Lecture 09

Objectives/Traits in Technical Writing

In previous lecture, two C's of Communication viz. clarity and conciseness were discussed. These C's enhance the probability of comprehension for the audience. The list of traits that we have been following is as follows:

- Clarity
- Conciseness
- *Accessible document design*
- *Audience Recognition*
- *Accuracy (Grammar)*

9.1 Accessible document design

Document design means your report (or any other technical piece of writing) should have a clear format, legible printing, and accessible layout. You have to guide your audience so that they can easily access content.

9.1.1 How to create an accessible document design?

Follow the techniques of highlighting given below to make a clear, accessible document design:

- **Use graphics**
    - The **use of graphics** (tables and figures) organizes information. It presents a vivid layout and division, especially when you are dealing with statistics.

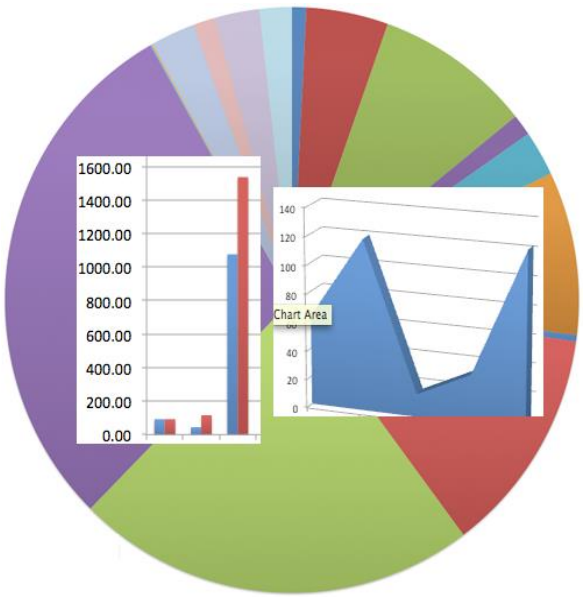
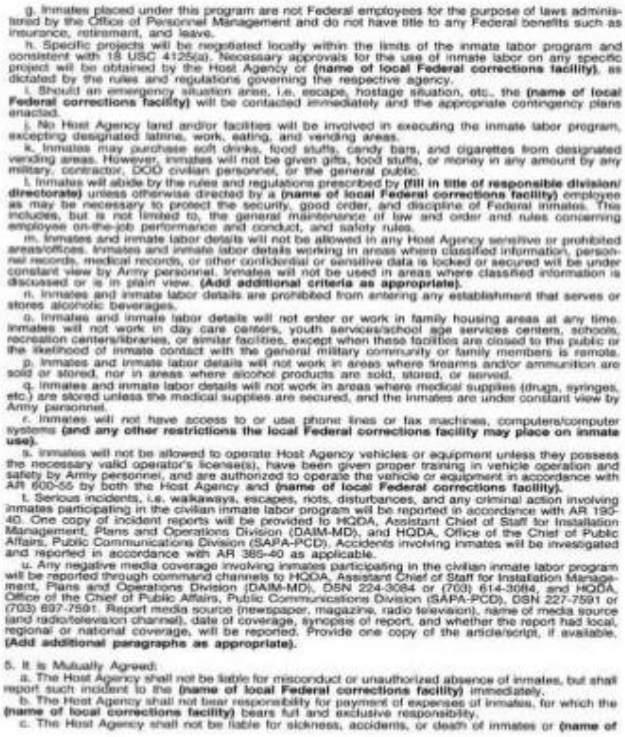


Figure 1 Available Microsoft Word® features for charts

- **Use white spaces**
    - Use of **white spaces** provide focus within the layout of your document. By white space, we mean a space on the page where there is no text, usually used to add visual clarity to a document.
    - White spacing may be accomplished by using margins, adding space between lines and paragraphs. Indentation, lead-ins and arranging bullet text, as in this document, offer a more accessible document. This was accomplished using Styles and Formatting option in the Format Menu of Microsoft Word®.
    - White spaces make sure you don't overcrowd the document with text and important info is not missed out by the reader. See the poor example given in Figure 2, which provides better insight on this matter. At the first look, the document looks messy and overwhelming and the reader is discouraged to read it.
    - Avoid using extra white spaces as this may negatively impact the presentation of your document. See Figure 3 as an example which offers comparison between different levels of white spacing.



