Objectives Of Technical Communication

Objectives

Five objectives of technical communication:

- **Clarity** use of clear words and sentences
- Conciseness to the point writing saves writer's and reader's time
- $\Pi\Pi$. **Accuracy** – avoiding grammatical, spelling and information errors
- Organization organize thoughts in headings and sub-headings to IV. make a better read
 - Ethics usage of right (ethical/legal point of view) language

Objective-1: Clarity

- The first objective of technical writing is to write clearly

Why?

- Ideas, solutions clear to the readers
- Failed as communicator your own credibility at stake
- Wasted time and money (yours and the readers)
- Lose opportunities
- Cause loss to customer/reader/company

How Do You Write Clearly?

1. Be specific

2. Answer the reporter's questions

3. Use easily understandable words

4. Use verbs in active voice versus passive voice

I. Be Specific

- Technical writing involves problem solving thus, provide specific details
- Do not use vague words like *some*, recently, several, few etc — use specific information or data why?

Examples Of Vague Writing

- In a letter to a finance manager "I need some information about the budget"
- In a user manual of a mobile phone "you need to charge the mobile for <u>some</u>time before first use"
- A nurse reporting to a doctor on a patient's health status "he has some blood pressure"
- Instagram has more users than facebook

ACTIVITY REPORT DRAFT - e.g. of vague writing

• Our latest attempt at molding preform protectors has led to some positive results. We spent several hours in dept. 15 trying different machine settings and techniques. Several good parts were molded using two different sheet thickness. Here's a summary of the findings:

- First, we tried the thick sheet material. At 240 deg. F, this thickness worked well.
- Next, we tried the thinner sheet material. The thinner material is less forgiving, but after a few adjustments we were making good parts. Still, the thin material caused the most handling problems.

Activity report revision – specific writing

- During the week of 10th April 2014, we spent approximately 12 hours in dept. 15 trying different machine settings, techniques, and thickness to mold preform protectors. Here's a report on our findings:
- .030" thick sheet
- At 240 deg. F, this thickness worked well
- 0.15" thick sheet
- This material is less forgiving but after decreasing the heat to 200 deg. F, we could produce good parts. Still, material at 0.15" causes handling problems.

Exercise Identify Whether Vague Writing

- We need this information as soon as possible.
- The machinery will replace a flawed piece of equipment in our department.
- Fire in the office caused substantial losses.
- The automobile has a smaller turning radius than last year's model.
- If we are not able to solve this problem soon, we will lose a large percentage of our business.

Unclear Communication???

It has been observed that the employees have not signed the service book from time to time as required

II. Answer the reporter's questions

- To write clearly you need to answer the reporter's questions —
- Who, what,
- When, where
- Why how

- Why? – There is clarity - no stress to your reader – help you reader to do his/her work quickly and successfully

Is this Example of Unclear Writing?

Memo to a new employee

Date: 11/11/00

To: Mary Jane Post

From: Don Goldenbaum

Subject: technician's meeting

Please be prepared to plan a presentation on month-end reports. Please be sure that your explanations are very detailed.

Thanks

What clarifications does the new employee need?

- What is the subject of presentation
- Which of the month-end reports
- Who is the audience
- Why is the meeting being held
- When will the presentation be made
- Where will the meeting take place
- How much is "very detailed"
- What exactly is she supposed to do make presentation, do the presentation, or just prepare a plan of the presentation

Example

Notice

Following teachers will assemble in the conference room for a meeting on 12/12/14:

Teacher A, dept. Of chemistry

Teacher B, dept. Of physics

Teacher C, dept. Of humanities

Teacher D, dept. Of computer science

Thank you

Where is the problem in this correspondence?

Example of a clear correspondence??

Date: 5/09/00

To: Becky Stapleton

From: Dave Woodring

Subject: cash in advance (CIA) procedure task force

You have been chosen by your manager to be a member of CIA task force. This committee will assess current CIA procedures and revise the system. The following is your schedule for task force activities:

Friday: Sept. 12: 8:30-10:30 a.m.

Assess the current system and brainstorm new ideas

Monday, Sept. 15: 8:30-10:30 a.m.

Review the suggested changes, add new ideas, and test the adjusted system <u>Wednesday</u>, Sept. 17: 8:30-10:30 a.m.

