**Cairo University**
**Faculty of Engineering**
**Postgraduate M. Sc.**

**Gen 600: Technical Writing**
**and**
**Scientific Publications**

# Basics of Style for Technical Writing

*MPM Department*

*Faculty of Engineering*

**Cairo University**

**Giza, Egypt**

**(February 2015)**

# Table of Contents

# Introduction

## What are the subjects most needed by engineers for career in the industry ?

The answer is derived from r*esults of survey made by the American bureau OF engineering Education on a sample of 4025 American engineers of all disciplines):*

| Management Practices | **Working with individuals** |
|---|---|
| **TECHNICAL WRITING** | **Working with Groups** |
| Probability and Statistics | **Speed Reading** |
| **Public Speaking** | **Talking with People** |
| Creative Thinking | Business Practices |

**Items 2, 4, 6, 7, 8, & 9  belong to communication.**

### For Building Knowledge, Skills and Competencies in Business

*Skills* = Knowledge + Practice
*Competency* (Expertise, Proficiency) = Skills + More Practice + Specialized Knowledge

**The following areas should be addressed within the framework of a systemic approach to improve skill gaps of many practicing personnel.**

Mental, Analytical                    General Knowledge
Communication                         Physical
Group, Team                           Professionalism
Learning                              Technical Skills
Management                            Computer
Personal                              Paperwork

### Why English Technical Writing for Engineers and Scientists?

1. Professional Needs: Frequency increases with progress in hierarchical scale, responsibilities and time.
2. Writing skills acquired during scholastic career are not adequate.
3. Skills are developable.
4. Writing has strict basics and rules.
 Good writing is the result of good definition of the subject, good knowledge of the reader, well-structured writing plan, strong motivation for writing, good knowledge of the writing techniques
5. Writing becomes good when it is correct, clear, precise, concise, appropriate and to the point.
6. Difficulties proper to nonnative speakers are numerous: Knowledge of basics of grammar and mechanics, style, vocabulary and technical writing rules proper to the foreign language.

## The Communication Process for Writing Three-Part Texts

**Basic Elements of the Process (**SMCR)
**Sender**: should know**, Message, Reader  Objective, Form, Size,  Environment**
**Message**: should define **and limit the topic**
**Code**: should master **Grammar, Mechanics, Style, Vocabulary, and Usage**
**Receiver**: should be precisely defined (s**pecialist or non, hostile or not)**

## Basic Steps for Producing Effective Three-Part Texts

1. Define the basic elements of the communication process: SMCR
2. Define the objective (O) of writing: It informs, requests, proposes, persuades, refutes, explains, shows, defines, narrates, details, clarifies, justifies, says yes, says no, introduces, promotes,....
3. Define the appropriate form of writing to suit O, S, and R: telex, letter, memo, article, proposal, report.  4. Collect data about the subject. Put down on paper all data and ideas about the subject; list these ideas as they show up without specific order.
4. Outline each idea (use topic, sentence, or mixed outlines).
5. Organize your outline to show the basic parts of the form: Introduction, Body, and Conclusion. Use the organized outline as a plan for your writing.
6. Write the first draft. Develop the basic ideas of the message into sub-topics; write a topic sentence for each sub-topic; then expand each topic sentence. Select the appropriate development pattern for each topic sentence.  Write first the part where words flow easily -You need not start from the beginning. Pay special attention to the introduction, and the conclusion. Tips for ways to begin could be of help to you. Make use of word processing capabilities available to you.
7. Revise your text. Use the following order; check only one item at a time:

- Revise sentences for conciseness, unity, grammar and mechanics, clarity, cohesion, emphasis, preciseness and word propriety, and variety.
- Revise paragraphs: Check topic sentences, unity, development, cohesion and transition between sentences and between paragraphs.
- Revise the whole text: verify the thesis statement, the objective or purpose statements, unity, cohesion, the introduction, the conclusion, the acknowledgment, the nomenclature, references, and appendices.
- Revise graphs, tables, and illustrations.

8. Write and revise the summary or the abstract (informative or descriptive); these are especially needed for articles and long reports.
9. Field-check your report by someone who represents a potential reader; seek the help of your colleagues. Check the soundness of your arguments).
10. Edit your text for formatting, pagination, titles, numbering of headings and subheadings. Check the use of white space; and the use of face, font and size.
11. The quality of the final form is important: produce the report in a presentable form. For scientific articles, follow publisher's rules. For internal reports, follow the rules of your establishment.
12. Send the final form to the reader, or publisher. Follow up with the receivers to know their reactions, their feed-back, and how much of the objective has been attained.

13. Evaluate your performance according to initial objectives. Draw lessons and conclusions to improve your writing skills.

==========================

**For Building Knowledge, Skills and Competencies in Business**

*Skills* = **Knowledge + Practice**

*Competency* **(Expertise, Proficiency) =**
**Skills + More Practice +**
**Specialized Knowledge**

**The following areas should be addressed within the framework of a systemic approach to improve skills gaps of many practicing personnel.** *(Note the prominent role of communication skills which include technical writing)***.**

| 1. Mental, Analytical | 7. General Knowledge |
|---|---|
| 2. Communication | 8. Physical |
| 3. Group, Team | 9. Professionalism |
| 4. Learning | 10. Technical Skills |
| 5. Management | 11. Computer |
| 6. Personal | 12. Paperwork |

**How To Improve Your Writing?**

**Writing improves by _reading_ good texts and by _building vocabulary_, by _learning and applying basics_, and by _practicing and improving skills_.**

Developing English Skills (DES) for Graduate Professionals

**Statement of the problem:**

The initial graduate level in written and spoken technical English skill is not sufficient for business needs and requires training to sharpen this skill. The current English training is not efficient. Practice outside of classes is very limited. The writing and speaking skills have been deteriorating with time.

**Why English Technical Writing for Engineers and Scientists?**

1. Writing has strict conventions: good writing is the result of good knowledge of the basics, clear definition of the subject, good knowledge of the reader, well-structured writing plan, strong motivation for writing, good knowledge of the writing techniques. Writing becomes good when it is correct, clear, precise, concise, appropriate and to the point.
2. Technical Writing differs from most of writing and speaking styles taught at schools. Technical writing rules and conventions are not addressed in schools. Several factors are behind this: limited scope of the teaching process; absence of awareness of the importance of the skill; absence of personal drive; for scientific studies; developing writing skills is considered marginal; and lack of practice for nonnative speakers outside of classrooms.
3. For a nonnative employee, related difficulties proper to nonnative speakers are numerous: Knowledge of basics of grammar and mechanics, style

techniques, vocabulary and technical writing rules proper to the English language.

*All of these factors has lead to the rather mediocre starting level in written and spoken technical English of most of university graduates from scientific disciplines.* Furthermore, professional progress accentuated the need for special communication skills with progress in hierarchical scale, responsibilities and time.

