Technical writing

Technical Writing:
It is written communication for business, industry, and professional workplace to deliver information with the intent of achieving a desired purpose

Technical Writing Process:

- **Stage 1: Planning and Researching**
  - Define the rhetorical situation
  - State your purpose
  - Research your project

- **Stage 2: Organizing and drafting the content**
  - Organizing – use common genres
  - Drafting – include facts and examples

- **Stage 3: Improving the style**
  - Plain: Stresses clarity and accuracy
    - Most workplace texts are written in plain style
    - Use plain style where description is important
  - Persuasive: Aims to motivate readers by appealing to their values and emotions
    - Similes and analogies add a visual quality to work
    - Metaphors change reader's perspective
    - Changes in tone and pace add energy and color
    - Use persuasive style where readers should make decision

- **Stage 4: Designing the document**
  - Readers expect good design
  - Readers are raiders for information
  - Readers want effective graphics to make information more interesting
  - Design should be attractive

- **Stage 5:   Revising and Editing**
    1. Revising
        - Re-examine subject and purpose
    2. Substantive editing
        - Look closely at content, organization and design
    3. Copyediting
        - Make sure that sentences, paragraphs and graphics are clear
    4. Proofreading
        - Eliminate grammar errors, typos, spelling errors

Genres:

- Relatively stable patterns that reflect the activities and practices of the workplace
- Shape a document's content, organization, style and design
- Help you anticipate the needs of your readers and their situations
- Reflect the activities and practices of scientific and technical workplaces
- Help you interpret complex work situations

Example: Technical specifications vs. analytical reports

- Different kinds of information
- Different workplace situations
- Different organizational patterns
- Different style and design

Technical Communication:

- A process of managing technical information in ways that allow people to take action
    - Interactive and adaptable
    - Reader-centered
    - Relies on teamwork
    - Visual
    - Has ethical, legal and political dimensions
    - International and cross-cultural

Reader profiles: Are sketches of your readers' tendencies, abilities, experiences, needs, values, and attitudes

Technical Readers:

- Raiders for information: They want to take a decision
- Responsible for interpreting text
- Want only "need to know" information
- Prefer concise texts and with graphics

Types of Readers:

- **Primary Readers:** Action takers / Decision makers
- **Secondary Readers:** Advisors
- **Tertiary Readers:** Evaluators (anyone else who might be interested)
- **Gatekeepers:** Supervisors (look over the document before it is sent to primary readers)

Profiling Readers:

- Needs: What information does each reader need
- Values: What do they value most
- Attitudes
- Familiarity with the subject
- Professional experience
- Educational level
- Reading and comprehension level
- Skill level

The stages of teaming

1. **Forming:**   Strategic planning
2. **Storming**:   Managing conflict
3. **Norming**:   Determining team roles
4. **Performing**:   Improving quality, develop quality feedback loops, regularly review performance of members

The stages aren't rigid. Teams tend to move back and forth among the stages as the project evolves and moves forward.

Forming:

- Define project mission and objectives
- Identify project outcomes
- Define team member responsibilities
- Create a project calendar
- Write out a work plan
- Agree on how conflict will be resolved

Storming:

Effective meeting strategies:

- Choose a meeting facilitator
- Set an agenda
- Start and end meetings promptly
- Address each agenda item separately
- Encourage participation
- Allow dissent (objection)
- Reach consensus and move on
- Record decisions
- Recap each agenda item
- Look ahead

The keys to teaming: 1) Planning 2) Effective Communication

Research: is a process of shaping the flow of information so that you can locate and use the information you need.

An information manager needs to evaluate, prioritize, interpret and store the information so it could be used effectively.

Types of sources:

1) **Primary sources:** Observations, experiments, surveys, interviews, ethnographies
2) **Secondary sources:** Academic journals, magazine articles, books, websites, research databases, DVD's, CD-ROMs and reference material

Research process:

1) **Define your research subject**
   a. Develop a logical map
      i. Highlight areas that need more research
   b. Narrow your research subject
      i. Choose an angle on the subject
2) **Formulate a research question or hypothesis**
   a. Question used to guide empirical or analytical research
   b. Doesn't need to be specific when you start your research
   c. Gives your research a direction to follow

Hypothesis: Is the best guess about an answer to your research question

3) **Develop a research methodology**
   a. Map out a methodology
   b. Describe your methodology in an outline form
   c. Use and revise your methodology and note deviations in it
4) **Triangulating Materials**
   a. Electronic sources
   b. Print sources
   c. Empirical sources