Review the adjusted system and write a proposal confirming your changes. All meetings will be held in the conference room C from 18th Sept till 20th Sept at 11:00 am. Thank you for your involvement. If you have any questions please call me at ext.1849

Previous Example Clearly Answers

- Where the meeting will be held
- When it will be held
- What will be done or accomplished
- Why is the person involved
- How the work will be accomplished

III. Use easily understandable words

Two thumb rules:

■ To write clearly — use words that can be easily understood — avoid obscure words

•Use acronyms, abbreviations, and jargons as per level of understanding of the reader/audience

A. Avoid obscure words

Obscure: hard to understand or see

The objective of the writer should be to:

- Write to communicate not confuse
- Write to express not impress
- Write words that will make sense of your correspondence –
 not confuse the reader
- Try and write the way you speak only if your language is clear and strong

Example of an unclear message

The following rules are to be used when determining whether or not to duplicate messages:

- Do not duplicate non-duplicateble messages
- A message is considered non-duplicateble if it has already been duplicated

Your job duties will be to assure that distributed application modifications will execute without abnormal termination through the creation of production JCL system testing

Words are too difficult to understand

<u>Ot</u>	oscure words	easy words
1.	Aforementioned	already discussed
2.	Initial fire	st
3.	In lieu of	instead of
4.	Accede	agree
5. As per your request as you requested		
6.	Ascertain	find out
7.	Cognizant	know, aware
9. Attached herewith attached		
10.	Ameliorate im	prove
11.	Supersede rep	olace
12.	Disclose	show
13.	Remittance	pay

B. Using acronyms/ abbreviations and jargons

- Abbreviations: short form of a word or a phrase –
- Shortenings (bike, cont.),
- Contractions (dr. St)
- Initialism (CIA (central investigation agency), EC (election commission)
- Acronyms (laser, scuba, NATO, NASA, OPEC)

(source: urban dictionary, Gerson and Gerson)

-Acronyms:

- Word formed from first few letters of a series
- Generic words with a meaning
- <u>e.g.</u>
- Scuba (self-contained underwater breathing apparatus),
- radar (radio detection and ranging),
- Interpol (International Criminal police),
- Laser (light amplification by stimulated emission of radiation). These are now regular words rather than just short forms.

-Jargon

- Words or phrases used by a group to communicate
- Difficult for others to understand

- E.G.
- Spaghetti for a lay person it means Italian noodles. Firemen in US call fire hoses and pipes as spaghetti.
- Gulli for an Indian it is a narrow street, in cricket it is a fielding position.

Use Of Acronyms/ Abbreviations And Jargons

Writer has to decide:

- For whom? I.E. As per the type of audience technical, semi-technical or non-technical
 - CIA
 - SOS
 - PFA
 - FOC
 - Idk
 - IMO
 - AFAIK
 - LMK
 - FAQ
 - TMI
 - YW

- CIA Cash in Advance, Central
- Intelligence Agency
- SOS Save our Souls
- PFA Please Find Attached
- FOC Free of Cost
- Idk I don't know
- IMO In my opinion
- AFAIK As far as I know
- LMK Let me know
- FAQ Frequently asked questions
- TMI Too much Information
- YW You're Welcome

How to use them effectively

- Use in parenthesis/brackets e.g. CBI (central bureau of investigation) use when a few to be mentioned in the text
- Use in a glossary (a list of acronyms, abbreviations, and jargons with full form given in alphabetical order at the beginning of a document) use when too many to be given in text.

Iv. Use active voice versus passive voice

- Active voice: directs attention to the subject and then to the action initiated by the subject
- E.G. The architect placed the blueprint on the table
- Subject architect
- Action and thing acted on *placed blueprint on the table*
- Why use active voice:
 - Involves less words in a sentences
 - There is clarity and easy to follow

- -Passive voice: draws attention away from <u>subject</u> towards <u>action/object</u>
- -E.G. Old engine designs have been improved by engineers
- -Action and thing acted on mentioned first and subject later
- -Change to active engineers have improved the old engine designs
- -Why not passive voice?
 - Helping verbs like <u>can</u>, <u>has been</u>, <u>was</u>, <u>is</u> are used in passive voice, which makes it more wordy