g. Inmates placed under this program are not Federal employees for the purpose of laws administered by the Office of Personnel Management and do not have title to any Federal benefits such as insurance, retirement, and leave.

h. Specific projects will be negotiated locally within the limits of the inmate labor program and consistent with 18 USC 4125(a). Necessary approvals for the use of inmate labor on any specific project will be obtained by the Host Agency or **(name of local Federal corrections facility)**, as dictated by the rules and regulations governing the respective agency.

i. Should an emergency situation arise, i.e. escape, hostage situation, etc., the **(name of local Federal corrections facility)** will be contacted immediately and the appropriate contingency plans enacted.

j. No Host Agency land and/or facilities will be involved in executing the inmate labor program, excepting designated latrine, work, eating, and vending areas.

k. Inmates may purchase soft drinks, food stuffs, candy bars, and cigarettes from designated vending areas. However, inmates will not be given gifts, food stuffs, or money in any amount by any military, contractor, DOD civilian personnel, or the general public.

l. Inmates will abide by the rules and regulations prescribed by **(fill in title of responsible division/directorate)** unless otherwise directed by a **(name of local Federal corrections facility)** employee as may be necessary to protect the security, good order, and discipline of Federal inmates. This includes, but is not limited to, the general maintenance of law and order and rules concerning employee on-the-job performance and conduct, and safety rules.

m. Inmates and inmate labor details will not be allowed in any Host Agency sensitive or prohibited areas/offices. Inmates and inmate labor details working in areas where classified information, personnel records, medical records, or other confidential or sensitive data is locked or secured will be under constant view by Army personnel. Inmates will not be used in areas where classified information is discussed or is in plain view. **(Add additional criteria as appropriate).**

n. Inmates and inmate labor details are prohibited from entering any establishment that serves or stores alcoholic beverages.

o. Inmates and inmate labor details will not enter or work in family housing areas at any time. Inmates will not work in day care centers, youth services/school age services centers, schools, recreation centers/libraries, or similar facilities, except when these facilities are closed to the public or the likelihood of inmate contact with the general military community or family members is remote.

p. Inmates and inmate labor details will not work in areas where firearms and/or ammunition are sold or stored, nor in areas where alcohol products are sold, stored, or served.

q. Inmates and inmate labor details will not work in areas where medical supplies (drugs, syringes, etc.) are stored unless the medical supplies are secured, and the inmates are under constant view by Army personnel.

r. Inmates will not have access to or use phone lines or fax machines, computers/computer systems **(and any other restrictions the local Federal corrections facility may place on inmate use).**

s. Inmates will not be allowed to operate Host Agency vehicles or equipment unless they possess the necessary valid operator's license(s), have been given proper training in vehicle operation and safety by Army personnel, and are authorized to operate the vehicle or equipment in accordance with AR 600-55 by both the Host Agency and **(name of local Federal corrections facility).**

t. Serious incidents, i.e. walkaways, escapes, riots, disturbances, and any criminal action involving inmates participating in the civilian inmate labor program will be reported in accordance with AR 190-40. One copy of incident reports will be provided to HQDA, Assistant Chief of Staff for Installation Management, Plans and Operations Division (DAIM-MD), and HQDA, Office of the Chief of Public Affairs, Public Communications Division (SAPA-PCD). Accidents involving inmates will be investigated and reported in accordance with AR 385-40 as applicable.

u. Any negative media coverage involving inmates participating in the civilian inmate labor program will be reported through command channels to HQDA, Assistant Chief of Staff for Installation Management, Plans and Operations Division (DAIM-MD), DSN 224-3084 or (703) 614-3084, and HQDA, Office of the Chief of Public Affairs, Public Communications Division (SAPA-PCD), DSN 227-7591 or (703) 697-7591. Report media source (newspaper, magazine, radio television), name of media source (and radio/television channel), date of coverage, synopsis of report, and whether the report had local, regional or national coverage, will be reported. Provide one copy of the article/script, if available. **(Add additional paragraphs as appropriate).**