## **Specific aspects of developing the skill "Communicating in English Language"**

E & P organizations are joint-ventures having many expatriate employees.  In work, English is the main business language. It is in the interest of the E & P industry to develop training that sharpens employees' communication skills. When English communication skills are poor, this situation can have a negative impact on work efficiency and results.  Communication skills include speaking and writing used in work documents, presentations, meetings, and many other forms of business activities.  Training for developing English skills in E & P joint-ventures has some specific features that are different from other subject-matter training:

- Training is done in a nonnative English speaking environment: delivery and short workshops are limited to classroom premises; practice outside of classes is very limited.
- Results of training are largely dependent on the trainees' aptitude, interest and capabilities, and environment.  A good part of the skill should be the result of personal effort that extends over long period of time.  These efforts start as early as childhood.
- The impact of the skill may not be easily qualified and isolated for evaluation.  Therefore, measuring impact on business of training for developing English may not lead to tangible, concrete results.
- Because of the diversity of the social and educational sources of the candidates for any English language training, the levels of trainees are not uniform.  In group training, this diversity of levels hampers progress and prevents efficient development of workshop programs.  In homogeneous groups, effective workshops gives better and faster results.
- On the business side, developing communication skills in English is considered by most of the supervisors marginal to other business matters, and is left to the discretion of the trainee.  It is generally not considered as one of the responsibilities of the supervisor.  Supervisors has generally grown up in environments that belittles skills other than those directly related to the core craft of the supervisor.
- Having objective evaluation and monitoring is important in providing feedback to the system and to the person.  Feedback is generally avoided for the fear that it causes embarrassment to the employee, and for the absence of getting or giving objective feedback. Without feedback, the evaluation loop cannot be completed.
- Developing any language needs the development of knowledge and mental skills in several other areas: vocabulary, grammar, mechanics, building arguments and reasoning, spelling, … etc. Because of its dependence on other complementary mental skills, developing skills takes long time. Achieving results in this area need diligence, patience, self- learning, … etc. Failure to improve in any of these areas will hamper overall progress in this skill.
- Practice, which is a personal task, is important in sharpening language skills.  Without practice use of words and spontaneity in writing and speaking suffers

ample decay with time.  The chance of having practice is also a matter of work environment and personal habits.

## Remarks about the Current Situation

The current English training is not efficient.  Reasons of this inefficiency are:

1. Feedback and follow up are almost absent, especially in training for improving English skills.
2. Quasi absence of supervision, follow up and evaluation of the returns on business of training programs. Return of training/cost of training may be the lowest of all types of training. There is only one form of evaluation.  That of the trainee, if properly done. Evaluation is not systemic, basically complacent.
3. English training is not tailored to business needs and may not address forms used in business.
4. On-the-job-training in English language is almost in-existent.  Role of proficient employees (more experienced employees) is small. Transfer of experience is not efficient.
5. Training for improving English writing and speaking skills is considered by most of the supervisor as a "non-core business" training.  It may not receive the interest it deserves from the immediate supervisor.  Contrary to core areas, the supervisor may not be qualified to determine training needs and form.   In many cases, the supervisors may have less English communication skills than peers.
6. English levels of trainees are not homogeneous.  Trainees are not segregated into homogeneous levels.  In one class three levels may exist.  Trainees for Technical English come from different backgrounds.  Contrary to other "technical matters" proficiency in English language has no national standard. Graduates belonging to the same technical specialization may show strong disparities in their level of writing and speaking English.  Progress of individuals communication competency does not necessarily cope with career progress. Many factors lead to this situation: social status and environment, importance given to language proficiency, personal aptitudes, and secondary school environment (effective English skills are mainly developed before admission to university levels).
7. Developing skills in writing and speaking any language requires frequent practice in the form of mentoring on-the-job.  Most of the practice should happen outside formal classrooms.  For a nonnative speaker, practicing writing in English during the training course is not enough for developing targeted skills. On-the-job-training by a knowledgeable person is essential if rapid and sure results are desirable.

The writing and speaking skills have been deteriorating with time.  This is the result of all previous factors.

*E. Possible Training Forms. Selection of the best approach should be left to the discretion of managers.  Selection should be directed to the approach that maximizes business benefits.  Any approach may change with time and area to search for the best results.*

No use of human resources (traditional approach)

1. The current (conventional form) supplemented with processes to improve follow up and evaluation to maximize returns (of this form) on business.
2. Use of in-house tailored training with enhanced follow up and evaluation.

**Make use of resources for formal and OJT (not commonly used). Efficient in building skills outside of conference rooms.**

- Train proficient members of the organization to follow up conventional training and evaluate content and 6to deliver feedback to the trainers.
- Train proficient members of the organization to formally participate in on-the-job training as mentors outside of class hours and during work activities. This may happen parallel to conventional or in-house training

**Desired outcome:** A remedy plan for improvement

## Skills That Interact with Communication

Developing any language needs the development of knowledge and skills in several other areas: vocabulary, grammar, mechanics, building arguments and reasoning, spelling, … etc. Failure to improve in any of these areas will hamper overall progress in this skill.

- Mental and Analytical skills
- General Knowledge
- Language
- Doing quality work
- Self-learning
- Technical skills
- Management
- Computer skills
- Personal
- Social skills

*Examples of errors in translation or public announcements*

- **In a Copenhagen airline ticket office:  We take bags and send them in all directions.**
- **At a Budapest zoo:  Please do not feed the animals.  If you have any suitable food, give it to the guard on duty.**
- **In the lobby of a Moscow hotel across from Russian Orthodox monastery:  You are welcome to visit the cemetery where famous Russian and Soviet composers, artists, and writers are buried daily except Thursday.**
- **In a Rhodes tailor shop:  Order your summers suit.  Because is big rush we will execute customers in strict rotation.**
- **From the Soviet Weekly: There will be a Moscow Exhibition of Art by 15,000 Soviet Republic painters and sculptors.  These were executed over the past two years.**

**Note:** *Part (I) is not part of the M. Sc. Course on Technical Writing, but these are essential to know in order to produce correct texts.*

# Part I

# Outline of a Review of the Basics of English Grammar and Mechanics

Ñ  **Word Classes**

Ñ  **The Sentence and Its Parts**

Ñ  **The Basics of the Verb**

Ñ  **Supplements**

Ñ  **Relative Clauses**

Ñ  **The Definite and the Indefinite Articles**

Ñ  **Basics of Mechanics: Spelling, Abbreviations, Writing Numbers, Capitalization, Punctuation Marks**

# Part II

## This is part of Gen 600: Basics of Style – Writing Effective Sentences and Paragraphs

✓ **Common Sentence and Style Errors**

✓ **Effective Sentences**

✓ **Writing Effective Paragraphs**

# Sentence Errors

**Are errors of grammar, mechanics, vocabulary and style**

- **Grammar: Verb, structure, agreement, case, tense, ...**
- **Mechanics: punctuation, capitalization, writing numbers, abbreviation and spelling**
- **Vocabulary: misusing words, using confusing words, shortage of vocabulary**
- **Style: Errors not related to or confuses the meaning:**

**Examples**

**\* News have just received. (error of agreement and use voice)**
**\* To define the calculation program, computer should be used (the leading phrase is dangling; it represents an action. The doer of the action is missing; it is not the compute).**

## Dangling Modifier

*Modifiers* **are words, clauses or phrases which alter the meaning of sentence elements by restricting, emphasizing, describing them.**

**I work in a place** *not very far from downtown area* **that is close to the central railway station.** *The part in italics is misplaced; the relationship between place and the relative pronoun "that" is broken.*
**One form of correction: I work in a place** **that** *not very far from downtown area* **and is close to the central railway station.**

**Modifiers are** dangling **when there is no word to which they can clearly relate.**

**Dangling modifiers occur in various forms:**

| | | |
|---|---|---|
| **Participial** | : | **Loaded, the truck will arrive on time.** |
| **infinitive** | : | **To save time, use the computer.** |
| **gerund** | : | **Using the new technique, he has saved time.** |
| **elliptical** | : | **When (I am) using the new technique I saved 10% of the time.** |

**Structure of the dangling sentence**

# Leading phrase (LP), a main clause (MC).

**LP is generally an action done by someone (noun), or an adjective (of a noun). In both cases the noun is absent or the relationship with the modifier is oscure or missing.**

**There is a dangling situation when:**

- **MC does not start with the noun.**
- **LP is not tied to a logical noun in MC.**

## Example

**While being president of the firm,** *I am* **sure that Mr. x made many good things.**

**LP : While being president of the firm.** *(describes a situation of someone)*

**MC: I am sure that Mr. x made many good things.** *(starts with someone who was not president)*

## Suggested correct Versions

1. **While being president of the firm, Mr. x made many good things.**
2. **While Mr. X was president of the firm, I am sure that he made many good things.**
3. **I am sure that Mr. x made many good things While he was president of the firm.**
4. **I am sure that Mr. x made many good things While being president of the firm.**
5. **Simulation should be used** *( with/ without ",")* **to facilitate modeling of the process.**

