move the subject to the front and the conditions to the rear. Consider the use of a list when you have more than two conditions:

Spores will germinate and grow when the following elements are present:

- . Heat (20°-35° C or 68°-95° F optimum)*
- . Moisture content (20% + moisture content in wood)*
- . Oxygen*
- . Food (cellulose and wood sugars)*

Words between Subject and Verb

In the following sentence, too many words between the subject and the verb cause difficulty:

Creosote, a brownish-black oil composed of hundreds of organic compounds, usually made by distilling coal tar, but sometimes made from wood or petroleum, has been used extensively in treating poles, piles, cross-ties, and timbers.

The sentence is much easier to read when it is broken into three sentences and first things are put first:

Creosote has been used extensively in treating poles, piles, cross-ties, and timbers. It is a brownish-black oil composed of hundreds of organic compounds. Creosote is usually made by distilling coal oil, but it can also be made from wood or petroleum.

You could break down the original sentence into only two sentences if you had an audience that you thought could handle denser sentences:

Creosote, a brownish-black oil composed of hundreds of organic compounds, has been used extensively in treating poles, piles, cross-ties and timbers. It is usually made by distilling coal tar, but it can also be made from wood or petroleum.

Use uncomplicated sentences to state complex ideas. If readers have to cope with a complicated sentence in addition to a complex idea, they are likely to become confused.

UNIT FIVE

SENTENCE COMBINING. EMPHASIS AND VARIETY

Avoid loading sentences with a number of thoughts carelessly tacked together. Such sentences are monotonous and hard to read because all the ideas seem to be of equal importance. Effective writing means not just putting down the first words that come to your mind, but carefully revising and rewriting until you have expressed yourself in the best possible way.

SENTENCE COMBINING

Just as simple sentences make complex ideas more digestible, a complex sentence construction makes a series of simple ideas smoother and less choppy. As you combine short, choppy sentences to form longer, more mature sentences, you will be making choices with regard to sentence structure and emphasis. In general terms, short sentences are good for emphatic, memorable statements. Long sentences are good for detailed explanations and support. There is nothing inherently wrong with a long sentence or even with a complicated one, **as long as its meaning is clear and direct.**

The ultimate purpose is that you can express exactly what you want to say in such a way that you can feel comfortable knowing that you have achieved a fluent writing style, rich in variety and interest. Combine short, related sentences by inserting adjectives, adverbs, and prepositional phrases.

Note how the following three sentences are combined.

THREE SENTENCES	Juan Hernández was an engineer. He was a mechanical engineer. He was an engineer during last semester.
ONE SENTENCE	Juan Hernández was a mechanical engineer during last semester.

To combine these sentences, repetitious words have been deleted. An adjective, *mechanical*, has been taken from the second sentence and inserted into the first sentence. A prepositional phrase, *during last semester*, has been taken from the third sentence and inserted into the first sentence.

There may be more than one correct way to combine short related sentences.

THREE SENTENCES	The liquid evaporated. It evaporated slowly. It evaporated slowly in the flask.
ONE SENTENCE	The liquid evaporated slowly in the flask <i>Or</i> In the flask, the liquid evaporated slowly.

Although you often have some degree of choice in combining short, related sentences, you may find that some combinations do not read smoothly, such as *In the flask, slowly, the liquid evaporated*. These combinations should be avoided, as well as those that change the meaning of the original sentences.

Combine closely related sentences by using participial phrases.

Like adjectives, participial phrases help you add concrete details to nouns and pronouns in sentences. In the following example, the participial phrases are printed in boldfaced type. Notice how they describe the subject of the sentence, Ph candidates.

Prepared for the Toefl Test and **having paid the fee**, the Ph candidates went into the classroom.

Participial phrases are often a useful way to combine sentences and to express ideas concisely.

TWO SENTENCES	The students rested at the cafeteria. The students were tired by the test.
ONE SENTENCE	The students, tired by the test, rested at the cafeteria.

The second sentence has been turned into a participial phrase, *tired by the test*, and attached to the first sentence. Unnecessary words have been deleted

Combine short, related sentences by using appositives or appositive phrases.

Appositives and appositive phrases add definitive detail to nouns or pronouns in sentences by helping to identify or explain them. Note how the appositive phrase in the following sentence helps identify the noun *zinc*.

Zinc, **a very malleable metal**, is quite ductile.

Two sentences can often be combined in a variety of ways by using an appositive or appositive phrase.

TWO SENTENCES	Juan Hernández published an article for the IIIE Journal. Juan Hernández is a regular student at Cenidet.
ONE SENTENCE	Juan Hernández, a regular student at Cenidet, published an article for The IIIE Journal. <i>or</i> A regular student at Cenidet, Juan Hernández published an article for the IIIE Journal <i>or</i>

Combine short, related sentences by using compound subjects or verbs or by writing a compound sentence.

Joining two subjects or two verbs by the conjunctions *and*, *but*, or *or* is common in most writing, as is the joining of two independent clauses to make a compound sentence.

- John **and** Helen will attend the conference. [compound subject]
- Helen will go to the conference **but** will join us later. [compound verb]

Two subjects or two verbs may also be joined by correlative conjunctions such as *either...or*, *neither...nor*, and *both....and*.

- Neither John nor Helen will attend the conference.
- They will **either** attend the conference **or** go to class.

Independent clauses are joined into a compound sentence by conjunctions such as *and*, *but*, *for*, and *or* and by other connectives such as *furthermore*, *yet*, *for example*, *however*, *either...or*, and *neither...nor*. The relationship of the independent clauses determines which connective works best.

- John worked hard all night, **but** he could not finish the assignment. The assessment committee has rejected the essay; **furthermore**, it has refused to give John a second opportunity. [Notice the use of the semicolon.]

Ideas in separate sentences can be combined by using the appropriate connecting words.

TWO SENTENCES Helen showed early signs of interest.
 She began engineering school when she was only eighteen.

ONE SENTENCE Helen early signs of interest; for example, she began engineering school when she was only eighteen.

Combine short, related sentences into a complex sentence by putting one idea into a subordinate clause.

Subordination is a technique that writers use to show, by the structure of a sentence, the appropriate relationship between ideas of unequal importance by subordinating the less important ideas to the more important ideas.

Beta Corporation now employs 500 people. It was founded just three years ago. [The two ideas are equally important.]

Beta Corporation, *which now employs 500 people*, was founded just three years ago. [The number of employees is subordinated.]

Beta Corporation, *which was founded just three years ago*, now employs 500 people. [The founding date is subordinated.]

(1) Use an adjective clause to combine sentences.

Adjective clauses, like adjectives modify nouns or pronouns. In the following sentence, the adjective clause is printed in boldfaced type.

The National Centre of Research and Technological Development, **which offers several post-graduate specialities**, is in Cuernavaca, Mor.

To combine sentences by using an adjective clause, you must first decide which idea to emphasize. Then you must choose the correct relative pronoun to join the sentences.

RELATIVE PRONOUNS who, whom, whose, which, that, where

The adjective clause must always be placed next to the word or words it modifies.

TWO SENTENCES I studied the book of Jeremy Stephens.
 He worked in England with Thomas Leary.
ONE SENTENCE I studied the book of Jeremy Stephens, who worked in England
 with Thomas Leary.

(2) Use an adverb clause to combine sentences.

Adverb clauses can express a relationship of time, cause, purpose, or condition between two ideas in a single sentence.

EXAMPLE John and Helen both received high grades **because they worked hard**.
 [*Because they worked hard* gives the cause of John's and Helen's
 receiving high grades.]

To combine sentences by using an adverb clause, you must first decide which idea should become subordinate. You must decide which subordinating conjunction best expresses the relationship between the two ideas.

TWO SENTENCES Professor Sánchez explained the problem once more.
 The students finally understood.
ONE SENTENCE When Professor Sánchez explained the problem once more, the
 students finally understood.
TWO SENTENCES You should buy that book.
 It is convenient for you.
ONE SENTENCE You should buy that book because it is convenient for you.

(3) Use a noun clause to combine sentences.

A noun clause is a subordinate clause used as a noun. Note the following examples of noun clauses and how they are used.

Whoever borrows a book from the library, must not write on any page or mark on any part of it in any way. [noun clause used as subject]

VARYING SENTENCE OPENINGS

Give variety to your sentence structure by varying the beginnings. Begin some of your sentences with a transposed appositive or with a modifier.

Appositives

SUBJECT FIRST	The Institute of Electrical Research, engaged in energy research, is located in Cuernavaca.
TRANSPosed APPOsITIVE FIRST	Engaged in energy research, the Institute of Electrical Research is located in Cuernavaca.

Single-word Modifiers

SUBJECT FIRST	Many of the students' papers have been accepted lately.
SINGLE-WORD MODIFIERS FIRST	Lately, many of the students' papers have been accepted.

Phrase Modifiers

SUBJECT FIRST	Many Of the students' papers were rejected at the last meeting.
PREPOSITIONAL PHRASE FIRST	At the last meeting, many of the students' papers were rejected.
SUBJECT FIRST	The examiners worked until late to finish correcting all the papers in one week.
INFINITIVE PHRASE FIRST	To finish correcting all the papers in one week, the examiners worked until late.
SUBJECT FIRST	The professor examined the paper carefully and then said it needed some corrections.
PARTICIPIAL PHRASE FIRST	Examining the paper carefully, the professor said it needed some corrections.

Clause Modifiers

SUBJECT FIRST	The examiners accepted the paper after they had proofread the abstract.
CLAUSE FIRST	After they had proofread the abstract , the examiners accepted the paper.

UNIT SIX

CORRECT VERB USAGE: TENSE, VOICE, MOOD

Most errors in the use of verbs occur when you do not know the principal parts of verbs or misuse the tense forms of verbs. In order to overcome such errors, you need both knowledge and practice.

KINDS OF VERBS

A verb is a word that expresses an action or otherwise helps to make a statement.

- John Foster thought carefully before starting his essay.

A verb that tells *what is* rather than *what is done* is called a *linking verb*. Such verbs act as a

Link or connection between the subject and one or more words in the predicate.

- The conference **was** long and boring. [*was* links *conference* to *long* and *boring*.]
- This lecturer **speaks** too fast. [*Speaks* links *lecturer* to *fast*.]

Some verbs can be either action or linking verbs, depending on the sentence.

ACTION	The technician Lester felt the rugged surface of the engine. [<i>Felt</i> expresses action.]
LINKING	The mechanic felt tired that day. [<i>Felt</i> links the subject, <i>mechanic</i> , with <i>tired</i> , a word that describes the subject.]

The verb most often used as a linking verb is the verb *be*, whose forms are *am*, *is*, *are*, *was*, *were*, and all verb phrases ending in *be*, *being*, *been*; *may be*, *could be*, *has been*, *was being*, etc.

Besides being a linking verb, *be* can also be followed by an adverb or an adverb phrase.

John **will be there** right after class.

My book **is on the table**.

PRINCIPAL PARTS OF VERBS

Every verb has four basic forms called the four principal parts; the *infinitive*, the *present participle*, the *past*, and the *past participle*. All other forms of a verb are derived from these principal parts.

Principal Parts of the Verb Write

INFINITIVE	PRESENT PARTICIPLE	PAST	PAST PARTICIPLE
Write	(is) writing	wrote	(have) written

Notice the words *is* and *have* before present and past participles. These words have been inserted to show that the participial forms are used with helping verbs: *have, has, had, is, are, am, has been, have been*, etc.

There are in English three auxiliary verbs: *have, be, and do* which mark the main verb for tense, aspect and mood. There are also modal auxiliaries (*can, may, would*) that never function as main verbs; they add meaning but not tense to the sentence. Only one modal may occur in any verb phrase. The main modals used in English are as follows:

Can

He *can* type fast. [ability]
Bill, you *can* still improve. [possibility]

Could

He *could* type fast before he broke his wrist. [past ability]
Bill, you *could* still improve. [possibility]

May

Kevin *may* show up for the meeting. [possibility]
He *may* come and go as he pleases. [permission]

Might

Kevin *might* show up for the meeting. [possibility]
Might I go home early today? (very formal) [permission]

Must

We *must* finish this report by the end of the week. [necessity]
You *must* see his new office. [recommendation]
You *must* be hungry; you haven't eaten all day. [inference]

Should

You *should* apologize immediately. [advisability]
John *should* be here any minute. [expectation]

Will

Peter *will* finish as soon as he can. [intention]

Would

Would you excuse me? [permission]

He *would* review his work carefully when he first started working here.
[habitual past]
That *would* be a good guess. [probability]

Regular Verbs

All verbs are described as either *regular* or *irregular*, according to the manner in which their principal parts are formed.

A regular verb is one that forms its past and past participle by adding *-d* or *-ed* to the infinitive form.

INFINITIVE	PAST	PAST PARTICIPLE
Outline	outlined	(have) outlined
Search	searched	(have) searched
Revise	revised	(have) revised
Perform	performed	(have) performed

Irregular Verbs

An irregular verb is one that forms its past and its past participle in some other way than does a regular verb, usually, but not always, by a vowel change within the verb.

INFINITIVE	PAST	PAST PARTICIPLE
Write	wrote	(have) written [vowel and consonant changes]
Bend	bent	(have) bent [consonant change]
drink	drank	(have) drunk [vowel change]
let	let	(have) let [no change]

Irregular verbs cause the greatest single problem in standard verb usage because there is no single rule that applies to them. You must know the principal parts of every irregular verb that you use, and the only possible way to know them is to memorize them.

TENSE

Tense is the grammatical term for **verb** forms that indicate time distinctions. There are six tenses in English. Each tense also has a corresponding progressive form. Learn the way they are formed.

Verbs indicate the *time* of an action or a statement by changes in their form. Every form of a verb tells us something about the time of an action or statement; that is, it “places” the action or statement in the past, the present, or the future. These verb forms are called *tenses*, from the Latin word meaning “time”. English verbs appear in six different tenses to indicate past, present, or future time. All six tenses are based on the principal parts of a verb: the infinitive, the present participle, the past, and the past participle.

Study the following *conjugations* of the verbs *write* and *be*.

Conjugation of the Verb Write

Present infinitive: *to write*

Perfect infinitive: *to have written*

Principal Parts

INFINITIVE	PRESENT PARTICIPLE	PAST	PAST PARTICIPLE
Write	writing	wrote	written

Present Tense

The simple present tense represents action occurring in the present, without any indication of time duration.