5. It is Mutually Agreed:

a. The Host Agency shall not be liable for misconduct or unauthorized absence of inmates, but shall report such incident to the **(name of local Federal corrections facility)** immediately.

b. The Host Agency shall not bear responsibility for payment of expenses of inmates, for which the **(name of local corrections facility)** bears full and exclusive responsibility.

c. The Host Agency shall not be liable for sickness, accidents, or death of inmates or **(name of**

Figure 2 A memo with poor spacing

- **Use different font formatting options**
    - If you want to highlight certain terms of your text, make them **bold**. This way they get more prominent than rest of the text, and the reader understands that you want them to pay more attention to it.

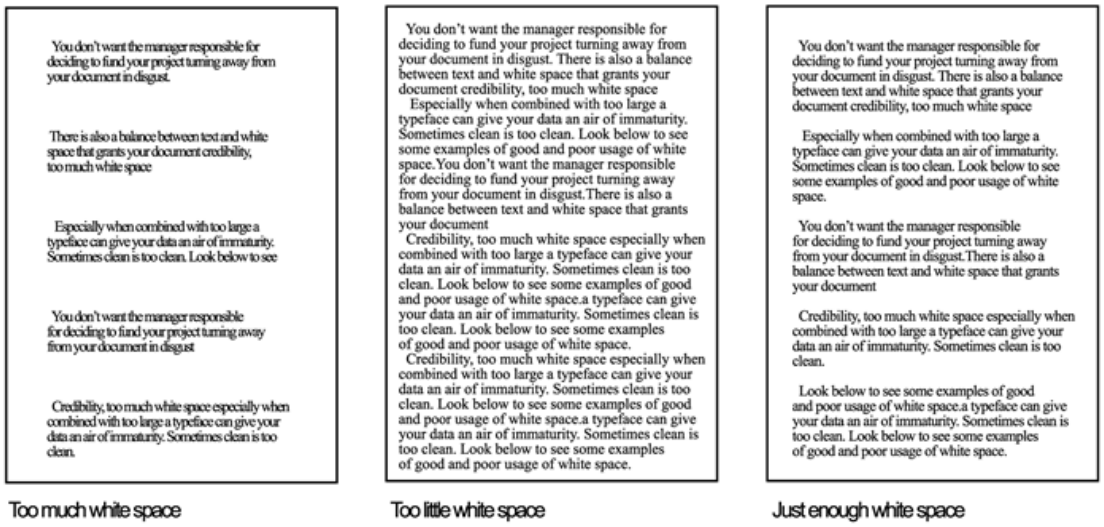


Figure 3 Balancing use of white space

Creating emphasis is an **important** and **integral** part of communicating with type. Handled with **good judgment** it can help direct and inform the reader. When **too many words** are treated as important, however, the copy looks like a **typographic battlefield**.

Figure 4 Use of bold font style as a highlighting technique

- In APA style of formatting, *italics* are used when you mention titles of books, journals and periodicals, films, and videos.

Use of Italics

- Titles of books, periodicals, films, videos, TV shows, and microfilm publications
  American Psychologist
- Genera, species, and varieties
  Macaca mulatta
- Introduction of a new, technical, or key term or label (after a term has been used once, do not italicize it)
  The term *backward masking*
  box labeled *empty*
- A letter, word, or phrase cited as a linguistic example
  words such as *big* and *small*

- Words that could be misread
  the *small* group
  [meaning a designation, not group size]
- Letters used as statistical symbols or algebraic variables
  $a/b = c/d$
- Some test scores and scales
  MMPI scales: *Hs*, *Pd*
- Periodical volume numbers in reference lists
  American Psychologist, *26*, 46 – 67
- Anchors of a scale
  health ratings ranged from 1 (*poor*) to 5 (*excellent*)

- Italics and underlining serve the same purpose. You can use underlining when the document is handwritten as then it may be difficult to use italics.
- Use of bullets makes details of your text look neat, clearly laid out and accessible.
- Numbered lists are formed to describe the order in which things have been mentioned.
- Tabular representation of information is another way of offering a clearer presentation and falls under the category of highlighting techniques.