Examples of active (A) and passive (P) voice

- 1. Overtime is favoured by hourly workers
- Ans. Hourly workers favour overtime
- 2. The planner included a new printer in the budget
- Ans. A new printer was included in the budget ('subject' skipped if not important)

Identify The Sentences As Active (A) Or Passive (P)

- We mailed the final proposal to the customer (?)
- The final proposal was mailed to the customer (?) more objective writing
- The gasoline engine has been re-engineered by the auto industry (?)
- The auto-industry has re-engineered the gasoline engine (?)
- The new software was oversold by the sales person (?)
- -Ans?

Convert

- -Fuel injection can be coordinated by engine management computers
- -Less power is consumed by plastic engine components
- -More power is needed by small engines

However, in scientific writing

- Active: the dispatcher is notifying the police that three prisoners have escaped
- Passive: police are being notified that three prisoners have escaped.
- Active: surgeons successfully *performed* a new experimental liver-transplant operation yesterday
- Passive: A new experimental liver-transplant operation was performed successfully yesterday

Objective - 2: CONCISENESS

- -Conciseness complete explanation in brief text.
- -Conciseness is important because:
 - -Saves writer's time technical writing is time consuming
 - -Takes less time of the reader and yet conveys the whole message or information
 - -Keeps attention of the reader

Methods to bring conciseness

A. Limit paragraph length

B. Limit word and sentence length

A. Limit paragraph length

- Writer best decision-maker on length of paragraph
- But, very long paragraphs are not good Why?
- Readers may skip words or sentences
- Might miss key words or concepts
- Might *miss* what the paragraph is trying to *convey*
- Short paragraphs invite reading better understanding of the content

Rule of Thumb for Paragraph Length

-Paragraph in technical documents:

- -Should not be more than 4 to 6 lines
- -Or not more than 50 words

-Long paragraphs can be cut into two or more at logical points.

Example of lengthy paragraph

Please prepare to supply a readout of your findings and recommendations to the officer of the southwest group at the completion of your study period. As we discussed, the undertaking of this project implies no currently known incidences of impropriety in the southwest group, nor is it designed specifically to find any. Rather, it is to assure ourselves of sufficient caution, control, and impartiality when dealing with an area laden with such potential vulnerability. I am confident that we will be better served as a company as a result of this effort.

Example of cutting paragraphs

Please prepare to supply a readout of your findings and recommendations to the <u>officer</u> of the southwest group at the <u>completion</u> of your study <u>period</u>. As we discussed, the <u>undertaking</u> of this project implies no <u>currently</u> known <u>incidences</u> of <u>impropriety</u> in the southwest group, nor is it designed <u>specifically</u> to find any.

Rather, it is to assure ourselves of <u>sufficient</u> caution, control, and <u>impartiality</u> when dealing with an <u>area</u> laden with such <u>potential</u> <u>vulnerability</u>. I am <u>confident</u> that we will be better served as a <u>company</u> as a result of this effort.

B. Limit word and sentence length

- Words per sentence should be limited
- -Thus, sentence length should be small
- -Limited use of long or big words.

Objective:

-Write less -make it clear and easy to read - should not foggy

METHODS

- B1. Fog index
- B2. Meat cleaver method of revision
- B3. Avoid shun words
 - B4. Avoid camouflaged words
 - B5. Avoid the expletive pattern
 - B6. Omit redundancies
 - B7. Avoid wordy phrases

B1.The Fog Index

- Also known as gunning fog index Robert Gunning 1952
- Mathematical way to judge the readability of English writing
- Way to see how foggy/hazy find how easily text can read by intended audience.
- Measures <u>number of words</u> per sentence and <u>number of long words</u> per sentence.
- Higher the rating more difficult is the reading
- The score indicates the <u>number of years of education</u> a reader requires to understand a text.