Singular	Plural
I write	we write
You write	you write
He, she, it writes	they write

Present progressive: I am writing, etc.

Past Tense

The simple past tense indicates that an action took place entirely in the past.

Singular	Plural
I wrote	we wrote
You wrote	you wrote
He, she, it wrote	they wrote

Past progressive: *I was writing*, etc.

Future Tense

(*will* or *shall* + infinitive)

The simple future tense indicates a time that will occur after the present. It uses the auxiliary verb *will* (or *shall*) plus the main verb.

Singular

Plural

I will (shall) write

we will (shall) write

You will write

you will write

He, she, it will write

they will write

Future progressive: *I will (shall) be writing*, etc.**Present Perfect Tense***(have or has + past participle)*

The present perfect tense describes something from the recent past that has a bearing on the present ___ a period of time before the present but after the simple past. The present perfect tense is formed by combining a form of the auxiliary verb *have* with the past participle form of the main verb.

Singular

Plural

I have written

we have written

You have written

you have written

He, she, it has written

they have written

Present perfect progressive: *I have been writing*, etc.**Past Perfect Tense***(had + past participle)*

The past perfect tense indicates that one past event preceded another. It is formed by combining the auxiliary verb *had* with the past participle form of the main verb.

Singular

Plural

I had written

we had written

You had written

you had written

He, she, it had written

they had written

Past perfect progressive: *I had been writing*, etc.**Future Perfect Tense***(will or shall have + past participle)*

The future perfect tense indicates action that will have been completed at a future time. It is formed by linking the auxiliary verbs *will have* to the past participle form of the main verb,

Singular

Plural

I will (shall) have written

we will (shall) have written

You will have written you will have written
He, she, it will have written they will have written

Future perfect progressive: *I will have (shall have) been writing*, etc.

Conjugation of the Verb Be

Present infinitive: *to be*

Perfect infinitive: *to have been*

Principal Parts

INFINITIVE	PRESENT PARTICIPLE	PAST	PAST PARTICIPLE
Be	being	was	been

Present Tense

Singular

Plural

I am

we are

You are

you are

He, she, it is

they are

Present progressive: *I am being*, etc.

Past Tense

Singular

Plural

I was

we were

You were

you were

He, she, it was

they were

Past progressive: *I was being*, etc.

Future Tense

(*will* or *shall* + infinitive)

Singular

Plural

I will (shall) be

we will (shall) be

You will be

you will be

He, she, it will be

they will be

Present Perfect Tense

(*have* or *has* + past participle)

Singular

Plural

I have been	we have been
You have been	you have been
He, she, it has been	they have been

Past Perfect Tense
(*had* + past participle)

Singular	Plural
I had been	we had been
You had been	you had been
He, she, it had been	they had been

Future Perfect Tense

Singular	Plural
I will (shall) have been	we will (shall) have been
You will have been	you will have been
He, she, it will have been	they will have been

Each of the tenses has its own special uses. The names of the tenses do not in themselves explain the uses, nor does a conjugation alone tell us more than the forms taken by a verb in different tenses. It is necessary to study the following detailed explanations of each of the six tenses.

(1) The *present tense* is used mainly to express an action (or to help make a statement about something) that is occurring now, at the present time.

EXAMPLES John **reviews** his article.
 John **looks** pleased.
 John **does review** his article. John **does look** pleased. [emphatic form;
 the verb with *do* or *did* is called the emphatic form.]

Use the progressive form to express a continuing action, an action in progress.

John **is reviewing** his article. [progressive form]

The present tense has several minor uses in addition to its main one. In an idiomatic construction, the present tense may be used to express future time. It has been said that English does not have a future tense as many other languages do. Instead, there are several forms which express future events, and which one the user selects depends on *how he or she sees the event as much* as much as its certainty or nearness to the present.

The present simple is used to express a future event which is seen as being certain because of a timetable or calendar.

EXAMPLES What time **does** the class begin?
 My train **gets in** at 11.00
 The final exam **takes place** on June 16.

The present tense may be used to express a customary or habitual action or state of being.

EXAMPLE **I eat** cereal for breakfast.

The present tense is used to express a general truth, something that is true at all times.

EXAMPLES The earth **revolves** around the sun.
 A rectangle **is** a four-sided figure having four right angles.

The present tense is used to tell of things that happened in the past when the writer wants to make the past events seem alive and vivid. This use is called the *historical present*.

EXAMPLE In the last minute, the team of engineers decides to build a huge bridge and start hiring workers.

(2) The *past tense* is used to express an action (or to help make a statement about something) that occurred in the past and did not continue into the present.

EXAMPLES He **had** breakfast.
 She **was having** a test in room "B".

(3) The *future tense* is used to express an action (or to help make a statement about something) that will occur in the future. The future tense is formed with *will* or *shall*.

EXAMPLES **I will rest** today.
 I will be traveling tomorrow.

(4) The *present perfect tense* is used mainly to express an action (or to help make a statement about something) that has been completed at some indefinite time in the past. It is formed with *have* or *has* and the past participle.

Helen **has bought** a computer.

NONSTANDARD They have bought a computer last week.
STANDARD They have bought a computer recently.

STANDARD

They bought a computer last week. [past tense]

The present perfect tense may also be used to express an action (or to help make a statement about something) that began in the past and is still going on.

- We **have been** here for hours.
- We **have been studying** here for hours.

(5) The *past perfect tense* is used to express an action (or to help make a statement about something) that was completed in the past and preceded some other past action or event. It is formed with *had* and the past participle.

- John suddenly realized that he had finished his work. [The finishing his work preceded his realizing it.]
- He had solved the test two hours before he left for the airport. [First he solved the test; then he left.]

(6) The *future perfect tense* is used to express an action (or to help make a statement about something) that will be completed in the future before some other future action or event. It is formed with *will have* or *shall have* and the past participle.

- Next school term **will have begun** by the time we arrive in Cuernavaca.
- By the middle of December, Helen **will have been studying** at Cenidet for one year. [One year of studying at Cenidet will be completed by the future date.]

The Present Infinitive and the Perfect Infinitive

Use the present infinitive (*to write, to analyse, etc.*) to express an action that follows another action.

NOT CLEAR

Paul said that he had hoped to have seen the contest on television. [What did Paul hope *to see* the contest or *to have seen* the contest? He hoped *to see* the contest, since the action expressed by *see* follows the action expressed by *had hoped*.]

CLEAR

Paul said that he had hoped **to see** the contest on television.

Use the perfect infinitive (*to have written, to have analysed, etc.*) to express an action that took place before another action.

EXAMPLE

The team of engineers claimed to have located a huge thermal reservoir. [The perfect infinitive is correct because the action it expresses came before the time of the first verb, *claimed*.]

ACTIVE AND PASSIVE VOICE

In grammar, voice indicates the relation of the subject to the action of the **verb**. When the verb is in the *active voice*, the subject acts; when it is in the *passive voice*, the subject is acted upon.

When a verb expresses an action performed by its subject, the verb is said to be in the active voice.

A verb is in the passive voice when it expresses an action performed upon its subject or when the subject is the result of the action.

ACTIVE VOICE John **wrote** the essay. [subject acting]

PASSIVE VOICE The essay was **written** by John. [subject acted upon]

The two sentences say the same thing, but each has a different **emphasis**: In the first sentence, the emphasis is on *John*; in the second sentence, the focus is on *the essay*. Because they are wordy and indirect, passive-voice sentences often are more difficult for **readers** to understand.

PASSIVE VOICE Things *are seen* by the normal human eye in three dimensions: length, width, and depth.

ACTIVE VOICE The human eye *sees* things in three dimensions: length, width, and depth.

Notice how much stronger and more forceful the active sentence is. Always use the active voice **unless you have a good reason to use the passive**.

Nearly all verbs that take objects (transitive verbs) can be used in the passive voice.

ACTIVE VOICE $\begin{array}{ccc} & S & V & O \\ & & & \\ & & & \end{array}$ Helen **bought** the computer.

PASSIVE VOICE $\begin{array}{ccc} & S & V & \\ & & & \end{array}$ The computer **was bought** by Helen.

$\begin{array}{ccc} & S & V & \\ & & & \end{array}$
The computer **was bought**.

The Retained Object

Transitive verbs in the active voice often have indirect as well as direct objects. When ever this happens, either object can become the subject of the passive sentence.

ACTIVE $\begin{array}{ccccccc} & S & V & & IO & & DO \\ & & & & & & \end{array}$ Paul gave the professor three writing assignments
 The professor was given three writing assignments (by him).
 Three writing assignments were given the professor (by him).

In the two passive sentences, one of the objects becomes the subject and the other remains as a complement of the verb. In the first sentence, the indirect object, professor, becomes the subject, and the direct object, *assignments*, is kept as a complement. In the second, it is the indirect object that is retained. An object that continues to function as a complement in a passive construction is called a *retained object*.

Use of the Passive Voice

Choosing between the active and passive voice in writing is a matter of style, not correctness. However, in most circumstances the passive voice is less forceful than the active voice, and a string of passive verbs often produces an awkward paragraph.

AWKWARD PASSIVE	Last week, the article was written by George, and the essay was corrected by the professor.
ACTIVE	Last week, George wrote the article, and the professor corrected the essay.

Use the passive voice sparingly. Avoid weak and awkward passives. In the interest of variety, avoid long passages in which all the verbs are passive. Although this rule is generally true, there are few situations where the passive voice is particularly useful.

(1) Use the passive voice to express an action in which the actor is unknown.

An anonymous paper **was sent** to the Language Department.

(2) Use the passive voice to express an action in which it is desirable not to disclose the actor.

The missing printer **has been returned** to the Computer Centre.

Sometimes the passive voice is more convenient, and just as appropriate, as the active voice. There are instances when the passive voice is effective or even **necessary**. Indeed, for reasons of tact and diplomacy, you might need to use the passive voice to *avoid* identifying the doer of the action. In the following examples, the use of the passive voice is completely acceptable and probably more natural.

EXAMPLE The student who was standing near the entrance **was asked** to close the door. The first sentence **was eliminated** from the paragraph.

The use of the passive voice, as you have probably noticed, is quite common in technical writing; however, it is better to use the active voice more than the passive. This does not mean that you should ignore the passive altogether. As writers you must

be aware of the correct moment in which it is more convenient to use the passive voice; for instance, when you want to emphasize the object receiving the action.

EXAMPLE Disk damage may be caused by any of several viruses. [The passive voice emphasizes *disk damage*.]
Any of several viruses may cause disk damage. [The active voice emphasizes *viruses*.]

Be aware, however, that inappropriate use of the passive voice can cause you to omit the agent when knowledge of the agent may be vital. Such is often the case in giving instructions.

EXAMPLE All doors to this building will be locked by 6 P.M. [This may not produce locked doors until rewritten in the active voice.]
The night janitor will lock all doors to this building by 6P.M.

Use the passive voice only when you have a good reason. Remember that the active voice is the natural voice, the one in which people usually speak and write, and its use is less likely to lead to wordiness and ambiguity. Some authors, *Keneth W. Houp* and *Thomas E. Pearsall*, advise you to avoid the “passive of modesty”.....” a device of writers who shun the first person singular. ‘I discovered’ is shorter and less likely to be ambiguous than ‘it was discovered’. When you write ‘Experiments were conducted,’ the reader cannot tell whether you or some other scientist conducted them.”

UNIT SEVEN

COORDINATION AND SUBORDINATION EMPHASIS AND RELATIONSHIP OF IDEAS

COORDINATE IDEAS

A conjunction connects words, **phrases**, or **clauses** and can also indicate the relationship between the elements it connects. In only one single sentence we often find that it contains one or more ideas which may be equal or unequal in importance. When the ideas are equal, they are called *coordinate* ideas.

COORDINATE IDEAS John studies Electronics. Helen studies Computing.

These sentences may be joined into a compound sentence that shows the relationship between the two ideas. When this is done in such a way that the equality of the ideas is maintained, we call the clauses in the new sentence *coordinate* clauses.

EXAMPLES John studies Electronics, and Helen studies Computing. [ideas added together]

 John studies Electronics, but Helen studies Computing. [ideas contrasted]

In these examples, it is the connecting words *and* and *but* that give the sentences a different meaning. Conjunctions that connect ideas of equal importance are called *coordinating conjunctions*. We can say that a *coordinating conjunction* joins two sentence elements that have identical functions. The coordinating conjunctions are: *and*, *but*, *or*, *for*, *nor*, *yet*, and *so*. Use a coordinating **conjunction** to concede that an opposite or balancing fact is true.

Connectives may show other kinds of relationships between coordinate clauses.

EXAMPLES George may study Mechanics, or he may study Mechatronics.
 [alternative ideas expressed]

 Pablo speaks English and Spanish fluently; accordingly, he has been
 appointed as an interpreter at the next conference. [result expressed]

There are other connectives that may be used to link coordinate ideas, e.g., *yet*, *however*, *likewise*, *therefore*, *still*, *either.....or*, and *furthermore*.

These connectives are transitional words and expressions that can be conveniently grouped according to the kind of relation they express. Their importance lies in the fact

that thanks to these expressions, the reader will be able to follow the writer's thought easily.

(1) To link similar ideas or add an idea to one already stated:

again	for example	in the same fashion
also	for instance	likewise
and	further	moreover
another	furthermore	of course
besides	in addition	similarly
equally important	in a like manner	too

(2) To link ideas that are dissimilar or apparently contradictory:

although	however	on the other hand
and yet	in spite of	otherwise
as if	instead	provided that
but	nevertheless	Still
conversely	on the contrary	yet

(3) To indicate cause, purpose, or result:

as	for	so
as a result	for this reason	then
because	hence	therefore
consequently	since	thus

(4) To indicate time or position:

A		
Above	before	meanwhile
Across	beyond	next
Afterward	eventually	presently
Around	finally	thereafter
At once	first	thereupon
At the present time	here	

(5) To indicate an example or a summary of ideas:

As a result	in any event	in other words
As I have said	in brief	in short
For example	in conclusion	on the whole
For instance	in fact	to sum up
In any case		

SUBORDINATE IDEAS

It is quite common that we wish to include two unequal ideas in a single sentence. In order to do this, we introduce the secondary statement with a *subordinating conjunction*.

- John and Helen usually disagree.
- He always respects her opinions.