## Other Examples

*Note: "*" designates wrong, dangling, sentences.*

1. **In operating the press, the hand was injured.**
2. **By using the new technique, ten minutes will be saved.**
3. **Using the new technique, the crew saved ten minutes.**
4. **Loaded or not, the truck drivers will arrive on time.**
5. **To save time, the computer will be used.**
6. **Not able to find the way, a guide came to my rescue.**
7. **After reading the minutes, a heated discussion started among the members.**
8. **To determine its value, the manuscript will be scrutinized.**
9. **When only was 4 years old, computer games fascinated him.**
10. **The balance has to be stored back in place when finished.**
11. **Our training passed quickly, learning many good things.**
12. **While asleep, someone picked his money.**
13. **To draw a straight line, use a ruler.**
14. **Use a ruler to draw a straight line.**
15. **Use a ruler, to draw a straight line.**
16. **To draw a straight line a ruler is required.**
17. **A ruler is required to draw a straight line.**
18. **To judge of what you say, everything seems alright.** Parts with * are dangling
19. **\* To explain dangling modifiers, analogy between Arabic and English could be useful.**
20. **\* By using the (a) new technique, 10 percent of the operating time will be saved.**
21. **\* Having retired at early age, the years ahead can be used to start a new career.**
22. **Considering his age, his health is good.**
23. **Assuming x=y, the function will degenerate.**

---

24. * After sitting calm for a while, the building began to shake, and we rushed out to open areas.
25. Darkness having come, work stopped.
26. * Arriving late, the crew had already left the place.
27. * After reading the minutes, a heated discussion started among the members of the board.
28. * For checking spelling, a dictionary is essential.
29. * Not able to find my way, one come to my rescue.
30. * Ready to pitch the camp, orders changed and we had to move to a new location.
31. * Burned to the ground a mess hall has to be built.
32. * We saw employees go to work wearing safety shoes.
33. * Once made, you should execute the decision.

## Correcting Dangling Modifiers

1. **Change LP to a leading clause.**

- **When he was only 8 years old, computer games fascinated him.**

2. **Start MC with the missing noun.**

- **When only was 8 years old, he was fascinated by computer games.**

3. **Insert the dangling part into an idiomatic expression.**

- **For mastering vocabulary, use of a good dictionary is essential.**
- **Use of a good dictionary is essential for mastering vocabulary.**

4. **Shift active/passive voice of MC if necessary.**

- **When heavily used, you need to regularly maintain hardware.**
- **When heavily used, hardware should be maintained regularly.**

5. **Make other necessary changes without affecting the original meaning**

- **The manuscript will be scrutinized in order to determine its value.**

## Squinting Modifiers:

* Those who watch television <u>rarely</u> read much
* I <u>only</u> told what happened to the report.
 "rarely" is an adverb for "watch" or "read"?
The same may happen in Arabic: ".                              "
                                        .

## The same can be said for only whos class can be adjective or adverb.

# Parallelism

∗ __Parallelism is the repetition of the same grammatical__ structure especially when writing lists: lists should be cast in the same grammatical form.

__In parallelism, all elements of the list should  fit into the leading structure.__

**Structure of the sentence:**

**Leading part (LP, generally clause), followed by a list of sentence parts.**

♦ **Example: Judge people by (LP) what they say (first element of the list) and their actions (second element of the list). Elements are not cast into parallel structure.**
♦ **Correct version: judge people by what they say and what they do.**

• __There are__ **1) Parallelism within the same sentence, and 2) Parallelism between larger elements.**

♦ __Parallelism within the sentence:__

⇒ **facilitates reading and**
⇒ **clarifies meaning.**

◊ __Lists within sentences are either__:

1. **Vertically formatted with alpha numeric sequence**
2. **Partially formatted  with alphanumeric sequence**
3. **Not formatted.**

__Examples__

♦ **The building is 140' long, 80 feet wide and is four stories in height.**
♦ **People fall between two classes: the workers and those who like to depend on others work.**
♦ **The group was quiet and in a serious mood after the meeting.**
♦ **The variables are pressure and temperature of the boiler, what type of fluid fuel is required, oxygen amount, and the temperature of the fluid.**
♦ **The employees present assignment is to develop a software to reside in the computer memory and to**
♦ **His present occupation is repairing typewriters, duplicating machines, and printing machines.**
♦ **One learns many reasons why products failed by reading, observing, and asking sales people.**
♦ **The duties of the writer involve:**
     1. **defining problems of readers**
     2. **describing the solution**
     3. **writes and edits the message.**

**Parallelism can extend also to between sentences in the same paragraph or between paragraphs:**

**Example of parallelism between sentences in the same paragraph (***example: the three sentences in bold have parallel structure***).**

As a writer, therefore, you can do everything possible to ease this kind of reader's burden; in particular, you should make your writing easy to skim-read.  One of the best ways to do this is to write a *good paragraph*.  What makes for a good paragraph in scientific/  technical writing?  **First of all, a good paragraph has *unity*: focuses on a single idea or theme.  Second, a good paragraph has *coherence*, one sentence leads to the next in some kind of logical sequence.  Finally, a good paragraph has *adequate content*: appropriate  details to support the main idea.**  Readers expect to find these qualities in paragraphs, and you as a writer should take care not to frustrate their expectations.

Parallelism should also be considered when writing units that have the identical structures or significance: consider parallelism when using colors, upper or lower case units, titles/headings of the same level; using bold face or italics, ….

**Assignment:**

**This part on sentences and paragraphs was not reviewed (edited for parallelism) It was written in separate parts; the overall review was not done – we need you to suggest a better version as far as parallelism is concerned). Present a corrected version considering all aspects of parallelism you see in Part II of this course.**

## Effective Sentences

Well-organized effective sentences should satisfy the following criteria: unity, emphasis, cohesion, preciseness, conciseness, word propriety, clarity, and variety. Remember that, before being effective, sentences should first be correct in grammar and mechanics. The following briefly outlines what is meant by these criteria, in each part a few examples are used to clarify the meaning whenever is necessary.

## 1) UNITY

A unified sentence deals with only one idea or connects related thoughts. Unity of the sentence is disturbed by grammatical and style errors, unrelated thoughts, overloaded -- long -- parts of speech, misplaced parts of speech, and excessive details.

The following are examples of sentences that lack unity.

* Our colleague accepted work in a computer company; the future of data processing looks good. (Two apparently unrelated thoughts).
* Because the oil price is low, the search for new sources of energy is intensive . (The reason does not clearly support the result).
* Working very hard on the budget, the management approved the general outline rapidly . (The introductory part is dangling).
* The software department was asked to design a program to reside permanently on the computer and to control usage of the computer time. (Faulty and confusing parallelism.)
* Today, a jet engine develops over 40,000 pounds of thrust which weighs 5000 pounds. (Misplaced the relative clause that describes the jet engine).
* If on the date of opening of bid, the average price of domestic product is not more than 10 percent above the average of representative types, which price should reflect the price of premium quality products, and if reasonable bid proposals have been received for the whole quantity , the said bid will be awarded for local products that do not exceed 10 percent more than foreign equivalents and the procedures set forth for awarding contracts will apply. (Excessive use of subordination and details that rendered understanding difficult). Length and labyrinth-structure hurts unity of this sentence.

* But the following is an effective sentence with 82 (eighty-two) words:

"It rather for us to be here dedicated for the task remaining before us   - that from these honored dead we take increased devotion to that cause   for which they gave the last full measure of devotion - that we here highly resolve that these dead shall not have died in vain - that this  nation, under God, shall have a new birth of freedom - and that   government of the people, by the people, for the people, shall not perish from the earth. [Lincoln, Gettysburg Address]."