Outline: Is a general plan of what you are going to write

- Help make your essay more organized
- IT saves time for writers
- It shows logical relations between ideas
- Connects body paragraphs to thesis statement

Main characteristics of an outline:

- **Parallelism**: If the first heading is a noun, the second heading should be a noun
- **Co-ordination**: All info contained in heading 1 should have the same importance as info in heading 2
- **Subordination**: Info in heading is general, while info in paragraphs should be more specific
- **Division**: Each heading should be divided into 2 or more paragraphs

Levels of Detail:

- Capital Roman Numbers for main heading (I, II, III, IV)
- Capital letters for subheadings (A, B, C)
- Numbers for listing ideas of paragraphs inside section (1, 2, 3)
- Small letters for listing main details inside paragraphs

Plagiarism: Is presenting someone else's phrases, data, images or ideas as if they were your own

How to avoid plagiarism?

1) If you use the exact words from published material
   - You must use quotations marks around the words and cite the source
2) If you use ideas from published material
   - Cite the source
3) If you use phrases or information from published material
   - You must properly integrate borrowed phrases by paraphrasing or summarizing and cite the source
4) If you use charts, graphs, data or numerical information obtained from published material
   - Cite the source
5) No need to cite a source for material considered
   - General common knowledge
   - Field-specific common knowledge

Integrating sources:

- It is the proper documentation of phrases, data, images of other writers' published sources into your own technical report without plagiarism
- It requires giving credit to the original source by citing it at two places:
   - Back matter of report (reference list)
   - Body of report (In-text citation)

Why integrate sources?

1. To provide background information that is relevant to the writer's topic
2. To provide supporting details
3. To expand the breadth or depth of writer's report
4. To give examples of several points of view on writer's ideas
5. To refer to other writers' work that leads up to the ideas presented
6. To add credibility to the technical report

Techniques to integrate sources:

1) **Quotation:**
   o Use exact words of borrowed text
   o Use quotation marks
   o Applied for short segments of borrowed text
2) **Paraphrasing:**
   o Use your own words and structure
   o Retain ideas and details of borrowed text
   o Applied for an entire passage
3) **Summarizing:**
   o Use your own words and structure
   o Retain ideas and details of borrowed text
   o Applied for one or more passages from one or more resources

APA (American Psychological Association) In text Citation

It provides the author's last name and the year of publication, for direct quotation and some paraphrases, a page number r is given as well. It requires the use of past tense or present perfect tense.

1) **Basic format for a quotation**
   a. Critser (2003) "…………………………………………." (p. no.)
   b. "……………………………." (Critser, 2003, p.5)
2) **Basic format for a summary or paraphrase**
   a. Yanovski (2002) …………………………………………… (p.5)
      i. Page number is not always required for a summary or paraphrase
   b. …………………………………………… (Yanovski, 2002, p.5)

3) **Work with two authors**
   a. Sothern and Gordon (2003) ……………………………. (p.5)
   b. …………………………… (Sothern & Gordon, 2003, p.5)

   Give the names of both authors in the signal phrase or the parentheses each time you cite the work.

   In the parentheses use "&" between the authors' names

4) **Work with three to five authors**
   a. Berkowitz, Wadden, Tershakovec, and Cronquist (2003) ……………
      ………………………………………………………………………………………….
      (p.5)
      i. Identify all authors in the signal phrase or the parentheses the first time you cite the source.
   b. Berkowitz et al. (2003) ………………………………………………………… (p.5)
      i. In following citations, us the first author's name followed by "et al." in either the signal phrase or the parentheses .

5) **Work with six or more authors**
   a. McDuffie et al. (2002) ……………………………………………… (p.69)
      i. Use the first author's name followed by "et al." in the signal phrase and the parentheses.

6) **Work with unknown author**
   a. ………………………………………………….. ("Television", 2002)
      i. Mention the work's title in the signal phrase or the first word or two of the title in the parenthetical citation
      ii. Titles of short works such as Articles and Chapters are put in quotation marks
      iii. Titles of long works such as Books and Reports are *Italicized*

7) **Two or more works in the same parentheses**
   a. ……………………………. (Berkowitz et al., 2003; McDuffie et al., 2002)
      i. Put them in the same order that appear in the reference list separated by semicolons (;)

8) **Personal communication**
   a. ……………… (F.Johnson, personal communication, October,20,2009)
      i. It should be cited in the text only, not in the reference list
      ii. Use the first initial with the last name in parentheses

9) **Electronic Source**
    a. Cite electronic sources including online sources as any other source by giving the author name and the year
    b. Electronic sources sometimes lack authors' names, dates or page numbers
    c. If the date is unknown, use the abbreviation "n.d." (for no date)
        i. ……………………………. (Magnus, n.d.)