If we wish to make the second sentence secondary to the first, or less important, we may do this by placing a subordinating conjunction in front of it and join the two sentences.

- John and Helen usually disagree, **although** he always respects her opinions.

The position of the clauses may be changed without changing the relationship of the ideas.

- **Although** he always respects her opinions, John and Helen often disagree.

Both these sentences focus attention on the fact that John and Helen often disagree, and subordinate the fact that John always respects her opinions. If you wish to focus attention on John's respect for Helen's opinions, that can be done following the same process, i.e., the statement to be made secondary or subordinate is introduced with the subordinating conjunction.

- **Although** John and Helen usually disagree, he always respects her opinions.
- John always respects Helen's opinions, **although** he and her usually disagree.

In the sentences that follow, note how one idea is subordinated to the other.

When the professor finally came, students crowded into the classroom.
Paul, who has been absent, may have to study harder.
Since smoking is not allowed in the office, smokers have to go outside.

When you are writing you have to know how to subordinate ideas by putting them into adverb clauses or adjective clauses.

Adverb Clauses

As you should already know by now, subordinate adverb clauses may tell *time*, *cause* or *reason*, *purpose* or *result*, or *condition*. These meanings are expressed by the subordinating conjunctions that introduce the clauses.

It is convenient that you should learn the following subordinating conjunctions which introduce subordinate adverb clauses effectively:

(1) Subordinating conjunctions used to express *time*:

After	until
As	when
Before	whenever
Since	while

(2) Subordinating conjunctions used to express *cause* or *reason*:

As	because	since	whereas
-----------	----------------	--------------	----------------

(3) Subordinating conjunctions used to express *purpose* or *result*:

That	in order that	so that
-------------	----------------------	----------------

(4) Subordinating conjunctions used to express *condition*:

Although	even though	unless
If	provided that	while

When subordinating, you have to make clear the relationship between subordinate adverb clauses and independent clauses by selecting subordinating conjunctions that express the relationship exactly.

Adjective Clauses

This is another way in which a writer may indicate the relative importance of ideas using a subordinate *adjective* clause, which modifies a noun or a pronoun. Suppose that you would like to combine in one sentence these ideas: *Cenidet is located in Cuernavaca. It was built as a research centre for technological development.*

Let us now suppose that you wish to emphasize the location in Cuernavaca. In this case, you will put the information in the first sentence in the main clause and the information in the second sentence in the subordinate clause.

Cenidet, which was built as a research centre for technological development, **is located in Cuernavaca.**

Now, if you wish to emphasize the purpose for which it was built, you will make this fact your main clause and place the location in the subordinate clause.

Cenidet, which is located in Cuernavaca, **was built as a research centre for technological development.**

Adjective clause usually begin with *who*, *whom*, *whose*, *which*, *that*, *when*, or *where*. Notice how the subordinate ideas are stated in the subordinate clauses in the following sentences:

The lecture, **which began at six o'clock**, finished at 8 o'clock.

Everyone **who attended** was very pleased.
They went to the cafeteria, **where coffee was being served**.

When subordinating, you should make clear the relative emphasis of ideas in an independent clause and a subordinate adjective clause by placing the idea you wish to emphasize in the independent clause and subordinate ideas in subordinate clauses.

Faulty Coordination

This is a common error that happens when two ideas of *unequal importance* are connected by a coordinate conjunction.

FAULTY COORDINATION The professor was a man from Monterrey, and he administered a test to the group.

APPOSITIVE The professor, **a man from Monterrey**, administered a test to the group.

FAULTY COORDINATION The mathematics professor explained the new formula, and he made it look quite simple.

SUBORDINATE CLAUSE **As he explained the new formula**, the professor made it look quite simple.

MODIFYING PHRASE **Explaining the new formula**, the professor made it look quite simple.

You should correct faulty coordination by placing ideas of lesser emphasis in a subordinate position. Any idea may be given less emphasis by being expressed in a subordinate clause, a modifying phrase, or an appositive.

UNIT EIGHT

CLEAR REFERENCE PRONOUNS AND ANTECEDENTS

A word or passage is ambiguous when it can be interpreted in two or more ways yet provides the reader with no certain basis for choosing among the alternatives. Ambiguity in writing is a common problem which happens when the use of pronouns has no clear antecedents. A pronoun has no definite meaning in itself; its meaning becomes clear only when the reader knows what word it stands for. This word is called the *antecedent* of the pronoun. For instance, the pronoun *he* has no clear meaning in the sentence *The English professor told Paul that he needed to work harder*. Although the context suggests that it is Paul who needs to work harder, we cannot be completely sure. The moment we know that *he* stands for *Paul*, the pronoun has a definite

meaning. We could therefore revise the sentence to read *The English professor said, "Paul, you need to work harder"* or *The English professor said that Paul needed to work harder.*

In the following sentences arrows point from the pronouns to their antecedents.

←

The Headmaster asked John to work on Sunday, but he refused.

←

The electronics professor gave the students a problem that they couldn't solve.

←

After reading the first paragraph, Helen said, "This is well written."

AMBIGUOUS REFERENCE

(1) You should avoid ambiguous reference. Such reference occurs when a pronoun refers to two antecedents. When this happens, the reader does not know at once which antecedent is meant.

AMBIGUOUS Helen smiled at Mary when she received her diploma.

In this sentence we cannot possibly know whether Helen or Mary received a diploma. We can clarify the sentence by rearranging it.

CLEAR When Helen received a diploma, she smiled at Mary.

AMBIGUOUS The Head of the Administration explained to the secretary the meaning of the regulation he had just read. [Who read it?]

CLEAR After reading the regulation, the Head of the Administration explained its meaning to the secretary.

AMBIGUOUS After the students carefully sorted the books, the librarian store them. [the books or the students?]

Ambiguous reference may be corrected in several ways. The purpose is always to make your meaning clear.

GENERAL REFERENCE

You should avoid general reference. This happens when a pronoun refers confusingly to an idea that is vaguely expressed. The antecedent is expressed in terms that are too general to be clear. Pronouns commonly used in this way are *which, this, that, and it*

GENERAL More than 20 percent of those who apply for a postgraduate degree fail to pass the admission test, which is a shame.

In this sentence the pronoun *which* refers to the fact that *more than 20 percent of those who apply for a postgraduate degree fail to pass the admission test*, but because the pronoun *which* has no clear antecedent, the reader may be confused; therefore the sentence needs to be corrected.

CLEAR It is a shame that more than 20 percent of those who apply for a postgraduate degree fail to pass the admission test.

In the following example, the pronoun *this* does not have a clear antecedent.

GENERAL In the educational area Cenidet specializes in technical carriers, in Electronics, and in Mechanics, Computing, and Mechatronics. *This* makes for a balanced academic programme.

CLEAR Emphasizing all these careers makes for a balanced academic programme.

In the following example, the pronoun *it* does not have a clear antecedent. A definite noun makes the meaning clear.

GENERAL Paul and Helen gathered insufficient information for the article they were going to write about. They were confused about the topic they had chosen. Meanwhile, at school, everybody was turning in their papers. Eventually, *it* caused Paul and Helen to fail.

CLEAR All these conditions eventually caused Paul and Helen to fail.

WEAK REFERENCE

(2) You should avoid weak reference. This occurs when the antecedent has not been expressed but exists only in the writer's mind.

WEAK John was a very

WEAK Helen is quite interested in engineering, but she doesn't believe *they* can solve all the problems.

BETTER Helen is quite interested in engineering, but she doesn't believe that **engineers** can solve all the problems.

In this sentence the antecedent for the pronoun *they* should be the noun

INDEFINITE USE OF PRONOUNS

In formal writing, avoid indefinite use of the pronouns *it, they, and you.*

Although the indefinite use of these pronouns in sentences like the following may occur in ordinary conversation, such use is not acceptable in most writing; specially in formal writing like scientific writing.

INDEFINITE In the article *it* said that the device was damaged.
BETTER The article reported that the device was damaged.

INDEFINITE In some science books *you* are always meeting difficult words.
BETTER In some science books, the vocabulary is quite difficult.

INDEFINITE In this computing book *they* explain the conceptual approach to
software.

BETTER This computing book explains the conceptual approach to software.

In the first of each of these pairs of sentences, the pronouns *it, you, and they* have no clear antecedents.

UNIT NINE

PARALLEL STRUCTURE, MATCHING IDEA TO FORM

In grammar, agreement means the correspondence in form between different elements of a sentence to indicate **number, person, gender, and case.**

A subject and its **verb** must agree in number.

The design is acceptable.

[The singular subject, *design*, requires the singular verb, *is*.]

The new *products are* going into production soon.

[The plural subject, *products*, requires the plural verb, *are*.]

A subject and its verb must agree in person.

I am the designer.

[The first-person singular subject, *I*, requires the first-person singular verb, *am*.]

They are the designers.

[The third- person plural subject, *they*, requires the third-person plural verb, *are*.]

A **pronoun** and its antecedent must agree in person, number, gender, and case. Every pronoun must have an antecedent, that is, a **noun** to which it refers.

Good writing is not only clear to the reader but also correct in form. People appreciate things stated in such a way as to reveal a mind that is well organized and trained in appropriate habits of thinking. In order to accomplish this, a disciplined writer should be able to express ideas of equal importance in parallel form.

Express parallel ideas in the same grammatical form.

You should be able to use three kinds of parallel structure: *coordinate*, *compared* or *contrasted*, and *correlative*.

Coordinated ideas are of equal rank and are connected by *and*, *but*, *or*, or *nor*, which are called coordinate conjunctions. In order to obtain a proper coordination, a noun is paired with another noun, the same as a phrase is paired with another phrase, a clause with a clause, an infinitive with an infinitive, a word ending in- *ing* with another word ending in-*ing*. The principle of pairing one part of the speech with another or one kind of construction with another must be taken into account.

POOR	On Saturdays John likes playing foot-ball and to swim. [gerund paired with an infinitive]
BETTER	On Saturdays John likes playing foot-ball and swimming . [gerund paired with a gerund]
BETTER	On Saturdays John likes to play foot-ball and to swim . [infinitive paired with an infinitive]
POOR	Head Office offered an increase of scholarships and that the registering arrangements would be shortened. [noun paired with a noun clause]
BETTER	Head Office offered that scholarships would be increased and that the register arrangements would be shortened . [noun clause paired with a noun clause]

Ideas that are compared or contrasted should be parallel.

POOR	Helen likes computational research more than to supervise a large laboratory. [noun contrasted with an infinitive]
BETTER	Helen likes computational research more than supervision of a large laboratory. [noun contrasted with noun]
POOR	To write clearly is as important to me as proofreading carefully. [infinitive contrasted with a gerund]
BETTER	Writing clearly is as important to me as proofreading carefully. [gerund contrasted with a gerund]

Correlative constructions are formed with the correlative conjunctions *both.... and, either..... or, neither.....nor, not only.....but* (also). They should be expressed in parallel form.

POOR	John both experienced the difficulty of writing an essay and the satisfaction of publishing an article.
BETTER	John experienced both the difficulty of writing an essay and the satisfaction of publishing an article.

In parallel constructions repeat an article, a preposition, or a pronoun whenever necessary to make the meaning clear.

AMBIGUOUS	After the lecture we were introduced to the president and master of ceremonies. [Does this mean that the same person held both jobs?]
CLEAR	After the lecture we were introduce to the president and to the master of ceremonies. [These are two individuals.]

UNIT TEN

THE WRITING PROCESS

Writing and Thinking THE WRITING PROCESS

Writing skill is an important element in engineering success. In order to develop the writing ability that you need, you have to follow certain steps. Any time you decide to write a paragraph or an essay, you become involved in an ongoing process that involves thinking and making decisions, and rethinking. Writing does not happen all at one time. Rather, many steps are required from the time you first think about a piece of writing until the time that you consider yourself finished. Basically, there are five stages in the writing process that you must consider whenever you decide to write. Each of these stages is made up of the different steps that should be very carefully analysed:

PREWRITING

Complex technical writing is likely to be very difficult to read. Readability further decreases when the writer does not define major ideas for the reader and when the written document is not relevant to the reader's experiences and interests. These two impediments can be eliminated if you clearly define your purpose and your audience. In this stage, the first step that must be considered is **purpose** since every piece of writing has a purpose __ sometimes, even more than one. No matter what you write, always consider your reasons for writing before you begin:

- What is the subject of your document? Are you trying to introduce a theory, propose an improvement, explain a technique, describe a process, or report the results of your research?
- Where will your document appear? You may be writing a report that will be circulated within your company, an article that will appear in a commercial publication, a research paper that will be published in a professional journal, or a procedure that will be used in training.
- Why are you writing? Is your purpose to instruct, inform, persuade, or inspire?

The subject and purpose of your document must be clear to you if you hope to make it clear to the audience.

Another important step is the **audience** as it is always helpful to consider the different audiences for whom you may be writing. When you are asked to write a report, your first step should be to ask yourself three questions: Who will read the report? For what purpose are they reading it? Are they engineers? Based on the answers to those questions, readers usually fall into one of five categories:

- a. Expert Other engineers, preferably in the same field, who read the report for information relating to their own projects
- b. Executive Managers, usually lacking an engineering background, who read the report to make executive decisions
- c. Technician People usually lacking an engineering background, who read the report for direction in using products and systems designed by engineers
- d. Lay People lacking an engineering background, such as special-interest groups, who read the report for non-engineering reasons
- e. Combined A group such as a government agency, comprising engineers, who read the report to make decisions

Placing your reader in one of these categories helps you structure the report to fulfill readers' information needs considering that for each of the different audiences your way of writing will be different. Also, you must identify your **attitude** toward your subject, which will be expressed through the **tone** of your writing. This involves having to **choose a subject** which involves deciding what your attitude or point of view toward the subject will be. A *subject* is a broad area of knowledge, whereas a *topic*, on the other hand, is a limited subject__ one that is specific enough so that it can serve as the basis of a paragraph or a composition. You must then **limit your subject** so that it can be adequately covered in the form of writing you have chosen. Once this is done, you can think of the details you will include in your writing. These details are largely determined by your purpose; therefore you must **gather and order information** appropriate to your writing purpose.

THE WRITER'S PURPOSE

Have in mind a clear purpose for writing. If, for example, you decide to write a research paper about accommodations in Cuernavaca, your purpose is to give information or explain. If you write a paragraph about what happened when you were looking for accommodation when you first arrived in Cuernavaca, your purpose is to relate a series of events.