## 2) EMPHASIS

The word emphasis means special attention, importance or prominence given to particular word or part(s) of speech. This special attention (emphasis) indicates force or intensity of meaning. In writing, ideas vary in importance; therefore, expressing them should vary in emphasis. The writer can gain or vary emphasis

1. by placing important parts of speech at the position of natural stress;
2. by using subordination/coordination techniques;
3. by repeating important parts of speech (full form repetition or short form repetition);
4. by arranging ideas in a known order of climax (increasing or decreasing);
5. by using intensifiers and word signals;
6. by abruptly changing sentence length;
7. by putting a part of speech out of the customary order;
8. by using the technique of parallelism;
9. by using passive/active voice-shift;
10. by using punctuation, italicization, font...;  and
11. by using the emphatic mood.

**NOTE** Beginning (introductory) phrases usually do not affect emphasis of the main clause or other clauses of the sentence.

Examples on emphasis:

1. At the present time, consumers are not interested in solar heaters because they are still expensive despite the wide publicity on this very important items.
2. The expanding gases drive the turbine, and the same gases are used to heat intake air of the air supply system.
3. Whether the engineer is engaged in civil, mechanical or any other profession, he is confronted with data and figures.
4. Note the repetition of the word "read" and its derivatives: readers, readers of the real world:

   "Unlike readers of the academic world, most readers of the "real world" read *selectively*. Rather than digesting a piece of writing, they *skim-read* most of it, skipping from one main idea to another until they come to something that particularly interests them.  Such readers are forced to read this way."

5. Basic to all progress are integrity, faith and hard work.
6. Egypt does have considerable but - badly managed - human resources.

## 3) COHESION

A sentence is said to be cohesive when its parts of speech are tied together: they are clearly related and flow from one another.  Cohesion is not only limited to the sentence (internal cohesion), but it can be between the sentences of the same paragraph (inter-sentence cohesion), or cohesion between paragraphs of the same text (a whole form).

**A) internal cohesion, or cohesion within the same sentence:**

Avoid needless separation between the same sentence parts:

The company representative said that nothing wrong in the hardware *with emphasis*.

The chief engineer had, *in spite of his not willing to share us this meeting*, pride of the department's performance.

The new hardware is the one to, *whether expensive or not*, use in design.

The parts of the sentence should be placed where they convey the precise meaning or emphasis desired: the modifier should be placed as near the modified word as good usage in English will permit.  *The parts in italics are misplaced; they separate between closely related parts of speech.*

What is the problem with the following sentence: "Always those who watch television rarely read much"?

Cohesion within the sentence can be achieved through one or more of the following:

1) by coordination or subordination;
2) by information ordering within the sentence: old information before new one; short information before long one.
3) by repeating specific words or parts of speech within the same sentence (notice the repetition of the word "read" and "write" in the paragraphs: "Unlike readers of the academic world, most readers of the "real world" read *selectively*.  Rather than digesting a piece of writing, they *skim-read* most of it, skipping from one main idea to another until they come to something that particularly interests them.  Such readers are forced to read this way."
4) by using active/passive alteration, equative shift, indirect object shift.

**B) Cohesion Between Sentences (Inter-Sentence Cohesion):**

- To enhance inter-sentence cohesion ( within the paragraph), the following techniques are proven effective: use of pronouns, articles, demonstratives; use of connectives and transition words; and use of visual formatting or other ways of organization.

As an example of the use of the above techniques, examine the section at the end of this part on effective sentences,  titled "Write A Good Topic Statement."

## 4) WORD PROPRIETY

Word propriety in the sentence means the word appropriateness, fitness, or suitability to their subject, reader, writer's objective, or meaning. In English language, one can distinguish between two kinds of meaning – denotative or connotative: denotative meanings are what the word refers to ; connotative meanings are the values and emotions we attach to the words.

Word meanings not only change in their denotative meanings but the value of their connotative meanings also changes.

A) **FUNCTIONAL SHIFT** in which the word changes its function or class: contact, to contact someone, contact disease; use (n, s sound), use (v, z sound); perFUME (v), PERfume (n)....

B) **CHANGES IN DENOTATION** are three types:

a) **extension**; when the meaning of the word is enlarged: ticket, ticket to success; Xerox, xerox; chest, chest of drawers; companion (who shares bread, who shares almost every thing) ; Kleenex, kleenex...

b) **restriction**; when the area of the meaning becomes narrow: starve (die, die from hunger, suffer from hunger).... Another kind of transfer in which a part of the whole denotes the whole: transistor, board, a good hand, what a brain!

c) **transfer**; when a word takes on a non literal meaning ( a form of metaphor): mouth of a river, a tooth in a gear, inspire (breathe in), intact (not touched), insist (stand on).

C) CHANGES IN CONNOTATION are one of two types:

a) elevation in meaning: enthusiasm (fanaticism); minister (servant); board (table); pretty (sly); nice (foolish); sanitary engineer; pass away; political expression: pacification, democracy, population transfer, technology transfer, justice, equal chance, fair trade ....

b) degradation in meaning: stink, stench (smell), immoral (not customary), lust (pleasure), libel (writing)

In addition of the meaning of the word, selecting the appropriate word is influenced by other factors:

d) ANALYSIS OF THE AUDIENCE. Define the reader-- specialist / non- specialist expressions (avoid jargonism), use $CaCO_3$, $H_2O$, DOS or their full terms?

e) DEVELOPMENT OF THE TOPIC. Word choice depends on the way of developing the topic -- general-to-specific, cause-to-effect, narration, ....

f) USE OF IDIOMATIC EXPRESSIONS. When used, idiomatic expressions should be conventional-- according to, inferior to (not than), because of/due to, effective/efficient,....

g) USE OF ALTERNATIVE WORDS. Think your words before replacing repeating words: short/laconic, continuous/continual,....

h) USE OF FRESH EXPRESSIONS is preferable to worn-out clichés: at all times (always), at the present time (now), I would appreciate it if (please)....

i) USE OF CONCRETE EXPRESSIONS. Avoid fuzzy, abstract words: owing to the conditions of the facilities, inadequate results were obtained/ in two tests out of three, the chromatograph malfunctioned and produced no results. Full utilization of

the facilities was realized./ in this project, we used all the six computers of the department.

j) USE OF EXPRESSIONS WITH STRONG CONNOTATION. The notorious (well known?) secretary was highly praised for her devotion. Our bureaucrats are very active these days. Compare the meanings of the following words:  diplomat, politician, statesman; domicile, flat, house, residence, home; heroine, heroin; Zionist; fascist, nationalist, fanatic, chauvinist , figure, profile, silhouette (she has a figure that does not look bad);  sensitive, sensual, sensuous, census.

k) USE OF NOMINAL STYLE: Nominal style (nominalization) is the habit of expressing actions by using nouns instead of verbs: Measurement of the internal diameter was done using a probe. / A probe was used to measure the internal diameter. / We measured the internal diameter using a probe.  Nominalization reduces the effectiveness of the sentence because it "smothers" the action and requires the construction of passive sentences. It also requires the use of general (weak, linking, stative) verbs to express the action. Contrary to the nominal style, the verbal style (where the action is put in the verb) generally calls for strong  verbs.

## 5) CONCISENESS

The use of more words than necessary to express an idea is an offense against exact diction. Delete the unneeded ones.

**Aids to conciseness**

1. Use more pronouns as long as they have clear referent(s). Electricity is a useful form of energy. Electricity is a cheap form of energy. Electricity is a clean form of energy . (Electricity  should be replaced by a pronoun).
2. Avoid unnecessary repetition of words, phrase, or clauses:
3. in the near vicinity of = near, close; a round circle (!); absolutely essential; collaborate together; very efficient;....
4. Replace, whenever effective, phrases by words, clauses by phrases or words, or long words by short words: a large number (many); I am of the opinion of (I believe); due to the fact that (because); unquestionable (certain, sure).
5. Use short form repetition instead of full form repetition, if there is no loss in sentence clarity and effectiveness.
6. Avoid excessive subordination: refer to the last example under  (1) UNITY (If, on the date of opening of bid, the average...); note the excessive use of relative classes that made the text difficult to read.