- **Use different heading levels**
  - Use of **headings** and **sub-headings** provide a skeleton to your report. It organizes your document details by giving it proper divisions. The reader can easily make out what is discussed and in what order by just glancing at the document.

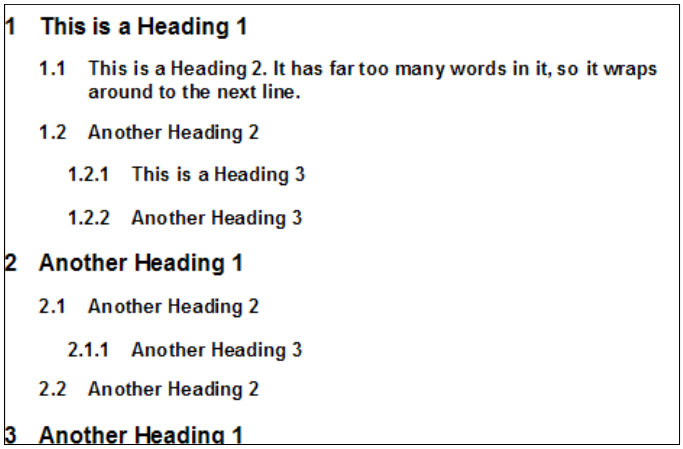
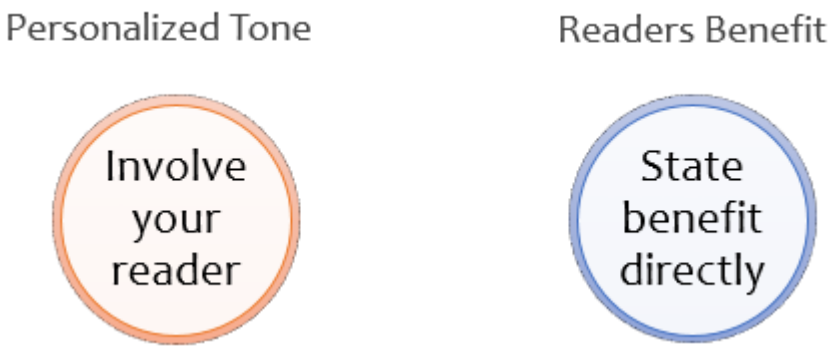


Figure 5 Heading options

  - **Varied font sizes** are used to determine the **level of headings**. Notice in this handout, the first level of heading (9.1) is written in a bigger font than second (9.1.1) and third (9.1.1.1) level of heading.

9.2 Audience Recognition

Audience involvement is necessary for achieving the basic purposes of report writing. Do not make your audience feel you have not taken their needs and wants into account. Use a personalized tone to step into their shoes, and make them recognize their benefits.



9.2.1 Types of Audience

The level of education, and background knowledge of the audience determine their type.

- **High tech audience**
  Your boss, supervisor, CEO, Head of the department are categorized as high tech audience. They are knowledgeable, informed and thus require minimum background knowledge. What they are looking for is new knowledge that you are presenting in your report. For example, updates regarding the status of a project.

- **Low tech audience**
  Your colleagues working in some other department, or your batchmates are examples of low tech audience. They are familiar with the technology you are using but their **job responsibilities are peripheral to the subject matter**. To ensure that low tech readers understand your content, **define your terms** and abbreviations. For example, the abbreviation "VLSI", which stands for Very Large Scale Integration, cannot stand alone; you will have to define it parenthetically.
  Since low tech reader is not in your normal writing domain, i.e., as someone to whom you don't write often regarding your field of expertise, **you need to provide more background information.**

- **Lay audience**
  Lay readers are unfamiliar with your subject matter. They don't understand your technology; therefore, write simply. Explain in-house jargon abbreviations or acronyms. Along with providing background information, give details, interpret data and make inferences. Do not expect them to read between the lines.
  Clients or customers, students, peons, and clerks are examples of lay audience.