Steps

- Count all words in each sentence till 100 words. Other scholars say count full passage.
- Divide the words by the number of sentences average words per sentence
- Count the long words (with 3 or more syllables) in each sentences e.g. 'Multisyllabic' will be 5 syllables mul-ti-syl-lab-ic

Don'ts - FOG INDEX

- Don't count proper nouns Christopher Columbus
- Don't count words with suffixes like ed, es, ism, less e.g. Landed, arranges, united, useless
- Don't count long words that are combinations of two words <u>e.g.</u> Firefighters, fuelwood, chairperson,

To find Fog Index

- Add the words per sentence with total number of multisyllabic words multiply the result with 0.4 (fog factor)
- In previous example there were 92 words in 4 sentences average 23 words/sentence
- Multisyllabic words 16
- Total = 39 (23+16)
- Fog index = $39 \times 0.4 = 15.6$

Fog value table

Fog in	dex by grade	by magazine
17	college graduate	no popular mag. scores this high
16	college seniors	
15	college junior	
14	college sophomore	
<u>13</u>	college freshmen	<u>danger line</u>
12	high school seniors	Atlantic monthly
11	high school juniors	s Time & Newsweek
10	high school sophomor	e Reader's Digest
9	high school freshn	nen <i>Good Housekeeping</i>
8	eighth grade	Ladies' Home Journal
7	seventh grade	Modern Romance
6	sixth grade	Comics

In Technical Writing

- In US, bosses ask employees to write at 6-8th grade level i.e. 15 words/ sentence and 5 or less multisyllabic words/100 words *level 8 on the fog index*
- Academic papers 10 means over simplified 15 means sentences have to be broken down to smaller sentence and simpler words
- But, some long words in technical writing cannot be avoided always e.g. *Electromagnetism*
- But the fog index helps to set a limit

Limitations of Fog Index

- When counted differently each clause as a sentence
 - the index value came different
- All multisyllabic words are not difficult to understand
 - -e.g. Ground
- Some less than 3 multisyllabic words may be difficult to understand - squalor

B2. Meat Cleaver Method Of Revision

- A method to reduce sentence lengths
- Cut each sentence into half or thirds
- Revise or change sequence (if required)
- E.G. The following long sentence with 44 words

To maintain proper stock balances of respirators and canister elements and to ensure the identification of physical limitations which may negate an individual's pervious fit-test, gbc-16 respirator request and issue record will need to be submitted for each respirator requested for use.

Revision

- Please submit a GBC-16 respirator request and issue record for each requested respirator. We then can maintain proper respirator and canister element stock balances. We also can identify physical limitations which may negate an individual's previous fit-test.

- Revision now has 3 sentences
- It is concise and clear

B3. Avoid Shun Words

- -Shun words the ones that end with tion or sion meditation, examination, revision etc.
- -To write concisely avoid shun words

Detect The Shun Words

- -I came to the conclusion
- -With the exception of
- -Consider implementation
- -Make revisions
- -Investigation of the
- -Utilization of

ANSWERS

- *I concluded* reduces 3 words
- except for
- implement
- revise
- investigate
- use

B4. Camouflaged Words

- Camouflaged hidden or blended with the surrounding
- Camouflaged words key words buried in surrounding words
- E.G. Please make an <u>amend</u>ment to...
- Hidden word amend
- You can write please <u>amend</u> the...
- E.G. To arrive at an agreement
- Hidden word ?

Detect The Camouflaged Words

- Will you make an adjustment
- We can have a meeting
- Thanking you in advance
- For the purpose of discussing

Answers

- Will you adjust
- We can *meet*
- Thank you
- To discuss

B5. Avoid The Expletive Pattern

- Words like *there is*, *there are*, *there was*, *there were*, *it*, *here* are expletives avoid them empty words
- E.G. There are three people who will work for acme
- Revision three people will work for acme.
- Deletion of 3 words, i.E., Sentence reduced by 33%.
- E.G. It has been decided that ten engineers will be hired
- Revision ?

Examples

- Expletive: There are going to be hundreds of people attending the party.
- Correction: Hundreds of people will attend the party.
- Expletive: There is an easy way to determine the external temperature.
- <u>Correction</u>: The external temperature is easy to determine.
- Expletive: It is going to be a long, cold winter.
- Correction: The winter will be long and cold.
- Expletive: It was the setting sun that made it hard to see the ball.
- Correction: The setting sun made the ball hard to see.