## 6) PRECISENESS (word selection, exactness)

Preciseness of the expressions requires that words should be exact and free from errors and express exact and clear ideas -- free from confusion.

A) **Use an exact form of the word**

The word should be correct in spelling, appropriate in meaning, and should conform to normal usage:

---

- Distinguish accurately between the synonyms, near-synonyms, homonyms, derivational forms, and other frequently confused forms of the word: uninterested/disinterested, interesting/interested, imply/infer, affect/effect, advise/tell/inform/say, appreciate/understand, appear/seem, ability/capacity, weight/weigh, different from/different than, few/ a few, specially/especially....
- For the verb, determine exactly its tense, mood, voice, agreement, and its inflected form. Avoid needless shift between tenses, voices, and moods. Watch the use of progressive and passive forms of the verb.
- distinguish between the two forms of the verb (full verb, auxiliary verb; such as "need"). Pay attention to the verbal form of the noun and the infinitive forms of the verb and when they dangle.....
- For the pronoun, avoid vague or ambiguous reference to the antecedent. Be sure of the agreement between the pronoun, its case, number and gender (note general gender rules).
- For prepositions, choose the appropriate preposition that carries the exact meaning: compare with (or to), somebody is interested in and talented for....

B) **Be specific** as far as word meaning is concerned (see word propriety).

C) **Check the position of certain words**: vary the position of adverbs or adjectives to see the difference in meaning.

He failed to define the problem. (Check completely, only, almost )

D) **Check current usage** of the word (refer to word propriety).


## 7) CLARITY


The word clarity is a basic requirement for technical writing. When the sentences are carefully developed and clear, they carry a definite meaning. Clarity of the sentence results from correct grammar and mechanics, and from correct use of words. It also results from
- Using meaningful transition between sentences
- for continuity: also, and, moreover, in addition,...
- for contrast: but, conversely, however, on the contrary, still...
- for results: consequently, hence, therefore, thus,...
- for comparison: in the same way, likewise, similarly,...
- for time: later, meanwhile, then, after....
- for illustration: for example, for instance,...
- by repeating words, nouns, or pronouns.
- Using simple words and structures (avoid complex structures and words).
- Ordering words and larger units in the sentence (Topical information in emphatic positions, Old information before new one, and short phrases before long ones);
- Using concrete words;
- Using action verbs (verbal style);
- Omitting negative and substandard expressions: the motor seems to be operating at 75 percent efficiency; however data is incomplete (compare with [to?]: the current data shows that the motor operates at 75 percent efficiency); the motor can possibly be repaired; beef up, fouled up (slang expressions);
- Using short sentences without many details: sentences with slightly less than 20 words are found to be understandable by most readers; sentences of such length form more than 80 percent of the technical writing.
- Properly using the pronoun so that it has a unique referent:

- He is a great scientist, but he is a bad writer which (?) is confusing.
- Read the text  on the apparatus; it may save your life.
- His father died when he was thirty years old.
- The Chairman told our supervisor that his plan was approved.

## 8) VARIETY

Vary the structure and the length of your sentences to make the whole text interesting and effective. As a rule,
- avoid writing short simple sentences; vary sentence length.

Electricity is useful. Electricity is cheap. Electricity is clean. Electricity is a practical form of energy.
- vary sentence opening: begin with a sentence connective – a coordinating conjunction, a conjunctive adverb, or a transitional expression; begin with an appositive or with an absolute.

◊ The increasing price of oil may cause a shift to other sources of energy. Worldwide, coal should last for at least 300 years. Oil on the other hand, will be virtually depleted within the next 60 years.
◊ A method with old foundations, rock splitting by humidifying wood is still used these days.
◊ True, we have long meetings without results.

- avoid loose, long compound sentences: convert a compound sentence into a complex sentence; convert a compound sentence by using simple sentences with compound predicates; use relative clauses or appositives to reduce   compound or complex sentences; use phrases to replace clauses.

◊ There would be oil spills at the Red Sea shores, and the authorities could handle it. *Becomes* "The authorities can handle oil that would spill on the Red Sea shores."
◊ The employee read the text; he drew the calibration curve, and he hurried from the office to the outside. *Becomes* "The employee read the text, drew the calibration chart and hurried to the outside."

- Vary sentence pattern.  Vary the conventional subject-pattern by occasionally separating subject and verb with words or phrases.  Occasionally, use a question, an exclamation or a command instead of the usual declarative sentence.

*An area of particular interest, the Gulf of Suez hosts many natural resources. How much of these are known to us? Think about the total  income per type of activity. Perhaps the most known of these is oil. But the everlasting resources are those that come from the Sea itself not   from the surroundings or from the underground. Oil may not last beyond a decade or so; but aquatic resources will last as long as they remain protected from human abusive exploitation....*

## SUGGESTIONS FOR EXERCISES:

1] Study a piece of your own writing. Try to apply on its sentences what is said in this part.
2] Study the following text:

" A key to good writing is to possess or develop sentence sense. Sentence sense is the awareness of what MAKES a sentence-- the ability to recognize its grammatical essentials and to understand the relationships between its parts. Observing the positions, forms, and meanings of words can help you to understand the relationship between parts of sentences. Notice below how meaning is expressed by the arrangement and the forms of words. "The hijacked plane has landed safely." Notice the importance of word order.
Other arrangements of the same words are possible: 1) The hijacked plane has landed safely! 2) The hijacked plane has safely landed. 3) Has the hijacked plane landed safely? 4) Hijacked safely plane has landed the [nonsensical]. 5) The hijacked planes have safely landed."

3] Evaluate the following "long" sentence:

" If the discovery of how to harness the power of steam was largely responsible for the Great Industrial Revolution which happened in Britain in the last century, then the invention of the micro-chip and the subsequent development of computers will go down in history as the greatest factor in the great Technological Revolution of the twentieth century."

**Study the following on "Writing Effective Paragraphs"  for unity, cohesion, emphasis and variety.**

Unlike readers of the academic world, most readers of the "real world" read *selectively*.  Rather than digesting a piece of writing, they *skim-read* most of it, skipping from one main idea to another until they come to something that particularly interests them.  Such readers are forced to read this way.
As a writer, therefore, you can do everything possible to ease this kind of reader's burden; in particular, you should make your writing easy to skim-read.  One of the best ways to do this is to write a *good paragraph*.  What makes for a good paragraph in scientific/  technical writing? First of all, a good paragraph has *unity*: focuses on a single idea or theme.  Second, a good paragraph has *coherence*, one sentence leads to the next in some kind of logical sequence. Finally, a good paragraph has *adequate content*: appropriate  details to support the main idea. Readers expect to find these qualities in paragraphs, and you as a writer should take care not to frustrate their expectations.

There are two principal tools you can use to invest paragraph with the qualities just described: 1) a good topic statement, and an appropriate pattern of organization.

## Proofreading Sentences

Proofreading is the technique of reading and correcting a text for mistakes in grammar, mechanics, style and content.  Proofreading comes after writing: do not write and proofread at the same time. After writing and before proofreading, wait a little to "cool-off" and to become less "partial".

Given the fact that there are several different kinds of errors to look out for in a sentence, it makes sense to divide the proofreading process into different phases:

- Proofread sentences alone before paragraphs.
- Also, proofread sentences carefully; especially the long sentences, where the risk of losing track  of the idea is high.  In that way, you can concentrate on each sentence.