Most writing has one of the following purposes:

(1) Narrative writing relates a series of events.

- An essay relating a witness' memories of the day México City was struck by the 1985 earthquake.
- A letter to your father about your financial situation in Cuernavaca.

(2) Expository writing gives information or explains.

- An article explaining the results of a research on geothermal reservoirs.
- An answer to an essay question that asks for a definition of entrophy.

(3) Descriptive writing describes a person, place, or thing.

- An essay about the appearance of a fluometer.
- A paragraph describing what a hydroelectric plant looks like.

(4) Persuasive writing attempts to persuade or convince.

- A letter encouraging potential customers to buy a gas turbine.
- A set of instructions about the dangers of misusing a new machine.

THE WRITER'S AUDIENCE

You must always identify the audience for whom you are writing. To write to and for your audience, you must get to know them. In order to identify your audience, there are five questions you must answer:

- Who will be reading your document?
- What prior knowledge do these readers have about the subject?
- What do these readers need to know?
- Why will these readers read your document?
- How will these readers use the information you provide?

Most of the time you will probably be writing for people who share the same interests with you. This means that you will be writing formal, scientific and technical English. Therefore, your purpose will mostly be expository, that is, to give information, or to explain. In some cases your purpose will be persuasive too. Since audience definitely affects writing, you have to be prepared to express these purposes as clearly as you can, as your audience is likely to have the most knowledge of your subject. However, you must be prepared to offer background information whenever it should be necessary.

CHOOSING A SUBJECT

It is possible to write about practically any subject for any audience as long as you are willing to spend the time and energy necessary to explain terms and give background information. You could, for instance, conceivably explain a complicated scientific theory to an audience of secondary students. However, you would have to know your subject very well in order to simplify it enough for a young audience.

ATTITUDE AND TONE

Considering that your attitude toward your subject is expressed through the tone of your writing it is possible to say that your attitude may be positive (favourable) or negative (unfavourable), humorous or serious, angry or enthusiastic. Why is this important? Well, an awareness of your attitude will help you to make choices not only of what details to include in your writing, but also of what vocabulary to use since your choice of language will help to create a **tone** that is serious or humorous, formal or informal, personal or objective, etc.

LIMITING THE SUBJECT

We have to limit the subject so that it can be adequately covered in the form of writing we have chosen. We have defined *subject* as a broad area of knowledge and *topic* as a limited subject. For example, “Computers” is a subject, whereas “The advantages of a Laser Printer” is a topic, that is, a limited subject that can serve as the basis for a paragraph or a composition.

A topic for a paragraph is necessarily more limited than a composition topic, because in a paragraph you have only a few sentences in which to develop your ideas. In a composition, on the other hand, you have anywhere from five paragraphs to several pages, so a composition topic can be less limited than a paragraph topic. Remember, however, that a topic must be adequately covered in whatever space you have available to you.

GATHERING INFORMATION

Whatever the details that you may include in your writing may be, they are largely determined by your purpose. If for example, your purpose is to provide information, the kind of details you would be looking for should be specific facts, statistics, examples, and quotations.

There are many different techniques for gathering information for your writing some of which you may be acquainted with. In any case, you may use a combination of several different methods while you gather information for a particular writing assignment, or you may decide to use only one technique.

Direct and Indirect Observation

(1) Use your powers of observation in order to take note of specific details.

Your observations may be firsthand experiences i.e., through your senses of sight, smell, sound, etc. In which case they are called *direct observations*. When your observations are not made directly, through your own senses, they are called *indirect observations*, e.g. when you listen to someone else’s experiences or read about them.

Observing involves carefully noting the specific details that make up an experience. This means that even though you cannot obviously notice everything all at once, you

have to work hard toward improving your capacity for observing. To do this you must concentrate on paying attention to as many specific details as possible.

A Writer's Journal

(2) Keep a writer's journal to record your thoughts and feelings about your experiences.

A writer's journal is useful in two ways: (1) It can be a source of ideas for writing topics, and (2) it can help you to recall specific details about an experience. You can write about your ideas and your experiences as well as your own reactions to other people and to events. In other words, a writer's journal should contain only those ideas, experiences, quotations, and feelings that you would like to share with others.

Keeping a writer's journal is common practice with people who have to carry out every day observations and evaluations on the development of experiments in a laboratory. Taking notes of the daily changes in, for instance, temperatures, condensing, etc. All these are details that will give you ideas for writing. On the basis of a journal entry, you may decide whether you could write an essay describing the development of a laboratory research or a simple paragraph about it

Brainstorming

(3) Use brainstorming in order to find writing ideas

This is a very popular technique which is mostly used to generate a free flow of ideas. You may use this technique in order to think of topics for writing or to generate specific details to develop a topic you have already chosen.

When you *brainstorm*, you concentrate on a particular subject or topic and write down every idea, word, and phrase that comes to mind. At the top of a blank piece of paper, write the subject or topic that you are going to begin with, and list under it whatever ideas come to mind. Work as quickly as possible, jotting down every idea that occurs to you. Keep doing this until you run out of ideas. As you are doing this, do not stop to judge, or evaluate, the ideas that you are listing; your purpose is simply to write down all the ideas you can think of. If you started with a subject, you must decide which of the items on your list might be usable topics for writing, and circle them. These circled topics may help you to think of other ideas you want to add to your list.

Asking the 5W__How? Questions

(4) Gather information and ideas by asking the 5W__How? Questions.

This method consists of asking the basic questions *Who? When? Where? What? Why?* and *How?* which can help you to gather specific details to use in your writing although not every question will apply to every topic.

ORDERING INFORMATION

Classify your ideas and information by grouping related ideas together.

In this very important step in the writing process, you must classify, or group, the ideas you have gathered. In fact, grouping together related items will result in an informal outline of your topic.

When you *classify*, you identify details that are similar in some way, and you group together these similar items under a heading that explains what they have in common.

You have to keep in mind that the basic task of classifying is to group together related ideas. At this point in the writing process, you must not hesitate to discard any item that does not seem to fit into any of your groups or headings.

ARRANGING INFORMATION

Arrange your ideas in order.

Once you have classified your ideas under main headings, you must consider the order in which you will present these ideas to your readers. As it most often happens, the order will be suggested by your purpose.

WRITING THE FIRST DRAFT

When you are ready to write your first draft, you must keep in mind the audience and purpose.

A first draft is not the final version of your writing. In fact, you will revise your first draft several times and will make changes in both content and wording. Also, you will spend some time proofreading your revised version in order to detect and correct mechanical inaccuracies in usage (remember that most errors in the use of verbs occur when students misuse the tense forms of verbs.), punctuation, and spelling.

While you are writing, keep in front of you the list of details that you have classified and arranged in order. Try to express your ideas as clearly as possible, and do not forget to choose specific details and language that are appropriate both for your audience and your purpose. All writing is a kind of synthesis, for writers put words and ideas together in new ways in order to create paragraphs, compositions, essays, articles, etc.

As you write your first draft, you will be rethinking all of your earlier decisions about content and organization. At this time you will perhaps decide that a term you initially thought would be appropriate to your audience needs to be defined and explained. You may also decide to change the order in which you decided to present your ideas.

Other considerations you must take into account are related to questions you can ask yourself, e.g., is the tone appropriate for intended audience and purpose, Is the topic limited enough for the length of the paper you are writing?, etc.

REVISING YOUR WRITING

Revising requires several rereadings of the first draft. You must first consider each sentence in relation to the paragraph and to the writing as a whole. For any composition, you will need to judge how effectively each paragraph contributes to the total work. Ask yourself if the main idea is adequately developed or supported. Is the development or support clear and logical? Next, look closely at each sentence and make whatever changes you consider necessary.

UNIT ELEVEN

WRITING PARAGRAPHS, STRUCTURE AND DEVELOPMENT

Careful paragraphing reflects the writer's logical thinking and **organization**. Clear and orderly paragraphs help the reader follow the writer's thoughts more easily. We can think of a paragraph as an essay in miniature since it is a group of sentences that support and develop a single idea. The paragraph performs three functions: (1) It develops the unit of thought stated in what we call **topic sentence**; (2) it provides a logical break in the material; and (3) it creates a visual break on the page, which signals a new topic.

Paragraphs are the basic building blocks of writing. Each must be restricted to a single topic summarized in a topic sentence, usually the first sentence in the paragraph.

TOPIC SENTENCE

A topic sentence states the paragraph's main idea; the rest of the paragraph supports and develops that statement with carefully related details. The topic sentence is often the first sentence because it tells the **reader** what the paragraph is about. The topic sentence is usually most effective early in the paragraph, but a paragraph can lead up to the topic sentence, which is sometimes done to achieve **emphasis**. A topic sentence must be supported with sufficient details.

SUPPORTING SENTENCES

The role the supporting sentences play in a paragraph is giving specific information that will support the main idea stated in the topic sentence. This specific information may be expressed in the form of facts, statistics, examples, reasons, incidents, or concrete and sensory details. Not giving sufficient support to the topic sentence is a frequent mistake that should be avoided.

WEAK Many young people are working in the field of health – care administration. *While the duties of today's young health-care administrators are as diverse as their institutions, they reflect a common obligation: to make those institutions operate profitably.*

In the second version, the writer provides three specific examples to support the topic sentence.

Howard Hamilton helps doctors become more businesslike at the University of Chicago Hospitals and Clinics. Anne Walshe has responsibility for the budget and staff

at Choices, a feminist medical center in Queens. Janet Guptill acts as a management consultant for health-care institutions the Ernst & Whinney accounting firm in Chicago. *While the duties of today's young technological researchers are as diverse as their institutions, they reflect a common obligation: to make those institutions operate profitably.*

UNITY IN THE PARAGRAPH

Unity is singleness of purpose and treatment, the cohesive element that holds a document together; it means that everything in the document is essentially about one idea.

To achieve unity, the writer must select one **topic** and then treat it with singleness of purpose, without digressing into unrelated or loosely related paths. The logical sequence provided by a good **outline** is essential to achieving unity. An outline enables the writer to lay out the most direct route from **introduction** to **conclusion**. After you have completed your outline check it to see that each part relates to your subject.

OUTLINING

An outline is the skeleton of the document you are going to write; it lists the main topics of your subject and each subtopic. Outlining does many things to make your job easier and your writing better.

Advantages of Outlining

Outlining will provide structure to your writing by ensuring that it has a beginning (**introduction** or **opening**), a middle (**main body**), and an end (**conclusion**). An outline gives your writing **coherence** and **transition** so that one part flows smoothly to the next without omitting anything important.

An outline indicates a starting point and keeps you moving logically so you do not get lost before you arrive at your conclusion. Using an outline offers many benefits: **Logic errors** are much easier to detect and correct in an outline than in a draft, and larger and more difficult subjects are easier to handle by breaking them into manageable parts. The less certain you are about your writing ability or about your subject, the fuller your outline should be. The parts of an outline are easily moved around, so you can see what arrangement of your ideas is most effective. Perhaps most important, creating a good outline frees you to concentrate on writing when you begin the initial draft.

Types of Outlines

Two types of outlines are most common: topic outlines and sentence outlines. A *topic outline* consists of short phrases that show the sequential order and relative importance of ideas; it provides order and establishes the relationships of topics to one another. Although a topic outline alone is generally not sufficient for a large or complex writing job, you can use it to structure the major and minor divisions of your topic in

preparation for creating a sentence outline. An outline for a small job is not as detailed as one for a larger job, but it is just as important; a topic outline that lists your major and minor points can help greatly in a document as short as a letter, an **email**, or a **memo**.

On a large writing project, create a topic outline first and then use it as a basis for creating a sentence outline. A *sentence outline* summarizes each idea in a complete sentence that may become the topic sentence for a paragraph in the initial draft. A sentence outline begins with a statement of the main idea that establishes the subject and then follows with a complete sentence for each idea in the major and minor divisions. If most of your notes can be shaped into topic sentences for paragraphs in your initial draft, you can be relatively sure that your document will be well organized.

Creating an Outline

When you are outlining large and difficult subjects with many pieces of information, the first step is to group related items and write them on note cards. Use an appropriate **method of development** to arrange items and label them with roman numerals. For example, the major divisions for this discussion of outlining could be as follows:

- I. Advantages of outlining
- II. Types of outlines
- III. Creating an outline

The second step is to establish your minor points by deciding on the minor divisions within each major division. Use a method of development to arrange minor divisions under the appropriate major divisions and label them with capital letters.

- II. Types of outlines
 - A. Topic outlines
 - B. Sentence outlines

} *Divisions and classification*
- III. Creating an outline
 - A. establish major and minor divisions.
 - B. Sort note cards by major and minor divisions.
 - C. Complete the sentence outline

} *Sequential*

Of course, you will need more than two levels of **headings**. If your subject is complicated, you may need three or four levels of heads to better organize all your ideas in proper relationship to one another. In that event, use the following numbering scheme:

- I. First-level heading
 - A. Second-level heading
 - 1. Third-level heading
 - a. Fourth-level heading

The third step is to mark each detailed note card with the appropriate Roman numeral and capital letter. Sort the note cards by major and minor division headings. Organize the cards logically within each minor heading and mark each with the appropriate sequential Arabic number. Transfer your notes to a document, converting them to complete sentences. As you do, make sure that the subordination of minor division headings to major heads is logical. All headings, major and minor within a division should be written in **parallel structure**. For example, all the second-level headings under “III. Creating an outline” are complete sentences in the active voice.

The outline samples shown to this point use a combination of numbers and letters to differentiate the various levels of information. But you could also use a decimal numbering system, such as the following, for your outline.

- 1 **FIRST-LEVEL SECTION**
 - 1.1 Second-level section
 - 1.2 Second-level section
 - 1.2.1 Third-level section
 - 1.2.2 Third-level section
 - 1.2.2.1 Fourth-level section
 - 1.2.2.2 Fourth-level section
 - 1.3 Second-level section
- 2 **FIRST-LEVEL SECTION**

This system should not go beyond the fourth level, because the numbers get too cumbersome beyond that point. In many documents, the decimal numbering system is carried over from the outline to the final version of the document for ease of cross-referencing sections.

Make certain your outline follows your method of development. Check that it develops your subject and does not stray into unrelated or only loosely related topics. Check your outline for completeness; scan it to see whether you need more information in any of your divisions and insert any information that is missing.