- **Multiple Audience (Multi-level)**
  Along with your primary audience, your document might be read by other people that will form your secondary audience. It means you have to choose the content in order to cater for a multi-level audience. Some of them will have background information while some will need it. It is,

therefore, recommended to give some background information. If your readers are diverse, you might need to **define your jargons, acronyms** and **abbreviations**. Keep your tone neutral and positive.

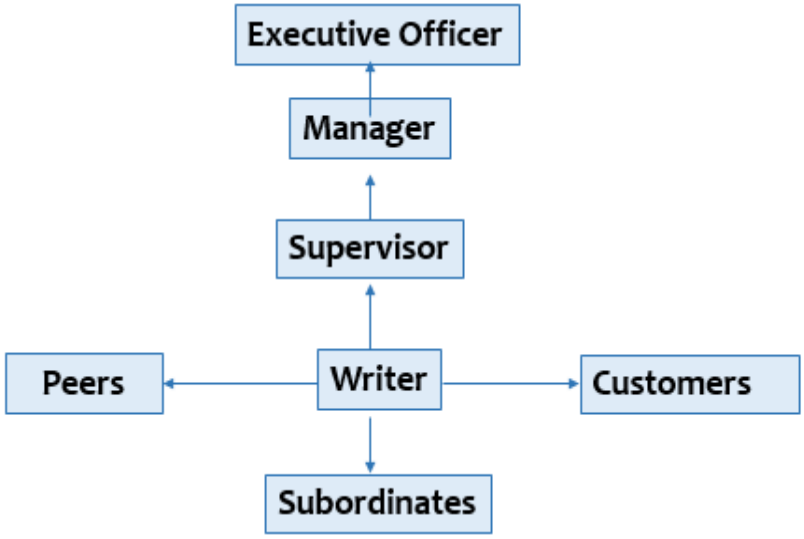


Figure 6 An example of multi-level audience

- **Multi-Cultural Audience**
  The considerations for mutli-level audience apply in for this audience, as well. Additionally, you will need to watch for cultural biases. Also, avoid figurative language and puns to increase its comprehension.

9.2.2 Defining Terms for Different Audience Levels

Since every industry has its own specialized vocabulary, so a writer must use:

- glossary items
- familiar terms
- short and precise sentences to define terms
- extended definitions for explanations
- endnotes/footnotes
- electronic communication (pop-up screen)

9.2.3 Techniques to Avoid Sexist Language

As both genders contribute to the successful functioning of society, do not refer to either gender as secondary nor ignore them. Have the same courtesy for transgenders, as well.

Example:

Biased: "Radium was discovered by a woman, Marie Curie."

Unbiased: "Radium was discovered by Marie Curie."

Example:

Biased: *Every* member should come with *his* notebook.

Neutral: *All* members should come with *their* notebooks.

Or

Neutral: Every member should come with his/her notebook.

Example:

Biased: A teacher should plan *his* lesson carefully.

Neutral: A teacher should plan *the* lesson carefully.

Or

Neutral: A teacher should plan *his/her* lesson carefully.

Some more examples are presented in the table below:

Sexist	Gender Neutral
Spokesman	Spokesperson, representative
Manpower	Staff, workforce
Chairman	Chairperson
Man the counter	Staff the counter
Man-made	Synthetic, manufactured
Mankind	Humanity, people, human beings
The common man	The average person, ordinary people
Businessman	Business executive, business person
Steward and stewardess	Flight attendant

9.3 Accuracy

Accuracy means right, proper and correct content. There are three types of accuracy that you need to take care of:

1. **Document accuracy**
   This refers to proper formatting, line spacing, font size, font color, margins, page numbers and headings in the document. If there are tables and graphs, place them properly within the document.
2. **Style accuracy**

This refers to correct language use. There should be no grammar and spelling errors. The sentences and paragraphs should be of moderate length, clear and coherent. The document should be free of typos as well.

3. **Technical accuracy**
   The content presented in the document should have a sound theoretical basis. The statistic should be accurate. Also, the document should reflect the concepts of the subject clearly.