Sentence should be proofread once for each of the following:

1. Omitted words, unity, and clarity
2. Conciseness;
3. Grammar (agreement, verb, and sentence structure);
4. Punctuation and other mechanical mistakes;
5. Other style errors: emphasis, cohesion, variety, and preciseness
6. Individual weaknesses: start with your most common ones;
7. Technical errors in the content of the text.

Do you really have to read each sentence over several separate times to proofread? The answer is YES, if you are a beginning writer.

One effective method is to read the sentences from the bottom of each paragraph or from the bottom of the whole text. In that way you can concentrate on each sentence individually, so that you do not get distracted by the meaning you express.

Proofreading improves learning and writing, and helps discover and improve the writer's individual weaknesses.

# Writing Effective Paragraphs

## What is a paragraph?

A paragraph is a group of sentences that develops one main idea – the topic. This topic is usually introduced in a sentence: the topic sentence. In form, the first sentence of the paragraph is indented, or physically marked from the other preceding group of sentences. In length, the paragraph varies between 5 and 15 sentences, or 50 to 250 words.

Effective Paragraphs Should have UNITY, COHERENCE, ADEQUATE DEVELOPMENT, and ADEQUATE CONTENT:

1. Unity of the idea. The paragraph focuses on one theme; it is complete in itself – not a fragment of an idea.
2. Coherence of the sentences and the content. The paragraph shows smooth transition between the sentences and shows continuity of the thought.
3. Adequate development of the topic. The idea is developed to the required degree and with the proper proportions. The development should be suitable to the topic.
4. Adequate content. the paragraph should contain the necessary details to support the topic - not more, not less than required.
5. Well placed topic sentences. The topic sentence should be placed where it can be found easily without wasting the reader's time.
6. Pattern of organization: A good paragraph should show an introduction (topic sentence); the discussion of (support for) the topic; a conclusion of the paragraph.

EXAMPLES:

1. "Smoking is hazardous to your health. Several years ago, studies linked the intake of tar and nicotine, found in cigarettes, with the development of cancer in laboratory animals. The evidence was so overwhelming that governments required cigarette manufacturers to put a warning on the outside of each package of cigarettes. Aside from the most serious and dreaded disease, cancer, cigarette smoking also aggravates or promotes other health problems. For example, smoking can increase the discomfort for the people with asthma and emphysema. It can give one a "smoker's cough" and contribute to bronchitis. Finally, recent studies have shown that cigarette smokers are susceptible to common colds and flu. Whether you get an insignificant cold or the major killer, cancer, smoking cigarettes is hazardous. Is that worth it?"

"Unlike readers of the academic world, most readers of the *"real world"* read *"selectively"*: the first type digests a piece of writing; the second *skim-read*s most of it, skipping from one main idea to another until they come to something that particularly interests them. Readers of the real world are forced to read this way.

As a writer, therefore, you can do everything possible to ease their burden; in particular, you should make your writing easy to skim-read. One of the best ways to do this is to write a *good paragraph*. What makes for a good paragraph in scientific/ technical writing? First of all, a good paragraph has

*unity*: focuses on a single idea or theme.  Second, a good paragraph has *coherence*, one sentence leads to the next in some kind of logical sequence. Finally, a good paragraph has *adequate content*: appropriate  details to support the main idea.  Readers expect to find these qualities in paragraphs, and you as a writer should take care not to frustrate their expectations.

"There are two principal tools you can use to invest paragraph with the qualities just described: 1) a good topic statement, and 2) an appropriate pattern of organization."

## I. A Good Topic Sentence

For a good paragraph, there should be a main sentence that allows the readers to guess what is coming next after it, and thus to digests it more easily. It allows them to avoid the paragraph altogether if the subject matter holds no interest for them. A good topic sentence introduces the topic and a controlling idea about that topic: "smoking is hazardous" has a topic (smoking) and a vague controlling idea (hazardous). How bad is this? To what extent is smoking hazardous?  This topic sentence needs more focus. This is achieved by narrowing down the controlling idea to read "hazardous to your health." All the other sentences of the paragraph are directly tied to this topic except one: the highlighted sentence; it is the only sentence that should be removed.

Placement of the topic sentence: at the beginning (the most common), near the end (not very common, except for thesis statements), or in the middle (not recommended for a beginner). In rare cases, the topic statement is hidden or left implicit.

## II. Ways of Paragraph Development

The statements that support the topic sentences should follow a consistent pattern of development. This pattern allows the reader to process the paragraph as a unified whole. Some of the commonly used patterns of development are narration (chronological ordering, process, and space ordering), description, classification/division, definition, analysis (such as cause-and-effect, hypothesis, forecast...), comparison / contrast / analogy, listing, illustration (giving examples), general-to-particular, particular-to-general ordering, background, or a combination of more than one of  these.  Regardless of what kind of combination you would like to use, the important point is to give the paragraph a clear pattern of development that is suitable for the topic sentence.

## A. Definition.

1. What is technical writing? Technical writing as a term is not found in present dictionaries. Websters New World Dictionary defines technical as" having to do with applied sciences..." and writing as the occupation of the writer ....". We might combine these two definitions to define technical writing as "writing about science and    technology."
2. The term technical writing covers a large territory in the  field of communication. Some companies label as technical  writers those who write instruction manuals, progress reports, specifications, and proposals. ...
   **3. The purpose of this text is to teach you how to  communicate technical information effectively. To begin, you need to know how language and**

**semantics affect communication, and how their various elements operate.**

4. Language, however, is the unique human characteristic that has enabled us to rise above the insects, birds, and animals....

5. Technical English is not a substandard form of expression. Technical writing meets the conventional standards of grammar, punctuation, and syntax. Technical style may have its peculiarities; but it is, nevertheless, capable of effective expression and graceful use of language.

TRANSITION ELEMENTS: no specific transition words are typical of this type of development. The following are examples of some useful: this means, from this definition, in other words, as a clarification, ....

## B. Exemplification / Illustration

**1. Not only the physical and life sciences but also the social sciences and the humanities require the services of technical writers. For example, a discussion on language testing can become very "technical." Demography offers a variety of aspects involving complex statistical data....**

2. Let me illustrate the principle of mathematical induction with a personal example. You manage to know that animals are hungry. How? From the way these animals browse....

3. Insects, animals, and birds communicate. A bee returning from flowers with a load of nectar performs a dance that tells the other bees in hive where to get nectar....

TRANSITION ELEMENTS: for example, to illustrate, as an example, for instance, in particular, namely, that is , in other words,...

## C. Comparison / Contrast:

1. Some people would like to distinguish between the writing done by scientists and engineers. However, though there may be a distinction in the source of the technical material, the principle of writing is the same. This text is concerned with the principle common to the requirements for technical writing, no matter who does the writing.

2. Clarity and precision are often interdependent. Clarity is achieved when the writer has communicated meaningfully to the reader. Precision is achieved when the writer attains exact correspondence between the matter to be communicated and written expression. Faults in clarity and precision result when the following occur....

3. A sentence that looks long to the fourth grader may look short for the college junior....

TRANSITION ELEMENTS: not only... but also, but, yet, however, still, nevertheless, nonetheless, even though, in spite of, despite, but in fact, on the contrary, unlike, on the other hand, conversely, whereas, also, similarly, likewise, in the same way (manner)...

## D. Process

1. What happens when the source (person) tries to establish commonness of experience with the intended receiver?  First, the source encodes the message by encoding the information he wants to communicate. The message is then sent to the receiver. The receiver gets the message and can decode it only within the framework of his knowledge of the subject and his personal experience.
2. When the brakes are applied, the pistons in the wheel cylinder, acting on the brake shoe, through the connecting links, force the shoe against the drum. Since the shoes floats free in the brake, the force of friction between the shoes and the rotating drum, turns the entire assembly in the direction of the wheel rotation....

TRANSITION ELEMENTS: use sequence- or enumeration-transition such as moreover, in addition, also, furthermore, then, afterwards, next,  another, again..., Use other transition elements that suit the development of the topic.