B6. Omit Redundancies

- Redundant: something which is of no use -delete/avoid redundant words
- During the year of 2012
- In the month of December
- The computer will cost a sum of \$1000
- The results so far achieved prove
- Our regular monthly status report requires
- We collaborated together on the project
- The other alternative is
- This is a new innovation
- The consensus of opinion is to
- Past experience
- Plus in addition
- Biography of her life
- Free gift

- Revision during 2000
- Revision in December
- Revision the computer will cost 1000\$
- Revision the results prove
- Revision our monthly status report require
- Revision we collaborated on the project
- Revision the alternative is
- Revision this is a innovation
- Revision the consensus is to
- Revision Experience
- Revision In addition
- Revision Biography
- Revision Gift

B7. Avoid Wordy Phrases

- Some phrases have many words such can be avoided
- E.G. In order to purchase a scooter.....
- Revision to buy a scooter
- E.G. Due to the fact that....
- Revision because
- E.G. In the near future.....
- Revision soon

Replace Wordy Phrases

- It was rendered completely inoperative
- It happened at a rapid rate
- In the first place, I would suggest...
- I have been there great number of times
- He is of the opinion that
- I am in receipt of the envelope
- Please bring it as soon as possible

Answers

- It was *broken* (5-3)
- It happened fast (6-3)
- *First*, I would suggest (7-4)
- I have been there often (7-5)
- He *thinks* that (6-3)
- I have *received* the envelope (7-5)
- Please bring it at 1:30 pm (7-5)

Objective - 3: Accuracy

- Write clearly, concisely, and accurately
- Accuracy writing correct spellings, grammar, information (calculations, scientific data, amounts etc).
- Important
 - Saves time,
 - Lack of accuracy means writer can be considered stupid or lazy
 - Credibility of company and writer are at stake
 - Company can also loose money if wrong figures/instructions/information written

Example

National bank 1800 commerce street Houston, TX, USA September 9,2000

Adler's dog and oat shop 8893 Southside Bellaire, TX

Dear Mr. Southside:

In response to your request, your account with us has been close out. We are submitted a cheque in the amount of \$ 450 (your existing balance). If you have any questions, please fill free to contact us.

What type of mistakes?

Mistakes

september 9, 2000

National bank 1800 commerce street Houston, TX, USA

Adler's dog and oat shop 8893 southside Bellaire, TX

Dear southside:

In response to your request, your account with us has been <u>close out</u>. <u>We are submitted</u> a cheque <u>in the amount of</u> \$ 450 (your existing balance). If you have any questions, please <u>fill</u> free to contact us.

Objective 4: ORGANIZATION

- Effective communication when readers follow the logic/concept/content of the document
- Organization explains the train of thought of writer
- Way to organize text to make it easy and understandable.
- Method of organization to be used as per the requirement of the document

Types of organization

- Spatial organization
- To be used in documents that would describe the space of a object, a building, etc.
- Like placement of parts in a machine, layout of a land, etc
- In spatial organization text would help the reader visualize the object/part/building
- You can describe what you see as it appears in a space—from left to right, top to bottom, inside to outside etc.

EXAMPLE

At the basement's north wall, I will build a window seat 7' long and 2' wide by 2' high. To the right of this seat, on the east wall, I will build a desk 4' high by 5' long by 3' wide.

On the south wall, to the left of the door, I will build an entertainment unit. The west wall will contain no built-ins. You can use this space to display pictures and to place furniture.

Explanation of example

- The text is written clockwise
- Uses points of compass to give a direction to the reader.
- Uses phrases like "to the left" "to the right" to help the reader visualize what will be built.

Chronological organization

-Spatial organization to describe a place

-Chronological organization to describe time or the steps in an instruction

EXAMPLE

Report of a medical technician

At 1:15 P.M., We arrived at the site and assessed the patient's condition, taking vitals. At 1:17 P.M., After stabilizing the patient we contacted the hospital and relayed the vitals. By 1:20 P.M., The patient was on IV drip and en route to the hospital.

CHRONOLOGICAL ORGANIZATION

- Documents that include chronological sequence or steps of instructions are also examples of chronological organization

E.G. Preparation description on a packet of food item.