You now have a complete sentence outline, and the most difficult part of the writing job is over. However, remember that an outline is not set in stone; it may need to change as you write the draft, but it should always be your point of departure and return.

Coherence in the Paragraph

Writing is coherent when the relationship among ideas is clear to the reader. Coherent writing moves logically and consistently from point to point. Each idea should relate clearly to the other ideas, with one idea flowing smoothly to the next. Many elements contribute to smooth and coherent writing, but the major components are (1) a logical sequence of ideas and (2) clear **transitional expressions** between ideas.

Transitional expressions**(1) To link similar ideas or add an idea to one already stated:**

again	for example	in the same fashion
also	for instance	likewise
and	further	moreover
another	furthermore	of course
besides	in addition	similarly
equally important	in a like manner	too

(2) To link ideas that are dissimilar or apparently contradictory:

although	however	on the other hand
and yet	in spite of	otherwise
as if	instead	provided that
but	nevertheless	still
conversely	on the contrary	yet

(3) To indicate cause, purpose, or result:

as	for	so
as a result	for this reason	then
because	hence	therefore
consequently	since	thus

(4) To indicate time or position:

above	before	meanwhile
across	beyond	next
afterward	eventually	presently
around	finally	thereafter
at once	first	thereupon
at the present time	here	

(5) To indicate an example or a summary of ideas:

as a result	in any event	in short
as I have said	in brief	on the whole
for example	in conclusion	to sum up
for instance	in fact	
in any case	in other words	

Chronological Order or Method of Development

The chronological **method of development** arranges the events under discussion in sequential order, beginning with the first event and continuing chronologically to the last. Chronological order is often used to describe the step in a process.

These transitional expressions are often used to show chronological order.

after	earlier	moments later
afterwards	finally	next
as soon as	first	since
at first	formerly	soon
at last	in the beginning (end)	then
at the same time	in the meantime	until
before	later	when
during	meanwhile	while

Spatial Order or Method of Development

In a spatial sequence, you describe an object or a process according to the physical arrangement of its features. Descriptions of this kind rely mainly on dimension (height, width, length). When spatial order is used, details are arranged as the observer's eye might see them, moving from left to right, top to bottom, inside to outside, near to far, etc.

In paragraphs where you use this method of development, the following transitional expressions are often used:

above	between	opposite
across	beyond	outside
against	down	over
alongside	facing	throughout
among	in a corner	to the side of
around	in back of	toward
at	in front of	under
before	inside	underneath
behind	in the middle	up
below	near	upon
beneath	next to	within
beside	on	without

UNIT TWELVE

Writing Expository Compositions

Exposition, or expository writing, informs readers by presenting facts and ideas in direct and concise language; it usually relies less on colorful or figurative language than does writing meant to be expressive or persuasive. Expository writing attempts to explain to readers what the subject is, how it works, and how it relates to something else. Exposition is aimed at the readers' understanding rather than at their imagination or emotions; it is a sharing of the writer's knowledge. Exposition aims to provide accurate, complete information and to analyze it for the readers.

An expository composition presents information through several paragraphs that are organized into a particular structure—an introduction, a body, and a conclusion—and that fulfill specific purposes.

Because it is the most effective **form of discourse** for explaining difficult subjects, exposition is widely used in several types of **technical writing**. To write exposition, you must have a thorough knowledge of your subject. As with all writing, how much of that knowledge you pass on to your readers depends on the **reader's** needs and your **purpose**.

Choosing a subject, gathering information, writing, and revising may seem to constitute a long and difficult process, but if viewed sequentially, this process is at least manageable. Writing a composition is divided into several stages beginning with searching for subjects and ending with preparing a final draft. Although it is sometimes possible to combine several of the steps of the writing process into one, you will find it helpful to take each of these steps separately and in order, solving the problems of one before moving on to the next.

SEARCHING FOR SUBJECTS

You are in a position in which you do not have to worry much about searching for subjects. You will normally have to answer a letter to a colleague or you will have to report on a particular piece of information about an experiment, etc. In other words, your subject is determined by the occasion and circumstances you find yourself. Your background of interests, knowledge, and experiences are the most important and primary resource in the search for subjects for expository compositions.

LIMITING SUBJECTS

After having selected a broad subject for your expository composition, you should limit this subject to a manageable size. If you are facing an assignment of 500 to 1,000 words you may understandably think that the larger the subject, the easier it will be to fill the required number of pages. Even if writing were just a matter of putting a certain

number of words on paper, this reasoning would be less than convincing. On a broad subject like “science” or “the impact of computers,” most writers would be able to make only a few general statements before they ran out of ideas. There is no doubt that general statements are an important part of writing, but they must always be backed up with specific details that make them meaningful. Always consider during the prewriting stage that your aim should be to arrive at a topic **focused enough** to be clearly and thoroughly explained in the **space available** in an expository composition. To **limit the broad subject** you have selected, you should analyze it, or divide it into its smaller parts, by focusing on successively smaller aspects of the subject until you arrive at one that you can manage in an expository composition.

Because it is the most effective **form of discourse** for explaining difficult subjects, exposition is widely used in several types of **technical writing**. To write exposition, you must have a thorough knowledge of your subject. As with all writing, how much of that knowledge you pass on to your readers depends on the **reader’s** needs and your **purpose**.

CONSIDERING PURPOSE

In an expository composition, your **purpose** is to inform or to explain. You should consider this purpose from two different angles when you evaluate your topic. You should first consider your topic in terms of the space available in an expository composition. You must consider if your topic is sufficiently limited so that it can be explained in the paragraphs available in a composition. For example, the topic “machinery behaviour” is obviously too broad for a composition: entire books could easily be written on such a topic. A more suitable topic for a composition might be “key features of strategic behaviour in new machines.” This more limited aspect of machine behaviour could be discussed in several paragraphs.

Second, the purpose of expository writing should be obviously reflected in your topic. When you evaluate your topic, you should ask yourself if this topic clearly calls for information or explanation.

CONSIDERING AUDIENCE

The first rule of effective writing is to help your readers. If you overlook that commitment, your writing will not achieve its **purpose**. When you consider that the purpose of expository writing is to convey or transmit information to *someone*, you realize that who will receive this information becomes a very important consideration in this type of writing. This “someone”—your particular audience—influences how your topic should be limited, that is, what aspects of the topic you ought to explain in your composition.

CONSIDERING TONE

Tone becomes an important consideration when you are evaluating your expository composition. Tone reflects not only a writer’s attitude toward a particular topic, but an

attitude toward **readers**. The tone may be casual or serious, enthusiastic or skeptical, friendly or hostile, personal or formal. In **correspondence**, tone is particularly important because the message represents direct communication between two people. Moreover, a positive tone helps establish rapport between the institution or organization you represent and the public.

In workplace writing, the tone may range widely, depending on the **purpose**, situation, context, audience, and even medium. For example, in an **email** message to be read only by an associate who is also a friend, your tone might be casual. In a message that serves as a report to numerous readers, the tone would be professional, without casual language that could be misinterpreted.

CLASSIFYING AND ARRANGING IDEAS

Organization is essential to the success of any writing project, from a **formal report** to a Web page. Good organization is achieved through an outline created with a logical and appropriate **method of development** that suits your subject, your **readers**, and your **purpose**.

An outline gives shape and structure to the material you gathered during **research**. It enables you to emphasize your key points by placing them in the positions of greatest importance. By breaking your material into manageable parts, **outlining** also makes large or complex subjects easier for you to organize, **classify**, and **arrange**, and it ensures that your finished writing will move logically from idea to idea without omitting anything important.

Once you have examined the items in your list of information about your topic, you should immediately determine which of these ideas are related and can therefore be classified or grouped together.

WRITING THE FIRST DRAFT

After having developed a topic outline, you are ready to start writing your expository composition. At this point bear in mind that you will have to consider writing the introduction, the body, and the conclusion.

Introductions

The purpose of an introduction is to give **readers** enough general information about the subject to enable them to understand the detailed information in the body of the document. An introduction provides background details, such as why the document is necessary, and a frame of reference for the details contained in the body of the document. An introduction should accomplish the following:

- *State the subject.* The introduction should state the subject and provide background information, such as definition, history, or theory, to provide context for the reader.

- *State the purpose.* The statement of purpose should make readers aware of your goal as they read the document. It should also tell them why the document exists and whether your material provides a new perspective or clarifies an existing perspective.
- *State the scope.* By stating the scope of the document, you tell readers the amount of detail you plan to cover.
- *Preview the development of the subject.* In a longer work, such as an academic paper, a report, or a journal article, it may be helpful if you state how you plan to develop the subject. Providing such information allows readers to anticipate how the subject will be presented and gives them a basis for evaluating how you arrived at your **conclusions** or recommendations.

Consider writing the introduction last. Many writers find that only then do they have a full perspective on the subject to introduce it adequately.

Writing the Body

Asking who, what, when, where, why, and how leads smoothly to an efficient outline for the report body. Historical or chronological structure is often effective in this section. The body, or main part, of a composition fulfills the purpose expressed in the composition's introduction. It may consist of only a few paragraphs in a short composition, or it may consist of many. Roughly, you may consider the body as being about three-fourths the length of your whole composition.

Your outline should be the blueprint for the body of your composition. You may think of a paragraph for each main topic in your outline, or occasionally you may devote a complete paragraph to develop an important subtopic. In any case, each paragraph should bear a clear relationship to an item in your outline.

It is important to remember that each paragraph should be developed according to one of the methods of paragraph development and according to the principles of unity and coherence discussed in Unit 11. Paragraphs in the body should also be arranged following some kind of logical order, perhaps reflecting the arrangement of main headings in your topic outline.

Writing the Conclusion

The conclusion of a document ties all the main ideas together and can do so emphatically by making a final significant point. The final point may be to recommend a course of action, make a prediction or a judgment, or merely summarize the document's main points. The way you conclude depends on both the **purpose** of your writing and your **readers'** needs. For example, a committee **report** about possible locations for a new production facility might end with a recommendation. A particularly lengthy document often concludes with a summary of its main points. Study the following examples.

RECOMMENDATION These results indicate that you need to alter your testing procedure
To eliminate the impurities we found in specimens A through E.

JUDGEMENT Although our estimate calls for a substantially higher budget than in
The three previous years, we believe it is reasonable given our plan-Ned expansion.

PREDICTION Although I have exceeded my original estimate for equipment (\$60,000) By \$6,900, I have reduced my original labor estimate (\$180,000) by \$10,500; therefore, I will easily stay within the limits of my original bid. In addition, I see no difficulty in having the arena finished for the December 23 holiday program.

SUMMARY As this letter has indicated, we would attract more recent graduates if we

Did the following:

1. Establish a Web site where students can register and submit only résumés
2. Increase our advertising in local student newspapers
3. Expand our local co-op program
4. Send a representative to career fairs at local colleges
5. Invite local college instructors to teach in-house courses here at the facility

The concluding statement may merely present ideas for consideration, call for action, or deliberately provoke thought.

IDEAS FOR CONSIDERATION The new prices become effective the first of the year. Price adjustments are routine for the company, but some of your customers will not consider them so. Please bear in mind the needs of both your customers and the company as they implement these new price

CALL FOR ACTION Send us a check for \$250 now if you wish to keep your account active. If you have not responded to our previous letters because of some special hardship, I will be glad to work out a solution with you personally

THOUGHT Can we continue to accept the losses incurred by inefficiency? Must we accept the inevitable? Or should we consider steps to control it now?

-

**PROVOKING
STATEMENT**

Be careful not to introduce a new topic when you conclude. A conclusion should always relate to and reinforce the ideas presented earlier in your writing.

UNIT THIRTEEN

FORMAL REPORTS. WRITING A RESEARCH PAPER

Formal reports are written accounts of major projects. Most formal reports are divided into three primary parts—front matter-, body, and back matter—each of which contains a number of elements. The number and arrangement of the elements may vary, depending on the subject, the length of the **report**, and the kinds of material covered. Many institutions and organizations have a preferred style for formal reports and provide guidelines for report writers to follow. If not, try using the format presented in this unit. The following list includes most of the elements a formal report might contain, in the order of their appearance in the report. Often, a **cover letter** or **memo** precedes the front matter.

Front matter

- Title page
- Abstract
- Table of contents
- List of figures
- List of tables
- Foreword
- Preface
- List of abbreviations and symbols

Body

- Executive summary
- Introduction
- Text (including headings)
- Conclusions
- Recommendations
- References

Back matter

- Appendixes
- Bibliography
- Glossary
- Index

Front Matter

The front matter serves several purposes: It gives the reader a general idea of the author's purpose; it gives an overview of the type of information in the report; and it lists where specific information is covered in the report. Not all formal reports include every element of front matter described in this unit. A title page and a table of contents

are usually mandatory, but the scope of the report and its intended audience determine whether the other elements are included.

Title Page

Although the formats of title pages for formal reports vary, a title page should include the following information:

- *The full title of the report.* The title should reflect the topic, scope, and purpose of the report. Follow these guidelines when creating the title:
- Avoid titles that begin with *Notes on*, *Studies on*, *A Report on*, or *Observations on*. Those phrases are redundant and state the obvious. However, phrases such as *Annual Report* and *Feasibility Study* should be used in a title or subtitle because they help define the purpose and scope of the report.
- Do not use abbreviations in the title. Use **acronyms** only when the report's audience is familiar with the topic.
- Do not include the time period covered by the report in the title; include that information in a subtitle.
- *The name of the writer, principal researcher, or compiler.* Sometimes contributors identify themselves by their job title in the institution or organization (John Smith, Field Analyst; Peter Jones, Head, Research and Development), and sometimes they identify themselves by their tasks in contributing to the report (Helen Anderson, Principal Researcher; James Holland, Compiler).
- *The date or dates of the report.* For one-time reports, list the date when the report is to be distributed. For periodic reports, such as those issued monthly or quarterly, list in a subtitle the period that the report covers; elsewhere on the title page, list the date when the report is to be distributed.
- *The name of the institution or organization where the writer works.*
- *The name of the organization or institution to which the report is being submitted.*

The title page, although unnumbered, is considered page *I* (small roman numeral). The back of the title page, which is blank and unnumbered, is page *ii*, and the abstract falls on page *iii*. The body of the report begins with Arabic number 1, and new chapters or large sections typically begin on a new right-hand (odd numbered) page. Reports with printing on only one side of each sheet can be numbered consecutively regardless of where new sections begin. Throughout the report, center page numbers at the bottom of the page.