## E. Discussion / Analysis

The source can encode and the destination can decode only in terms of the experience each has had.  If the two have a large area in common, communication is easy. If they share  nothing, communication is impossible. If we have never learned Chinese, we can neither encode or decode in that  language.

TRANSITION ELEMENTS: Use appropriate transitions.


## F. Classification / Analysis

1. Displacement along a fault may be horizontal, vertical, or  a combination of these. Movement may occur very suddenly along a stressed fault, producing an earthquake, it may be very slow, or what it is called "creep," unaccompanied by seismographic evidence....
2. As it presents itself, the earth can be physically described as a ball of rock (the lithosphere), partly covered by water (the hydrosphere) and wrapped in an envelope of air (the atmosphere). To all these three physical zones, it is convenient to add a biological zone ( the biosphere). (sometimes this type is called development by PARTITION/ANALYSIS, another form of classification ).

TRANSITION ELEMENTS: Use appropriate transitions.


## G.  Cause-and-Effect

One of the most important properties of liquids is that its surface tension behaves like an elastic covering that is continually trying to decrease its area. A result of this tendency is the formation liquid into droplets as spherical as possible considering the constraint of the ever-present gravity force ... )

TRANSITION ELEMENTS: as a result, consequently, hence, because, if, accordingly, thus, as a consequence, for this reason, therefore, so, since, due to, when,...

SPECIAL VERBS: cause, result, give rise to, induce, produce, affect ...

## H. Listing

In addition to coal and nuclear energy, a wide variety of other power sources are also frequently discussed in the news and in scientific literature.... Geothermal energy is one of the more practical of proposed new sources.... Solar energy seems an elegant idea.... Sophisticated windmills to generate electricity are also under study by some....

TRANSITION ELEMENTS: Use sequence transitions or other as appropriate.


## I. General-to-Particular Ordering

Magnetic bearings have been developed for aerospace applications, but only recently their practicality has been demonstrated as the heart of energy storage systems. The break through is partly due to the recent development of stronger [than the previous] permanent magnets such as those made from rare earth cobalt compounds. Only ten pounds of such magnets could support 10 tons of rotor ....

TRANSITION ELEMENTS: Use appropriate transition.


## J. Use Available Linguistic Tools to Support the Topic Development and to Improve Cohesion and Effectiveness:

- Use appropriate connective words
- Use appropriate special constructions: comparatives/superlatives, parallelism,
    - **Use appropriate verbs and verb related constructions: causative verbs (for cause/effect), tense-time relationship (time sequencing), conditional constructions  (cause/effect), subordination/ coordination, time adverbs and phrases (chronological description), punctuation, use of white space, passive-active voice, article, connectives   ....**

### III. Paragraph Types

Conventionally, there are four types of paragraphs: the opening paragraph, a body paragraph, a transitional paragraph, and the closing paragraph.

**A. THE OPENING PARAGRAPH**: The opening paragraph has three major functions: (1) it announces the topic, defines the problem, its history, and its background, (2) it captures reader's interest by placing the subject in an interesting context, (3) presents the thesis statement, and (4) presents the contents of the text. One way of writing This paragraph is to limit it to the introduction of the topic and prepares for the thesis statement that terminates the paragraph. This technique for beginning the paragraph is called funnel arrangement in which the writer starts with a general statement then narrows down to the thesis statement.

Another way of writing the opening paragraph is to start, right from the beginning, with the thesis statement, then to develop it immediately. In this case the other sentences of the opening paragraph are often used as topic sentences of the body paragraphs of the text.

Examples of Opening Paragraphs

**1. If you still subscribe to the theory that writing is for English teachers, read on. You can, and perhaps should improve your writing.**

2. English for Science and Technology: A Handbook for nonnative Speakers" is a technical writing textbook for engineering and science students who have a fairly good command of English but are not native speakers. It can also be used as a reference book by professionals working in industry.

3. Some of you may wonder why it is not enough to teach our students how to speak English adequately; won't they then obviously be able to write it? Not necessarily, for writing is not just a "natural" extension of learning to speak a language. We learned to speak our first language at home without systematic instruction, whereas most of us had to be taught in school how to write that same language. Many adult native speakers of a language find writing difficult. The two processes, speaking and writing, are not identical.

**B. THE CLOSING (END) PARAGRAPH**: The closing paragraph may include one or more of the following ways:

(1) restates, but in different ways, the thesis statement and the major conclusion(s) of the text;

    (2) discusses the significance and the implications of the assertions made in the thesis statement and the text. For example, it makes predication, recommendations, or announcement steps relative to the main conclusions of the text.

(3) calls to actions, approval, endorsement, or announcement.

As a first cautionary note, do not introduce any new information in the closing paragraph. All important ideas should have been discussed in the body of the text. The concluding (last) paragraph should not lead the reader into a new direction; it should summarize conclusions already discussed within the body.

Another important note is that the writer should not rely on modifiers alone ( such as "in conclusion", or "to summarize", or "finally") to indicate the conclusion nature of the paragraph, without including the conclusion technique stated above: the content of the conclusion paragraph should reflect its conclusive nature by providing conclusive contents.

**Examples of Closing/End Paragraphs:**

1. When we look at just these few differences-and there are many more- we can see that our students will not just "pick up" writing as they learn other skills in ESL classes. We have to teach writing. And that, of course, leads to the next question and the subject of this book. How?

    **2. To be truly effective in your profession, you must be able to communicate the results of your work. For you to be appreciated, managers must be able to understand what you write. Your writing should be straight-forward and clear.**

3. If the sentences are not logically arranged or if they do not connect with each other smoothly, the paragraph is incoherent. Coherence is an important quality of writing.

4. This chapter has been concerned with testing terminology. Categories of tests have been introduced. Finally, a check list was presented for the rating of the adequacy of any given test for any given purpose using ten essential criteria.

**C. THE TRANSITIONAL PARAGRAPH**: paragraph sometimes serve as a transition from one idea to another. Transitional paragraphs are short paragraphs of one

sentence that sums up what went before (usually in a subordinate clause) and shows where the thought will now lead (usually in the main clause):

"Next to paragraph development is the basic types of paragraph."
"Because repair of the damage is difficult, as documented in this case, a basic approach will be presented to prevent this damage."
"After discussing the origin of this problem, we move towards the proposed solutions."

**D. THE BODY PARAGRAPH**: the body paragraphs develop the topic sentences which in turn support the thesis statement. There will be as many body paragraphs as necessary to support the main idea of the topic. Each body paragraph is developed according to one of the patterns of development mentioned before. The body paragraphs deal only with one idea: that of the topic sentence.

# Examples of Paragraphs

**"Writing Effective Paragraphs"**

"Unlike readers of the academic world, most readers of the *"real world"* read "*selectively*":  the first type digests a piece of writing; the second *skim-read*s most of it, skipping from one main idea to another until they come to something that particularly interests them.  Readers of the real world are forced to read this way.

"As a writer, therefore, you can do everything possible to ease their burden; in particular, you should make your writing easy to skim-read.  One of the best ways to do this is to write a *good paragraph*.  What makes for a good paragraph in scientific/  technical writing?  First of all, a good paragraph has *unity*: focuses on a single idea or theme.  Second, a good paragraph has *coherence,* one sentence leads to the next in some kind of logical sequence.  Finally, a good paragraph has *adequate content*: appropriate  details to support the main idea. Readers expect to find these qualities in paragraphs, and you as a writer should take care not to frustrate their expectations.

"There are two principal tools you can use to invest paragraph with the qualities just described: 1) a good topic statement, and 2) an appropriate pattern of organization."