IMPORTANCE ORGANIZATION

- This type of organization involves —
- Arranging of data/information as per importance
- Bring key information first
- If you write in bullet points bring key points first as readers will focus more on first few points
- Writer should decide what information s/he wants to emphasize or is more important arrange matter accordingly

EXAMPLE

- Incorrectly organized agenda of a meeting/lecture
- Miscellaneous ideas
- Questions from the audience
- Refreshments
- Location, date, and time
- Subject matter
- Guest speaker

Correctly organized

- Subject matter
- Guest speakers
- Location, date, and time
- Refreshments
- Questions from audience
- Miscellaneous ideas

- DATE: Jan 15 2005
- TO: buyers
- FROM: Sharon baker
- SUBJECT: clothing purchases

It is time again for our spring purchases. This year, let's consider a new line of clothing. When you go to the market focus on the following:

- 1. Colours and material
- 2. Our customers' buying habits
- 3. Price vs markup potential
- 4. Quantity discount
- 5. Wholesaler delivery schedule

Comparison/contrast organization

- Arrange the text in manner to provide options/comparisons/contrasts
- You compare the similarities of each option
- You provide a contrast of differences between the options
- Example sales brochure alternative timetables, services, cost structures
- Merit to provide as many options to the client as possible to choose from
- Important in today's time of competition

Example

Housing cost

Item

features

costs

The Broadmoor

4 BR, 31/2 B

180,000

2-car garage

Kitchen

The Aspen

4 BR, 31/2 B,

190,000

Kitchen, basement

3-car garage

Problem/solution organization

- Proposals or letter of sale is organized in problem/solution type of organization
- If you are selling a product/concept/idea there are existing problems you are providing the solution
- E.G. If a sales letter promotes a new product (solution) customer will purchase if current product is inferior (problem)
- Proposal for a new procedure to improve work environment (solution) current procedure needs improvement (problem).

EXAMPLE - SUMMARY OF A PROPOSAL

Your city's 20 year-old wastewater treatment plant does not meet EPA requirements for toxic waste removal or ozone depletion regulations. This endangers your community and lessens property values in its neighbourhood.

Anderson and sons engineering company has national reputation for upgrading wastewater treatment plants. Our staff of qualified engineers will work in partnership with your city's planning commission to modernize your facilities and protect your company's values.

Objective - 5 - ETHICS

Ethics: a set of principles concerning right and wrong and how people should behave.

- Ethicalities:
- Ethical responsibility to write the truth
- Promote customer welfare and avoid deceiving the end user
- Responsibility as a member of the society and as a human being

E.G. Ethical guidelines

As per society for technical communications (STC)

- 1. Legality laws of profession, terms of contract consistency with global and local laws
- 2. Honesty truthfull and accurate communication concise, clear, credit to authorship, no work other than that of employer, correct advertisement
- 3. Confidentiality clients, employers
- 4. Quality negotiate achievable targets with clients and then achieve them
- 5. Fairness respect cultural and demographic diversity
- 6. **Professionalism** promote profession, help people of same profession, perform well as professional

ETHICS

- Legalities: you include language/information that does not deceive the customer illegal or actionable under law like warning on products, cautions, dangers etc.
- Practicalities: not practical to do business when your customer does not buy the product again.
- -Important: in yours, company's and customer's interest

GUIDELINES FOR ETHICAL STANDARDS

- 1. Use language and visuals with precision accuracy, cite source, use own
- 2. Prefer simple, direct expression of ideas
- 3. Satisfy the audience's need for information, not my own need for self-expression *audience*, *use of email, stationery*
- 4. Hold myself responsible for how well my audience understands my message
- 5. Respect the work of colleagues *confidentiality courtesy copyright*
- 6. Strive continually to improve my professional competence

Strategies for making ethical decisions

When confronted with ethical problems – use following strategy for writing:

- 1. **Define the problem** ethical dilemma legal, practical, ethical, or a combination
- 2. **Determine your audience** who will be affected how many what are their needs, what is your responsibility etc.
- 3. Maximize values, minimize problems —chose a option which give the maximum benefit to client and company

Strategies for making ethical decisions

4. Consider the big picture:

Think long term – what will be consequences in future of your writing – will it keep clients for years – will it have long-term positive impact on economy, community, environment etc.

5. Write the text:

Use the ethical guidelines for finally writing the text – like precise language and visuals – simple words – audience need for information