Abstract.

An **abstract**, which normally follows the title page, highlights the major points of the report, enabling readers to decide whether to read the entire report.

Table of Contents. A **table of contents** lists all the major sections or **headings** of the report in their order of appearance, along with their page numbers.

List of Figures. When a report contains more than five figures, list them, along with their page numbers, in a separate section beginning on a new page and immediately following the table of contents. Number figures consecutively with Arabic numbers. Figures include all **illustrations-drawings, photographs, maps, charts, and graphs**-contained in the report.

List of Tables. When a report contains more than five **tables**, list them, along with their titles and page numbers in a separate section immediately following the list of figures (if there is one). Number tables consecutively with Arabic numbers.

Foreword. A foreword is an optional introductory statement written by someone other than the author. The foreword author is usually an authority in the field or a head of the institution. The foreword author's name and affiliation and the date the foreword was written appear at the end of it. The foreword generally provides background information about the publication's significance and places it in context of other works in the field.

Preface. The preface is an optional introductory statement written by the author of the report. It announces the purpose, background, and scope of the report. Typically, it highlights the relationship of the report to a given project or program and discusses any special circumstances leading to the work. A preface may also specify the audience for whom the report is intended, and it may acknowledge those who helped during the course of the project or in the preparation of it.

List of Abbreviations and Symbols. When the report uses numerous abbreviations and symbols and there is a chance that readers will not be able to interpret them, the front matter should include a list of all symbols and abbreviations (including acronyms) and what they stand for.

Body The body is the section of the report in which the author describes in detail the methods and procedures used to generate the report, demonstrates how results were obtained, describes the results, and draws conclusions and makes recommendations.

Introduction. The purpose of the **introduction** is to give readers any general information necessary to understand the detailed information in the rest of the report.

- Text.** The text of the body presents the details of how the topic was investigated, how the problem was solved, what alternatives were explored, and how the best choice among them was selected. The information is often clarified and further developed by illustrations and tables and may be supported by references to other publications.
- Conclusions.** The **conclusions** section pulls together the results of the **research** and offers conclusions based on the analysis.
- Recommendations.** Recommendations, which are sometimes combined with the conclusions, state what course of action should be taken based on the results of the study.
- References.** If in your report you refer to material in or quote directly from published works or other research sources, including online sources, you must provide a list of references, or “works cited” in a separate section. For a relatively short report, the references should go at the end of the body of the report. For a report with a number of sections or chapters, a reference section should fall at the end of each major section or chapter. In either case, the reference section should be labeled as such and should start on a new page.
- Back Matter** The back matter of a formal report contains supplementary material, such as where to find additional information about the topic (bibliography), and expands on certain subjects (appendixes). Other back matter elements clarify the terms used (glossary) and how to easily locate information in the report (index).
- Appendixes.** An **appendix** contains information that clarifies or supplements the text. An appendix provides information that is too detailed or lengthy to appear in the text without impeding the orderly presentation of ideas for the primary audience. Be careful: Do not use appendixes for miscellaneous bits of information that you were unable to work into the text.
- Bibliography.** A bibliography is an alphabetical list of all sources that were consulted (not just those cited) in researching the report. A bibliography is not necessary if the reference listing contains a complete list of sources.
- Glossary.** A **glossary** is an alphabetical list of selected terms used in the report and their definitions.

Index.

An index is an alphabetical list of all the major topics and their subcategories discussed in the report. It cites the page numbers where discussions of each topic can be found and allows readers to find information on topics quickly and easily. The index is always the final section of a report.

UNIT FOURTEEN

WRITING TECHNICAL REPORTS

A report is an organized presentation of factual information, often aimed at multiple audiences, that presents the results of, for example, an investigation, a trip, or a research project. For any report, assessing the readers' needs is important.

Formal reports present the results of projects that may require months of work and involve large sums of money. Such projects may be done either for your own organization or as a contractual requirement for another organization. Formal reports generally follow a precise format and include some or all of the report elements contained in formal reports.

Informal and short reports normally run from a few paragraphs to a few pages and include only the essential elements of a report: introduction, body, conclusions, and recommendations. Because of their brevity, informal reports are customarily written as letters (if written for someone outside the organization) or as memos (if written for someone inside the organization).

The introduction serves several functions: It announces the subject of the report, states the purpose, and, when appropriate, gives essential background information. The introduction may also summarize any conclusions, findings, or recommendations made in the report. At this point it becomes useful to use what we call the abstract since it gives the reader essential information at a glance helping them focus their thinking as they read the rest of the report.

ABSTRACTS

An abstract summarizes and highlights the major points of a document. Abstracts are written for many formal reports, many technical journal articles, and most dissertations, as well as for many other works. Their primary purpose is to enable readers whether to read the work in full.

Usually 200-250 words long, an abstract must be able to stand on its own because abstracts may be published independently of the main document. Depending on the kind of information they contain, abstracts are often classified as descriptive or informative.

A descriptive abstract includes information about the purpose scope, and methods used to arrive at the reported findings. It is a slightly expanded table of contents in paragraph form provided that it adequately summarizes the information; a descriptive abstract need not be longer than several sentences.

An informative abstract is an expanded version of the descriptive abstract. In addition to information about the purpose, scope, and methods of the original document, the informative abstract includes the results, conclusions, and any recommendations. The informative abstract retains the tone and essential scope of the report while omitting its details.

The organization for which you work or the publication for which you are writing determines the type of abstract you should write. Otherwise, aim to satisfy the needs of your primary readers.

The body of the report should present a clearly organized account of the report's subject—the results of a test carried out, the status of a construction project, and so on. The amount of detail to include depends on the complexity of the subject and on your reader's familiarity with it.

The conclusion should summarize your findings and tell readers what you think the significance of those findings may be. In some reports, a final, separate section gives recommendations; in others, the conclusions and recommendations are combined into one section. In the final section, you make suggestions for a course of action based on the data you have presented.

There are several types of reports:

Type	Description and purpose
Periodic report	Report submitted at regular intervals to provide information on the activities or status of the organization. Bank statements, annual reports are examples of periodic reports.
Progress report	Update on an ongoing activity as it is being carried out. The activity may be construction, expansion, research and development, production, or other projects.
Research report	Results of research, studies, and experiments conducted in the lab or in the field.
Field report	Results of an on-site inspection or evaluation of some field activity, which might construction, pilot-plant tests, or equipment installation and setup.
Recommendation report	Report submitted to management as the basis for decisions or actions. It makes recommendations on such subjects as whether to fund a research program, launch a project, develop a new product, buy a piece of capital equipment, or acquire a company or technology.
Feasibility report	Report that explores the feasibility of undertaking a particular project, venture or commitment. It examines and compares alternatives, analyzes the pros and cons, and suggests which, if any, of the alternatives are feasible.

The major focus of this technical writing is the technical report. Everything you have studied and written in this course is aimed toward writing this final report. Technical report normally involves some research which often comes not only from published sources in the library, but also sources outside the library, including nonpublished things such as interviews, correspondence, field research, etc.

Research is the process of investigation, the discovery of facts. Research, however, must be preceded by preparation, especially consideration of your readers, purpose, and scope. Without adequate preparation, your research effort will not be focused. A research paper is an extended expository composition based on information gathered from a number of sources and on the thinking and judgment of the writer. On the job, your primary source of information is your own knowledge and experience. Since the preparation of such a paper involves the stages of the writing process, the research paper should not present any new problems. It is of course a much more ambitious undertaking; therefore, each step of the process assumes special importance.

Researchers frequently distinguish between primary and secondary research, depending on the types of sources consulted and the method of gathering information.

Primary Research

Primary research refers to the gathering of raw data compiled from direct observation, surveys, experiments, questionnaires, interviews, audio_and videotape recordings, and the like. In fact, direct observation and hands_on experience are the only ways to obtain certain kinds of information, such as mechanical processes, and the operation of tools and equipment, among others.

If you have to write directions for some task, you might gather information by performing the task yourself. Afterward, you will actually be interviewing yourself based on your experience.

If you are planning research that involves observation, choose your sites and times carefully. Keep accurate, complete records that indicate date, time of day, duration of the observation, and so on. Save interpretations of your observations for future analysis. Be aware that research involving observations may be time_consuming.

Secondary Research

Secondary research refers to the gathering of information that has been analyzed, assessed, evaluated, compiled, or otherwise organized into accessible form. The forms of sources include books, articles, reports, Web documents, dissertations, operating and procedure manuals, brochures, and so forth. The entries Internet research and library research provide tactics for finding and evaluating sources.

As you look for information from such sources, keep the following guidelines in mind. The more recent the information, the better. Technical journal articles are essential

sources of current-awareness information because books take longer to write, publish, and distribute than technical journal articles. Conference proceedings, and even better source of up-to-date information, contain papers presented at meetings of technical, industrial, and professional societies about recent research results or work in progress.

When a resource seems useful, read it carefully and use note-taking techniques for any information that falls within the scope of your research. If you think of additional questions about the topic as you read, write them down. Some of your questions may eventually be answered in other research sources; those that remain unanswered can guide you to further research.

UNIT FIFTEEN CAPITALIZATION

The use of capital, or uppercase, letters is determined by custom. Capital letters are used to call attention to certain words, such as proper nouns and the first word of a sentence. Care must be exercised in using capital letters because they can affect the meaning of words (march/March, china/China, turkey/Turkey). The proper use of capital letters can help eliminate ambiguity.

Proper Nouns

As we have seen previously, proper nouns name specific persons, places, things, concepts, or qualities and are capitalized.

Mathematics, Cenidet, Juan Alvarez, México

Common Nouns

Common nouns name general classes or categories of people, places, things, concepts, or qualities rather than specific ones and are not capitalized.

A mathematics class, an institution, a person, a country

First Words

The first letter of the first word in a sentence is always capitalized.

This report will be finished very soon.

The first word after a colon may be capitalized if the statement following is a complete sentence or if it is a formal resolution or question.

Tomorrow's meeting will deal with only one issue: What is the institution's role in environmental protection?

If a subordinate element follows the colon or if the thought is closely related, use a lowercase letter following the colon.

We have to keep working for one reason: the approaching deadline.

The first word of a complete sentence in quotation marks is capitalized.

Dr. Ausjer stated, "It is possible to postulate an imaginary world in which no decisions are made until all the relevant information is assembled."

The first word in the salutation and complimentary close of a letter is capitalized.

Dear Mr. Smith:

Sincerely yours,

Specific Groups

Capitalize the names of ethnic groups, religions, and nationalities.

Native Mexican, Brazilian, Jewish, Spaniard

Do not capitalize the names of social and economic groups.

middle-class, working class, unemployed

Specific Places

Capitalize the names of all political divisions.

Municipio de Cuernavaca, Veracruz, Estado de México, Guerrero, Canada

Capitalize the names of geographical divisions.

Europe, Asia, South America, the Middle East

Do not capitalize geographic features unless they are part of a proper name.

The mountains in some areas, such as the Sierra Madre Occidental, make television transmission difficult.

The words north, south, east, and west are capitalized when they refer to sections of the country. They are not capitalized when they refer to directions.

I may travel south when I get my new job.

We may open a new institute in the South next year.

Capitalize the names of stars, constellations, and planets.

Saturn, Andromeda, Jupiter, Milky Way, Orion

Do not capitalize earth, sun, and moon except when they are referred to formally as astronomical bodies.

My workday was so long that I saw the sun rise over the mountains and the moon appear as darkness settled over the earth.

The various effects of the Sun on Earth and the Moon were discussed at the symposium.

Specific Institutions, Events, and Concepts

Capitalize the names of institutions organizations and associations.

The American Society of Mechanical Engineers and the Department of Housing and Urban Development are cooperating on the project.

An organization usually capitalizes the names of its internal divisions and departments.

Faculty, Board of Directors, Engineering Department

Types of organizations are not capitalized unless they are part of an official name.

Our group decided to form a technical writer's association; we called it the Mexican Association of technical Writers.

Capitalize historical events.

Dr. Fernández discussed the Mexican Revolution at the last class.

Capitalize words that designate holidays, specific periods of time, months, or days of the week.

Labour Day, the Renaissance, The Enlightenment, January, Monday, Easter, Passover

Do not capitalize seasons of the year.

Spring, autumm, winter, summer

Capitalize the scientific names of classes, families, and orders but not the names of species or English derivatives of scientific names.

Mammalia, Carnivora/mammal, carnivorous

Titles of Works

Capitalize the initial letters of the first and last words of the title of a book, article, play, or film, as well as all major words in the title. Do not capitalize articles (a, an, the), coordinating conjunctions (and and but), or short prepositions (at, in, on, of) unless they begin or end the title. Capitalize prepositions that contain more than four letters (between, because, until, after). The same rules apply to the subject line of a memo or an email.

The microbiologist greatly admired the book *The Lives of a Cell*.

Personal, Professional, and Job Titles

Titles preceding proper names are capitalized.

Ms. Smith, Professor Ramirez

Appositives following proper names normally are not capitalized. However, the word President usually is capitalized when it refers to the chief executive of a national government.

Diego Fernández, senator from México city [but Senator Fernández]
The President called a news conference.

The only exception is an epithet, which actually renames the person.

Alexander the Great, Solomon the Wise

Job titles used with personal names are capitalized.

Jaime Arau, Head of the Academic Department, will meet with us on Wednesday.

Job titles used without personal names are not capitalized.

The head of the department will meet with us on Wednesday.

Use capital letters to designate family relationships only when they occur before a name or substitute for a name.

One of my favorite people is Uncle Tom.
John and my uncle went for a ride.

Abbreviations

Capitalize abbreviations if the words they stand for would be capitalized.

- UNAM (Universidad Nacional Autónoma de México) p. (page)

Letters

Capitalize letters that serve as names or indicate shapes.

- X-ray, vitamin B, T-square, U-turn, I-beam

Miscellaneous Capitalizations

The first word of a complete sentence enclosed in dashes, brackets, or parenthesis is not capitalized when it appears as part of another sentence.

- We must make an extra effort in safety this year (accidents last year were up 10 percent).
- We must make an extra effort in safety this year. (Accidents last year were up 10 percent).

Certain units, such as parts and chapters of books and rooms in buildings, when specifically identified by number, are capitalized.