## Examples for the placement of the topic sentence

## What is the topic?

Several years ago, studies linked the intake of tar and nicotine, found in cigarettes, with the development of cancer in laboratory animals. The evidence was so overwhelming that governments required cigarette manufacturers to put a warning on the outside of each package of cigarettes. Aside from the most serious and dreaded disease, cancer, cigarette smoking also aggravates or promotes other health problems. For example, smoking can increase the discomfort for the people with asthma and emphysema. Moreover, cigarettes are not only hazardous to health but expensive too. It can give one a "smoker's cough" and contribute to bronchitis. Finally, recent studies have shown that cigarette smokers are susceptible to common colds and flu.

| Sentence No. | Smoking Cigarettes | Hazardous | To Health |
| --- | --- | --- | --- |
| 1 | Yes | yes | yes |
| 2 | Yes | yes | yes |
| 3 | Yes | yes | yes |
| 4 | Yes | yes | yes |
| 5 | Yes | yes | yes |
| 6 | Yes | yes | yes |

The topic sentence is "Smoking cigarettes is hazardous to your health"

## The Topic Sentence is placed at the beginning:

"Smoking is hazardous to your health. Several years ago, studies linked the intake of tar and nicotine, found in cigarettes, with the development of cancer in laboratory

animals. The evidence was so overwhelming that governments required cigarette manufacturers to put a warning on the outside of each package of cigarettes. Aside from the most serious and dreaded disease, cancer, cigarette smoking also aggravates or promotes other health problems. For example, smoking can increase the discomfort for the people with asthma and emphysema. Moreover, cigarettes are not only hazardous to health but expensive too. It can give one a "smoker's cough" and contribute to bronchitis.  Finally, recent studies have shown that cigarette smokers are susceptible to common colds and flu.  Whether you get an insignificant cold or the major killer, cancer, smoking cigarettes is hazardous."

**The Topic Sentence is placed at the end:**

Several years ago, studies linked the intake of tar and nicotine, found in cigarettes, with the development of cancer in laboratory animals. The evidence was so overwhelming that governments required cigarette manufacturers to put a warning on the outside of each package of cigarettes. Aside from the most serious and dreaded disease, cancer, cigarette smoking also
aggravates or promotes other health problems. For example, smoking can increase the discomfort for the people with asthma and emphysema. Moreover, cigarettes are not only hazardous to health but expensive too. It can give one a "smoker's cough" and contribute to bronchitis.  Finally, recent studies have shown that cigarette smokers are susceptible to common colds and flu.  Whether you get an insignificant cold or the major killer, cancer, smoking cigarettes is hazardous.

**The Topic Sentence is placed in the middle:**

 Several years ago, studies linked the intake of tar and nicotine, found in cigarettes, with the development of cancer in laboratory animals. The evidence was so overwhelming that governments required cigarette manufacturers to put a warning on the outside of each package of cigarettes. Aside from the most serious and dreaded disease, cancer, cigarette smoking also aggravates or promotes other health problems. For example, smoking can increase the discomfort for the people with asthma and emphysema. Smoking is hazardous to your health.  It can give one a "smoker's cough" and contribute to bronchitis.  Finally, recent studies have shown that cigarette smokers are susceptible to common colds and flu.  Whether you get an insignificant cold or the major killer, cancer, smoking cigarettes is hazardous."

**The sentence in bold face does not tie to the topic sentence:**

"Smoking is hazardous to your health. Several years ago, studies linked the intake of tar and nicotine, found in cigarettes, with the development of cancer in laboratory animals. The evidence was so overwhelming that governments required cigarette manufacturers to put a warning on the outside of each package of cigarettes. Aside from the most serious and dreaded disease, cancer, cigarette smoking also aggravates or promotes other health problems. For example, smoking can increase the discomfort for the people with asthma and emphysema. **Moreover, cigarettes are not only hazardous to health but expensive too**. It can give one a "smoker's cough" and contribute to bronchitis.  Finally, recent studies have shown that cigarette smokers are susceptible to common colds and flu.  Whether you get an insignificant cold or the major killer, cancer, smoking cigarettes is hazardous."

**Exercises**

**Separate the paragraphs embedded in the following text.**

Fat is an important part of everyone's diet.  Fat is nutritionally pre-sent in the basic food groups we eat to aid growth and development.  The fats and fatty acids present in these foods ensures proper metabolism, thus helping to turn what we eat in the energy we need.  These  same fats and fatty acids also act as carriers for important vitamins like A, D, E, and K.  Another important role of fat is that it keeps us from feeling hungry by delaying digestion.  Fat also enhances the flavor of the food we eat.  Customers in wheel-chairs would mostly benefit from this change.  Individuals who wear braces, who use canes or a walker, who need other types of assistance find it difficult to walk up a flight of stairs.  Individuals with asthma or other breathing problems often find stairs a menace.  In addition to these individuals, parents with small children in carts or strollers would find the ramp convenient.  Older citizens, too, would benefit from this small but significant alteration in front of the building.  For a noise breaker to work, it must be high and long enough to block the view of a road.  Noise breakers do very little for homes on a hillside overlooking a road or for buildings that rise above the barrier.  Noise barriers can have functional limitations.  Opening in the noise barriers for driveway connections or intersecting streets destroy its effectiveness, too.  In some areas, homes are scattered too far apart to permit noise barriers to be built at a reasonable cost.

**Where is the topic sentence in each of the following?**

1. Fat is an important part of every-one's diet.  Fat is nutritionally pre-sent in the basic food groups we eat to aid growth and development.  The fats and fatty acids present in these foods ensures proper metabolism, thus helping to turn what we eat in the energy we need.  These  same fats and fatty acids also act as carriers for important vitamins like A, D, E, and K.  Another important role of fat is that it keeps us from feeling hungry by delaying digestion.  Fat also enhances the flavor of the food we eat ... .

2. Customers in wheelchairs would mostly benefit from this change. Individuals who wear braces, who use canes or a walker, who need other types of assistance find it difficult to walk up a flight of stairs.  Individuals with asthma or other breathing problems often find stairs a menace.  In addition to these individuals, parents with small children in carts or strollers would find the ramp convenient.  Older citizens, too, would benefit from this small but significant alteration in front of the building.

3. For a noise breaker to work, it must be high and long enough to block the view of a road.  Noise breakers do very little for homes on a hillside overlooking a road or for buildings that rise above the barrier.  Noise barriers can have functional limitations.  Opening in the noise barriers for driveway connections or intersecting streets destroy its effectiveness, too.  In some areas, homes are scattered too far apart to permit noise barriers to be built at a reasonable cost.

# Proofreading Paragraphs

Proofreading means reading over your paper critically and objectively to discover where you need to make content changes. For proofreading paragraphs, read the paragraph slowly and ask yourself the following questions:

1. Have you proofread the paragraph for sentence effectiveness?
2. In the opening paragraph, is there an introduction? Is this introduction appropriate?
3. Is there a topic sentence that presents a topic and comment(s) about the topic?
4. Has the paragraphs a particular strategy of development?
5. Does each body paragraph have several (but enough, not more not less) sub-points that develop the topic sentence?
6. Do the sub-points of the paragraph (details, examples, illustrations, discussions ...) come directly from (or support) the topic sentence?
7. Does the idea of the topic sentence come directly from the assertion of the thesis (topic) statement?
8. Does the way of development of the paragraph suit the subject of the topic statement?
9. Are there enough body paragraphs to support the assertion of the thesis statement and to adequately deal with the chosen strategy of development?
10. Are there transitions to connect the paragraphs and the sub-points within the paragraph (sentence)?
11. Is there a closing paragraph that has the characteristics of a conclusion?
12. Have the unnecessary material been removed?
13. Have you covered all aspects of the communication model: SMCR?
14. Have you proofread paragraphs for "adequate content"?

Remember - as in sentence proofreading - that you should put aside your work for some time to distance yourself and gain some objectivity on what you have written. While revising, put yourself in the reader's situation; make sure that your writing deliver information that the reader wants to know in a manner which is easily digested. Finally, proofreading paragraph follows proofreading sentences.