9.3.1 How to proofread the text?

Accuracy in technical writing requires that you proof read your text. Tips of proofreading are as follows:

- Let someone else read it.
- Use the delay approach.
- Read one line at a time.
- Read long words syllable by syllable.
- Use technology.
- Check figures, scientific and technical equations, and abbreviations.
- Read it out loud.
- Use a dictionary.
- Try scattershot proofing.
- Use the computer's spell check – remember, however, that a spell check may not be able to catch:
    - **form** if you mean **from**
    - **to** if you mean **too**
    - **except** if you mean **accept**
- Let it sit – for a day or a weekend. When the document is cold, you are more objective about the writing.
- Use peer evaluations as others see the errors we miss.
- Read it out loud as sometimes we can hear errors.
- Read it backwards because then you read words out of context. You cannot anticipate the next word.

9.3.2 Organization Patterns

There are five patterns to organize your content: spatial, chronological, order of importance, comparison/contrast and problem/solution.

i. **Spatial**
   If you are describing the parts of a machine or a plot of ground, you might organize your text spatially. You would describe what you see, as it appears in space, left to right, top to bottom, inside to outside or clockwise. These spatial sequences help your readers visualize what you see and therefore better understand the physical qualities of the subject matter.

ii. **Chronological**
   At **1:15 PM**, we arrived at the site and assessed the patient's condition, taking vitals (pulse, respiration, etc.). At **1:17 PM**, after stabilizing the patient, we contacted the hospital and relayed the vitals. By **1:20 PM**, the patient was on an IV drip. Our vehicle arrived at the hospital at **1:35 PM** and hospital staff took over the patient's care.

iii. **Importance**

If spatial and chronological patterns don't suit your writing, organize your ideas by importance by deciding which ideas you want to emphasize and then place that information on the page accordingly.

iv. **Comparison/Contrast**

Many times, in business, you will need to document options and ways in which you surpass a competitor. These require that you organize your text by comparison/contrast. You compare similarities and contrast differences. For example, if you are writing a sales brochure, you might want to present your potential client alternatives regarding services, personnel, timetables and fee structures.

v. **Problem/Solution**

Every proposal and sales letter is problem/solution oriented. When you write a proposal for instance, you are proposing a solution to an existing problem. Similarly, if your sales letter promotes a new product, your customers will purchase it only if their current product is inferior.

9.4 Summary of Objectives/Traits in Technical Writing

Trait	0 — 1	2 — 3	4 — 5
CLARITY Organization	• Important points are delayed or absent • Some Reporter's Questions never answered • Many vague, connotative words used	• Some important points are delayed • Some Reporter's Questions assumed understood • Some vague, connotative	• Important points come first • Reporter's Questions answered • Specific, denotative words used
CONCISENESS Sentence fluency/ word choice	• Longer words are commonplace • Sentences average over 20 words • Paragraphs often exceed six typed lines	• Longer words used when shorter words exist • Sentences average 15-20 words • Some paragraphs exceed six typed lines	• Words are generally one or two syllables • Sentences average 10-12 words • Paragraphs do not exceed six typed lines
ACCESSIBLE DOCUMENT DESIGN Ideas and Content	• Highlighting is not used • Information is not accessible • Highlighting is overused	• Some main points are highlighted • Information is usually accessible	• Highlighting techniques emphasize main points to help access • Highlighting techniques not overused
AUDIENCE RECOGNITION Voice	• Writer does not define high-tech terms • Writer does not consider audience needs • Writer never uses pronouns to involve audience	• Writer usually defines high-tech terms • Writer usually considers audience needs • Writer often involves audience through pronouns	• Writer defines all high-tech terms • Writer considers audience needs • Writer uses pronouns to involve audience
ACCURACY Writing Conventions	• Punctuation often incorrect • Spelling often incorrect • Excessive grammar & usage errors distort the message	• Punctuation is usually correct • Spelling is usually correct • Grammar & usage somewhat flawed	• Correct punctuation • Correct spelling • Correct grammar & usage