- Chapter 5, Ch. 5; Room 72, Rm. 72

Minor divisions within such units are not capitalized unless they begin a sentence.

- Page 11, verse 14, seat 12

UNIT SIXTEEN

PUNCTUATION: APOSTROPHES

Punctuation is a system of symbols that help readers understand the structural relationships within a sentence. Marks of punctuation link, separate, enclose, indicate omissions, terminate, and classify. Most punctuation marks can perform more than one function.

Understanding punctuation is essential for writers because it enables them to communicate with clarity and precision. The use of punctuation is determined by grammatical conventions and the writer's intention. Think of punctuation as a substitute for the writer's facial expressions and vocal inflexions

The following are the 13 marks of punctuation.

Apostrophe	'
Brackets	[]
Colon	:
Comma	,
Dash	'
Exclamation mark	!
Hyphen	-
Parentheses	()
Period	.
Question mark	?
Quotation marks	“ ”
Semicolon	;
Slash	/

Apostrophes

An apostrophe (') is used to show possession, to indicate the omission of letters, and sometimes to form the plural. Do not confuse the apostrophe used to show the plural with the apostrophe used to show possession.

To Show Possession

An apostrophe is used with an s to form the possessive case of some nouns.

- The manufacturing plant's output increased this year.

Singular nouns of more than one syllable that end in s form the possessive by adding 's.

- The engineer's desk was cluttered.

Singular nouns of more than one syllable that end in s may form the possessive either with an apostrophe alone or with an 's. Whichever way you do it be consistent.

- The hostess' warm welcome
- The hostess's warm welcome

With coordinate nouns, the last noun takes the possessive form to show joint possession.

- Michelson and Morley's famous experiment on the velocity of light was conducted in 1887.

To show individual possession with coordinate nouns, each noun should take the possessive form.

- The difference between Tom's and Mary's test results is insignificant.

Use only an apostrophe with plural nouns ending in s.

- The managers' meeting was canceled.

Do not use the apostrophe with possessive pronouns.

- Yours, its, his, ours, whose, theirs

In names of places and institutions, the apostrophe is usually omitted.

- Cenidet careers, Engineers Meeting Room

To Form Plurals

The trend for indicating plural forms of words mentioned as words, or numbers used as nouns, and of abbreviations shown as single or multiple letters is currently to add only s rather than using 's.

When a word is mentioned as a word is italicized, it is current usage to add s in roman type.

There were five *ands* in his first sentence.

Rather than using italics, you may place a word in quotation marks. If you choose this option, use an apostrophe and an s ('s).

There were five "and's" in his first sentence.

To indicate the plural of a number, add s.

- 7s
- the late 1990s

For terms that are single letters, whether upper- or lowercase, set the letter in italics and set the s in roman type.

- *xs* and *ys*
- *Ns*

If the letter and the s form a word, you may want to consider using an apostrophe to avoid confusion.

- A's

Use s to pluralize an abbreviation that is in all capital letters or that ends with a capital letter.

- IOUs

However, if the abbreviated term contains periods, some writers use an apostrophe to prevent confusion.

- Cenidet awarded seven Ph.D.'s in electronics last year.
- They will be asked for their I.D.'s.

To Indicate Omission

An apostrophe is used to mark omission of letters or numbers in a contraction or a date.

- Can't, I'm, I'll
- the class of '99

UNIT SEVENTEEN

PUNCTUATION: BRACKETS, COLONS

Brackets

The primary use of brackets ([]) is to enclose a word or words inserted by the writer or an editor into a quotation.

- The text stated, “Hypertext systems can be categorized as either modest [not modifiable] or robust [modifiable], depending on the degree to which users are encouraged to make modifications.”

Brackets are used to set off a parenthetical item within parentheses.

- We should be sure to give José Guerrero Guerrero (and his counterpart from the IIE Guillermo Fernández de la Garza [1987] credit for his role in founding Cenidet.

Brackets are also used in academic writing to insert the latin word sic which indicates that the writer has quoted material exactly as it appears in the original, eventhough it contains an obvious error.

- Dr. Smith pointed out that “the earth does not revolve around the son [sic] at a constant rate.”

If you are following MLA (Modern Language Association) style in your writing, use brackets around ellipsis dots to show that some words have been omitted from the original source.

- “The vast majority of the Cenidet students are males [. . .] between the ages of twenty five and thirty”

Colons

The colon (:) is a mark of anticipation and introduction that alerts readers to the close connection between the first statement and what follows. A colon is used to connect a list or series to a word, clause, or phrase with which it is in apposition.

Three topics will be discussed: the new accounting system, the new bookkeeping procedures, and the new payroll software.

Do not, however, place a colon between a verb and its objects.

- Three fluids that clean pipettes are: water, alcohol, and acetone.

One common exception is made when a verb is followed by a stacked list.

Corporations that manufacture computers include:

Apple	Compaq	Micron
IBM	Dell	Gateway

Do not use a colon between a preposition and its object.

I would like to be transferred to: Cambridge, Newcastle, or London.

A colon is used to link one statement to another statement that develops, explains, amplifies, or illustrates the first.

Any organization is confronted with two separate, though related, information problems: It must maintain an effective internal communication system, and it must see that an effective external communication system is maintained.

A colon is used to link an appositive phrase to its related statement if more emphasis is needed and if the phrase comes at the end of the sentence.

There is only one thing that will satisfy Mr. Smith: our finished report.

Colons are used to link numbers that signify different nouns.

- 9: 30 a.m. [9 hours, 30 minutes]

In proportions, colons indicate the ratio of amounts to each other.

- The cement is mixed with the water and sand at 7:5:14.

Colons are often used in mathematical ratios.

- $7:3 = 14:x$

In document sources, colons link the place of publication with the publisher and may perform other specialized functions.

- Watson, R. L. Statistics for Accountants and Electrical engineers. Englewood: EEE, 2001

A colon follows the salutation in correspondence, even when the salutation refers to a person by first name.

- Dear Ms. Gordon:
- Dear George:

The initial capital letter of a quotation is retained following a colon if the quoted material began with a capital letter.

The head master issued the following statement: “We are not concerned about the present. We are worried about the future.”

A colon always goes outside quotation marks.

This was the real meaning of his “suggestion”: the division must show a profit by the end of the year.

When quoting material that ends in a colon, drop the colon and replace it with an ellipsis.

- Any large corporation is confronted with two separate, though related, information problems:.”

The first word after a colon may be capitalized if the statement following the colon is a complete sentence or a formal resolution or question.

The conference passed a single resolution: Voting will be open to members only.

If the element following the colon is subordinate, use a lowercase letter to begin the element.

There is only one way to stay within our present budget: to reduce expenditures for research and development.

UNIT EIGHTEEN PUNCTUATION: COMMAS

Commas

Like all punctuation, the comma (,) helps readers understand the writer's meaning and prevents ambiguity. Notice how the comma helps make the meaning clear in the following example:

AMBIGUOUS To bear successful managers with MBAs must continue to learn.
[At first glance, this sentence seems to be about “successful managers with MBAs.”]

CLEAR To be successful, managers with MBAs must continue to learn.
[The comma makes clear where the main part of the sentence begins.]

Do not follow the old myth that you should insert a comma wherever you would pause if you were speaking. Although you would pause wherever you encounter a comma, you should not insert a comma wherever you might pause. Effective use of commas depends on an understanding of sentence construction.

Linking Independent Clauses

Use a comma before a coordinating conjunction (and, but, or, nor, and sometimes so, yet, and for) that links independent clauses.

Human beings have always prided themselves on their unique capacity to create and manipulate symbols, but today computers manipulate symbols.

However, if two independent clauses are short and closely related - and there is no danger of confusing the reader - the comma may be omitted. Both of the following examples are correct.

- The cable snapped and the power failed.
- The cable snapped, and the power failed.

Enclosing Elements

Commas are used to enclose nonrestrictive clauses and phrases and parenthetical elements. (For other means of punctuating parenthetical elements, see dashes and parentheses. See also restrictive and nonrestrictive elements.)

- Our new factory, which began operations last month, should add 25 percent to total output. (nonrestrictive clause).
- The accountant, working quickly and efficiently, finished early. (nonrestrictive phrase)
- We can, of course, expect their lawyer to call us. (parenthetical element)
- Yes and no are set off by commas in such uses as the following:
 - I agree with you, yes.
 - No, I do not think we can finish as soon as we would like.

A direct address should be enclosed in commas.

You will note, Mark, that the surface of the brake shoe complies with the specifications.

A phrase in opposition (which identifies another expression) is enclosed in commas.

- Our institution, Cenido, did well this year.

Interrupting parenthetical and transitional words or phrases are usually set off with commas.

- The report, it turns out, was incorrect.
- We must wait for the written authorization to arrive, however, before we can begin work on the project.

Commas are omitted when the word or phrase does not interrupt the continuity of thought.

- I therefore suggest that we begin construction.

Introducing Elements

Clauses and Phrases. It is generally a good rule of thumb to put a comma after an introductory clause or phrase. Identifying where the introductory element ends helps indicate where the main part of the sentence begins.

Always place a comma after a long introductory clause.

- Because many rare fossils seem never to occur free from their matrix, it is wise to scan every slab with a hand lens.

A long modifying phrase that precedes the main clause should always be followed by a comma.

- During the first series of field – performance test last year at our Morelos proving ground, the new engine failed to meet our expectations.

When an introductory phrase is short and closely related to the main clause, the comma may be omitted.

- In two seconds a temperature of 20 degrees Fahrenheit is created in the test tube.

A comma should always follow an introductory absolute phrase.

- The test completed, we organized the data for the final report.

Words and quotations. Certain types of introductory words are followed by comma. One such is a proper noun used in direct address.

- Nancy, enclosed is the article you asked me to review.

An introductory interjection (such as, oh, well, why, indeed, yes, and no) is followed by comma..

- Yes, I will make sure your request is approved.
- Indeed, I will be glad to send you further information.

A transitional word or phrase like moreover or furthermore is usually followed by a comma to connect the following thought with the preceding clause or sentence.

- Moreover, steel can withstand a humidity of 99 percent, provided that there is no chloride or sulfur dioxide in the atmosphere.

In addition, we can expect a better world market as a result of this move.

- However, we should expect business with Latin America to decline due to the global economic climate.

When adverbs closely modify the verb or the entire sentence, they should not be followed by a comma.

- Perhaps we can still solve the environmental problem.
- Certainly we should try.

Use a comma to separate a direct quotation from its introduction.

- Morton and Lucia White said, “People live in cities but dream of the country side, even though they live in cities.

Do not use a comma when giving an indirect quotation. (see also quotation marks)

- Morton and Lucia White said that people dream of the countryside, even though they live in cities.

Separating Items in a Series

Although the comma before the last item in a series is sometimes omitted, it is generally clearer to include it. The ambiguity that may result from omitting the comma is illustrated in the following sentence.

- CONFUSING Random House, Bantam, Doubleday and Dell were individual publishing companies. (Does “Doubleday and Dell” refer to one company or two?)
- CLEAR Random House, Bantam, Doubleday, and Dell were individual publishing companies.

Phrases and clauses in coordinate series, like words, are punctuated with commas.

- Plants absorb noxious gases, act as receptors of dirt particles, and cleanse the air of the other impurities.

When adjectives modifying the same noun can be reversed and make sense, or when they can be separated by *and* or *or*, they should be separated by commas.

- The drawing was of a modern, sleek, swept-wing airplane.

When an adjective modifies a phrase, no comma is required.

- She was investigating his damaged radar beacon system.
[The adjective *damaged* modifies the phrase *radar beacon system*.]

Never separate a final adjective from its noun.

- He is a conscientious, ~~honest~~ reliable, worker.

Clarifying and Contrasting

If you find you need a comma to prevent misreading when a word is repeated, rewrite the sentence.

- AWKWARD The results we had, had surprised us.
IMPROVED We had been surprised at our results.

Use a comma after an independent clause that is only loosely related to the dependent clause that follows it.

- I should be able to finish the report by July, even though I lost time because of illness.

Showing Omissions

A comma sometimes replaces a verb in certain elliptical constructions

- Some students were admitted; others rejected.

It is better, however, to avoid such constructions in workplace writing.

Using with Other Punctuation

Conjunctive adverbs (however, nevertheless, consequently, for example, on the other hand) that join independent clauses are preceded by a semicolon and followed by a comma. Such adverbs function both as modifiers and as connectives

- Your idea is good; however, your format is poor.

Use a semicolon to separate phrases or clauses in a series when one or more phrases or clauses contain commas.

Our new courses include note taking, which is indispensable; technical report, which has not been taught before; and listening comprehension, which is vital.

When an introductory phrase or clause ends with a parentheses the comma separating the introductory phrase or clause from the rest of the sentence always appears outside the parentheses.

- Although we left late (at 7:30 p.m.), we arrived in time for the lecture.

Commas always go inside quotation marks.

- The operator placed the switch at “normal,” which solved the problem

Except with abbreviations, a comma should not be used with a period, question mark, exclamation mark, or dash.

- “Have you finished ~~the~~ project?”, “ I asked.

Using with Numbers and Names

Commas are conventionally used to separate distinct items. Use commas between the elements of an address written on the same line (but not between the state and the zip code).

- John James, 4119 Manhattan Drive, Stadste, Cambridge SO45401

A date can be written with or without a comma following the year if the date is in the month-day-year format.

- July 7, 2002, was the date the project began.
- July 7, 2002 was the date the project began.

If the date is in the day-month-year-format, as is typical in international correspondence, do not set off the date with commas.

- The date was 7 July 2002 that the project began.

Use commas to separate the elements of Arabic numbers.

- 1,940,200 feet

However because many countries use the comma as the decimal marker, use spaces or periods rather than commas in international documents.

- 1 940 200 meters
- 940, 200 meters

A comma may be substituted for the colon in the salutation of a personal letter. Do not, however, use a comma in a business letter, even if you use the person's first name.

- Dear Elizabeth, [personal letter]
- Dear Elizabeth: [business letter]

Use commas to separate the elements of geographical names.

- Newcastle Upon-Tyne, Northumbria, England

Use a comma to separate names that are reversed or that are followed by an abbreviation.

- Smith, John
- Helen Rogers, Ph. D.
- LMB, Inc.

Use commas to separate certain elements bibliography, footnote, and reference entries.

- Hall, Walter P., ed. Handbook of Communication Methods. New York: Stoddard Press, 1999. [bibliography entry]
- 1Walter P. Hall, ed., Handbook of Communication Methods (New York: Stoddard Press, 1999) 30. [footnote]

Avoiding Unnecessary Commas

A number of common writing errors involve placing commas where they do not belong. As stated earlier, such errors often occur because writers assume that a pause in a sentence should be indicated by a comma.

Be careful not to place a comma between a subject and verb or between a verb and its object.

The cold conditions at the test site in the Artic, made accurate readings difficult.

- She ~~has~~ often said, that one company's failure is another's opportunity.

Do not use a comma between the elements of a compound subject or a compound predicate consisting of only two elements.

- The director of the engineering ~~department~~, and the supervisor of the quality control section were opposed to the new schedules.
- The engineering director listed five ~~major~~ objections, and asked that the new schedule be reconsidered.

Placing a comma after a coordinating conjunction such as and or but is a common error.

- The chairperson formally adjourned the ~~meeting~~, but the members of the committee continued to argue.

Do not place a comma before the first item or after the last item of a series.

- The new products we are ~~considering~~ include, calculators, scanners, and cameras.
- It was a fast, simple, ~~inexpensive~~, process.

Do not use a comma to separate a prepositional phrase from the rest of the sentence unnecessarily.

- We discussed the ~~final~~ report, on the new project.

UNIT NINETEEN

PUNCTUATION: DASHES, EXCLAMATION MARKS, HYPHENS

Dashes

The dash (-) can perform all the duties of punctuation: linking, separating, and enclosing. It is an emphatic mark that is easily overused. Use the dash cautiously to indicate more informality, emphasis, or abruptness than the other punctuation marks would show.

A dash can emphasize a sharp turn in thought.

The project will end August 19 unless the company provides additional funds.

A dash can indicate an emphatic pause.

The job will be done after we are under contract.

Sometimes, to emphasize contrast, a dash is used with but.

We may have produced work more quickly but the result was not as good.

A dash can be used before a final summarizing statement or before repetition that has the effect of an afterthought.

It was hot near the ovens steaming hot.

Such a statement may also complete the meaning of the cause preceding the dash.

We try to speak as we write or so we believe.

A dash can be used to set off an explanatory or appositive series.

Three of the candidates John Smith, Rosaura Jiménez, and Peter Gordon seem well qualified for the job.

Dashes set off parenthetical elements more sharply and emphatically than commas. Unlike dashes, parentheses tend to reduce the importance of what they enclose. Compare the following sentences:

- Only one person the president can authorize such activity.
- Only one person, the president, can authorize such activity.
- Only one person (the president) can authorize such activity.

The first word after a dash is never capitalized unless it is a proper noun.

Exclamation Marks

The exclamation mark (!) indicates strong feeling. The most common use of an exclamation mark is after a word, phrase, clause, or sentence to indicate urgency, elation, or surprise.

- Hurry!
- Great!
- Wow!

In technical writing, the exclamation mark is often used in cautions and warnings.

- Notice!
- Stop!
- Danger!

An exclamation mark can be used after a whole sentence or an element of a sentence.

- The subject of this meeting ~ please note well! ~ is our budget deficit.

Keep in mind that an exclamation mark can not make an argument more convincing, lend force to a weak statement, or call attention to an intended irony.

An exclamation mark can be used after a title that is an exclamatory word, phrase, or sentence.

- “Our International Perspective Must Change!” is an article by Richard Moody.

When used with quotation marks, the exclamation mark goes outside, unless what is quoted is an exclamation.

- The manager yelled, “Get in here!” Then Ben, according to Ray, “jumped like a kangaroo”!

Hyphens

The hyphen (-) serves both to link and to separate words. The hyphen’s most common linking function is to join compound words.

- Able-bodied
- Self-contained
- Self-esteem

A hyphen is used to form compound numbers from twenty-one through ninety-nine and fractions when they are written out.

- Forty-two
- Three-quarters

Hyphens Used with Modifiers

Two-and three-word modifiers that express a single thought are hyphenated when they precede a noun.

- It was a well-written report.
- We need a clear-cut decision.

However, a modifying phrase is not hyphenated when it follows the noun it modifies.

- a new laser printer

If the first word is an adverb ending in –ly, do not use a hyphen.

- a newly minted coin
- a badly needed scanner

A hyphen is always used as part of a letter or number modifier.

- 5-cent
- 9-inch
- A-frame
- H-shaped

In a series of unit modifiers that all have the same term following the hyphen, the term following the hyphen need not be repeated throughout the series; for greater smoothness and brevity, use the term only at the end of the series

- The third-, fourth-, and fifth-floor rooms were recently painted.

Hyphens Used with Prefixes and Suffixes

A hyphen is used with a prefix when the root word is a proper noun.

- pre-Columbian
- anti-American
- post-Newtonian

A hyphen may be used when the prefix ends and the root word begins with the same vowel.

- re-elect
- re-enter

- anti-inflammatory

A hyphen is used when ex- means “former.”

- Ex-president
- Ex-spouse

A hyphen may be used to emphasize a prefix.

- She was anti-everything.

The suffix –elect is hyphenated.

- president-elect
- commissioner-elect

Hyphens and Clarity

The presence or absence of a hyphen can alter the meaning of a sentence.

AMBIGUOUS We need a biological waste management system.

That sentence could mean one of two things: (1) We need a system to manage “biological waste,” or (2) we need a “biological” system to manage waste.

CLEAR We need a biological-waste management system.
 We need a biological waste-management system.

To avoid confusion, some words and modifiers should always be hyphenated. Re-cover does not mean the same thing as recover, for example; the same is true of re-sent and resent, re-form and reform, re-sign and resign.

Other Uses of Hyphen

Hyphens should be used between letters showing how a word is spelled.

In his letter, he misspelled believed b-e-l-e-i-v-e-d.

A hyphen can stand for to or through between letters and numbers.

- pp. 44-46
- the México-Cuernavaca Motorway
- A-L and M-Z

Hyphens also are used to divide words at the end of a line. Most word-processing programs give you the option of automatically hyphenating words at the end of a line

according to your default settings. To avoid improper end-of-line hyphenation, follow these general guidelines.

Do not divide one-syllable words.

Divide words at syllable breaks, which you can determine with a dictionary.

Do not divide a word if only one letter would remain at the end of the line or if fewer than three letters would start a new line.

Do not divide a word at the end of a page.

If a word already has a hyphen in its spelling, try to divide the word at the existing hyphen.

When dividing Web addresses at the end of a line, try to break the address after a slash.

Inserting a hyphen into the address may confuse readers.

UNIT TWENTY

PUNCTUATION: PARENTHESES, PERIOD, QUESTION MARKS, SEMICOLONS, SLASHES

Parentheses

Parentheses are used to enclose explanatory or digressive words, phrases, or sentences. The material in parentheses often clarifies a sentence or passage without altering its meaning. Parenthetical information may not be essential to a sentence—in fact, parentheses de-emphasize the enclosed material—but it may be interesting or helpful to some readers. Parenthetical material applies to the word or phrase immediately preceding it.

- Aluminum is extracted from its ore (called bauxite) in three stages.

Parenthetical material does not affect the punctuation of a sentence. If a parenthesis appears at the end of a sentence, the ending punctuation should appear after the parentheses. A comma following a parenthetical word, phrase, or clause also appears outside the closing parentheses.

- These oxygen-rich chemicals, such as potassium permanganate (KMnO₄) and potassium chromate (KCrO₄), were oxidizing agents (they added oxygen to a substance).

However, when a complete sentence within parentheses stands independently, the ending punctuation goes inside the final parentheses.

- The new marketing approach appears to be a success; most of our regional managers report sales increases of 15 to 30 percent. (The only important exceptions are Toluca and Tepic offices.)

Parentheses also are used to enclose numerals or letters that indicate sequence. Enclose the numeral or letter in two parentheses rather than using only one parentheses.

The following sections deal with (1) preparation, (2) research, (3) organization, (4) writing, and (5) revision.

In some footnote forms, parentheses enclose the publisher, place of publication, and date of publication.

- 1W.P. Hall, Handbook of Communication Methods (New York: Stoddard, 2002): 9.

Use brackets to set off a parenthetical item that is already within parentheses.

Period

A period usually indicates the end of a declarative or imperative sentence. Periods also link when used as leaders (for example, in a table of contents) and indicate omissions when used as ellipses. Periods may also end questions that are really polite requests and questions to which an affirmative response is assumed.

- Will you please send me the financial statement.

Periods in Quotations

Use a comma, not a period, after a declarative sentence that is quoted in the context of another sentence.

- “There is every chance of success,” she stated.

A period is conventionally placed inside quotation marks.

- He liked to think of himself as a “researcher.”
- He stated clearly, “My vote is yes.”

Periods with Parentheses

If a sentence ends with a parentheses, the period should follow the parenthesis.

- The institute was founded by Harry Denman (1902-1972).

If a whole sentence (beginning with an initial capital letter) is enclosed in parentheses, the period (or other end mark) should be placed inside the final parenthesis.

- The project director listed the problems his staff faced. (This was the third time he had complained to the board.)

Other Uses of Periods

Use periods after initials in names.

- John T. Grant J.P. Morgan

Use periods as decimal points with numbers.

- 109.2 degrees \$540.26 6.9 percent

Use periods to indicate abbreviations.

- Ms. Dr. Inc.

When a sentence ends with an abbreviation that ends with a period, do not add another period.

- Please meet me at 3:30 p.m.

Use periods following the numerals in a numbered list.

1. Enter your name.
2. Enter your address.
3. Enter your telephone number.

Period Faults

The incorrect use of a period is sometimes referred to as a period fault. When a period is inserted prematurely, the result is a sentence fragment. (see Unit Four)

FRAGMENT After a long day at the center during which we finished the quarterly report. We left hurriedly for home.

SENTENCE After a long day at the center, during which we finished the quarterly report, we left hurriedly for home.

When two independent clauses are joined without any punctuation, the result is a run-on sentence. Adding a period between the clauses is one way to correct a run-on sentence. (see Unit 4)

QUESTION MARKS

The question mark (?) has several uses. Use a question mark to end a sentence that is a direct question.

- Where did you put the specifications?

Never use a mark to end a sentence that is an indirect question.

- He asked me whether I had finished my report ~~this~~ week?

Use a question mark to end a statement that has an interrogative meaning (a statement that is declarative in form but asks a question).

- The laboratory report is finished?

Use a question mark to end an interrogative clause within a declarative sentence.

- It was not until July (or was it August?) that we submitted the proposal.

When a directive is phrased as a question, a question mark is usually not used. However, a request (to a customer or a superior, for instance) almost always requires a question mark.

- Will you make sure that the machinery is operational by August 15. [directive]
- Will you email me if your entire shipment does not arrive by June 10? [request]

Question marks may follow a series of separate items within an interrogative sentence.

- Do you remember the date of the contract? Its terms? Whether you signed it?

Retain the question mark in a title that is being cited, even though the sentence in which it appears has not ended.

- Should Engineers Be Writers? Is the title of the book.

When used with quotations, the placement of the question mark is important. When the writer is asking a question, the question mark belongs outside the quotation marks. Did she say, “I don’t think the project should continue”?

If the quotation itself is a question, the quotation mark goes inside the quotation marks.

- She asked, “When will we go?”

If both cases apply__the writer is asking a question and the quotation itself is a question__use a single question mark inside the quotation marks.

- Did she ask, “Will you go to the convention in my place?”

SEMICOLONS

The Semicolon (;) links independent clauses or other sentence elements of equal weight and grammatical rank, especially phrases in a series that have commas in them. The semicolon indicates a greater pause between clauses than a comma, but not as great as a period.

When the independent clauses of a compound sentence are not joined by a comma and a conjunction, they are linked by a semicolon.

- No one applied for the position; the job was too difficult.

Make sure however, that such clauses balance or contrast with each other. The relationship between two statements should be so clear that further explanation is not necessary.

- The new Web page was very successful; every division reported increased online sales.

Do not use a semicolon between a dependent clause and its main clause. Remember that elements joined by semicolons must be of equal grammatical rank or weight.

With Strong Connectives

In complicated sentences, a semicolon may be used before transitional words or phrases (that is, for example, namely) that introduce examples or further explanation.

- The study group was aware of his position on the issue; that is, federal funds should not be used for the research project.

A semicolon should also be used before conjunctive adverbs (such as therefore, moreover, consequently, furthermore, indeed, in fact, however) that connect independent clauses.

- I won't finish today; moreover, I doubt that I will finish this week.

The semicolon in the example shows that moreover belongs to the second clause.

For Clarity in Long Sentences

Use a semicolon between two independent clauses connected by a coordinating conjunction (and, but, for, or, nor, yet) if the clauses are long and contain other punctuation.

- In most cases, these individuals are corporate executives, bankers, lawyers; but they do not, as the economic determinists seem to believe, affect other fields.

A semicolon may also be used if any items in a series contain commas.

- Among those present were Dr. A. Bautista headmaster of the institution; Dr. J.Arau head of the Academic Department; and Lic. Esther Villalba, head of the Human Resources Department.

Do not use semicolons to enclose a parenthetical element that contains commas. Use parentheses or dashes for that purpose.

Do not use a semicolon as a mark of anticipation or enumeration. Use a colon for that purpose.

SLASHES

The slash (/) performs punctuating duties by separating and showing omission. The slash is called a variety of names, including slant line, virgule, bar, solidus, and shilling.

The slash is often used to separate parts of addresses in continuous writing.

- The return address on the envelope was Mr. John Nelson/Haden St. 45/Gosforth/N 75642/UK.

The slash can indicate alternative items.

- Josephs's telephone number is 352-4123/4124.

The slash often indicates omitted words and letters.

- miles/hours for "miles per hour"
- w/o for "without"

In fractions, the slash separates the numerator from the denominator.

- $\frac{2}{3}$ [2 of 3 parts], $\frac{3}{4}$ [3 of 4 parts], $\frac{27}{32}$ [27 of 32 parts]

The slash also separates items in the URL (Uniform Resource Locator) address for sites on the World Wide Web.

- <http://www.bedfordstmartins.com/>

In informal writing, the slash separates day from month and month from year in dates.

- 08/26/02

Do not use this form for international correspondence, since the order of the items varies.