APA list of references

- Authors' names are inverted (last name first)
- Give the last name and initials for all authors of a particular work for up to and including seven authors (=< 7)
- If the work has more than seven authors, list the first six authors and then use ellipses after the sixth author's name, then list the last author's name
- Reference list entries should be alphabetized by the last name of the first author of each work
- For multiple articles by the same author, list the entries in chronological order, from earliest to most recent.
- When referring to books, chapters, articles or web pages, Capitalize:
    1. The first letter of the first word of a title and subtitle
    2. The first word after a colon or a dash in the title
    3. Proper nouns
- Do not capitalize the first letter of the second word in a hyphenated compound (Left-handed, Brother-in-law)
- Italicize titles of longer works such as books and journals.

Proposals: They are the lifeblood of the technical workplace

Purpose of proposals:

1) Describe new projects
2) Present innovative ideas
3) Offer new strategies
4) Promote services

Types of proposals:

- Internal / External
  - Used in a company to plan or propose projects/products
  - Used to offer services/ products to clients outside company
- Solicited / Unsolicited (requested/not requested)

Researching:

- Do background research
  - Fully understand the problem you are trying to solve
- Ask subject matter experts (SMEs)
- Pay attention to causes and effects
- Find similar proposals
- Collect visuals
  - Such as photographs, charts, illustrations

Components of Business proposals:

1) **Front matter (preliminaries)**
   - Title page
   - Executive summary
   - Table of contents
   - List of figures
   - List of tables
2) **Body**
   - Introduction
   - Description of current situation
   - Description of project plan
   - Review of qualification
   - Costs & benefits
   - Conclusion
3) **Back matter**
   - Reference list (to avoid plagiarism)
   - Appendix (supplements)

Body:

1) **Introduction:**
   a. Define the subject
   b. State the purpose
   c. State the main point
   d. Stress the importance
   e. Offer background information
   f. Forecast the organization
2) **Describing the current situation**
   a. Opening
      i. Define and describe the problem
   b. Body
      i. Discuss the causes of the problem
   c. Closing
      i. Discuss the effects of the problem if nothing is done

Use logical mapping to develop your argument

Draft the Current situation Section

3) **Describe the project plan**
   a. Identify the problem
   b. State the objectives of the plan
   c. Describe the plan's major and minor steps
   d. Identify the deliverables or outcomes

Use logical Mapping

4) **Developing Qualifications**
   a. Description of personnel
      i. Biographies of managers, demographic data
   b. Description of organization
      i. Corporate mission, history, facilities & equipment
   c. Previous experience
      i. Past and current clients, past and similar projects

5) **Concluding with costs and benefits**
   a. Make an obvious transition
   b. State the costs of the project
   c. Summarize the benefits of the project
   d. Briefly describe the future
   e. Thank the readers and offer contact information

Integrating Graphics

Benefits of Graphics:

1) **Conciseness:** Avoid needles repetition of words
2) **Clarity**: Provide easy-to-see supporting details
3) **Easy** reference

Types of Graphics:

1) **Tables**
   a. Title of a table is written above it (heading)
2) **Figures and charts**
   a. Title of a figure is written below it (caption)

Structure of Graphics:

1) **Numbering:** Use two digits to number graphics in order of presentation
   a. First digit follows main section in which graphic object is placed
   b. Second digit follows order of graphic object inside the main section
2) **Labelling**: Write descriptive labels/titles and cite source to give proper credit and avoid plagiarism

Notes:

1) Refer to graphic elements in text and discuss them
2) Place each graphic element in a standalone paragraph after the paragraph in which the graphic element is discussed
3) Leave one blank line before and after the graphic element
4) Number and label graphic elements correctly
5) Do not crowd graphic elements on a page

Resume: A topic outline of your career and qualifications (education, experience, skills, interests, etc.) that fit the position for which you are applying

Purpose of Resume: To get an interview by

1) **Marketing your qualifications**
    a. Focused on credentials relevant to the position
    b. Concise and honest
    c. Easy to read
2) **Making a positive first impression**
    a. Professional and consistent format
    b. Free of writing errors
    c. Print on bond or plain paper, neutral color is best

Types of Resumes:

1) **Reverse Chronological Resume**
    a. Emphasizes education and work experience
    b. Shows promotions, steady progress in same profession
    c. Standard resume for traditional job applicants
2) **Functional Resume**
    a. Emphasizes categories of skills
    b. Shows usefulness and flexibility
    c. Non-standard resume for job applicants who have a variety of relatively different work experiences

Main Sections of a Resume

- Heading (Personal contact information)
    o Name at top (UPPER CASE and **bold)**
    o local address
    o phone and mobile number
    o fax number
    o e-mail address
- Objective
    o be concise and clear to express your goals

- Education
  - Bachelor degree and expected graduation date (month and year)
  - Name of university and location
  - Grade
  - Do not lost high school information
- Experience (Employment or training)
- Skills (languages, computer, general, transferable)
- Interests and Activities
  - Social or personal interests
  - Club or organization activities
- Awards (optional)
- References
  - Write standard statement "Available upon request"

Cover letter: A persuasive-type business letter that accompanies your resume to communicate your interest in and qualifications for a training/job opportunity to a prospective employer

Purpose of cover letters:

1) Introduce your resume and your interest in the job
2) To bridge the gap between your resume and the needs of the position
   a. Show how your qualifications match the position requirement
   b. Handle weaknesses of your resume
   c. Highlight your strength and skills
3) To provide first writing impression

Structure of Cover letter:

1) Heading
   a. Name and address
   b. Date
   c. Hiring person: name, title, organization
2) Body
   a. Greeting line + opening paragraph
   b. Middle paragraph
   c. Closing paragraph
3) Signature Block + Enclosure statement
4) Enough white space

Purpose of Business e-mails: to electronically communicate work-related info and data in a formal and professional manner

Business emails can be used for:

- Memos
- Letters
- Cover letters
- Compliments
- Questions
- Subscriptions
- Reports, Blueprints, illustrations (as attachments)

Advantages of Business e-mails:

1) **Quick:** saves time
2) **Economic:**   saves money
3) **Convenient**
   a. Used for internal and external correspondence
   b. Sent and accessed from everywhere
   c. Reaches many people at the same time
   d. Easy to archive and retrieve

Disadvantages of Business e-mails:

1) **causes inaccurate communication**: if proper tone is not used
2) **Spreads personal information easily and dangerously**
3) **Consumes significant time at workplace, if not managed**
4) **Causes frustration to senders as they expect instant reply to their e-mails**

Structure of Business e-mails:

- Outgoing block
- Headings
   o To, CC, BCC, Subject
- Body
   o Opening + Greeting line / Discussion / Closing
- Signature block
- Attachments

Cheat Sheet

APA Notes and Examples:

Basic Rules (in-text citation)

- If you are directly quoting from a work, you will need to include the author, year of publication, and the page number for the reference (preceded by "p."). Introduce the quotation with a signal phrase that includes the author's last name followed by the date of publication in parentheses.
    - According to Jones (1998), "Students often had difficulty using APA style, especially when it was their first time" (p. 199).
- Always capitalize proper nouns, including author names and initials: D. Jones.
- If you refer to the title of a source within your paper, capitalize all words that are four letters long or greater within the title of a source: *Permanence and Change*. Exceptions apply to short words that are verbs, nouns, pronouns, adjectives, and adverbs: *Writing New Media*, *There Is Nothing Left to Lose*.
(**Note:** in your References list, only the first word of a title will be capitalized: *Writing new media*.)
- When capitalizing titles, capitalize both words in a hyphenated compound word: *Natural-Born Cyborgs*.
- Capitalize the first word after a dash or colon: "Defining Film Rhetoric: The Case of Hitchcock's *Vertigo*."
- Italicize or underline the titles of longer works such as books, edited collections, movies, television series, documentaries, or albums: *The Closing of the American Mind*; *The Wizard of Oz*; *Friends*.
- Put quotation marks around the titles of shorter works such as journal articles, articles from edited collections, television series episodes, and song titles: "Multimedia Narration: Constructing Possible Worlds"; "The One Where Chandler Can't Cry."
- If you are paraphrasing an idea from another work, you only have to make reference to the author and year of publication in your in-text reference, but APA guidelines encourage you to also provide the page number (although it is not required.)
- According to Jones (1998), APA style is a difficult citation format for first-time learners.
APA style is a difficult citation format for first-time learners (Jones, 1998, p. 199).
- **Six or More Authors:** Use the first author's name followed by et al. in the signal phrase or in parentheses.
    - Harris et al. (2001) argued...

- o (Harris et al., 2001)
- **Unknown Author:** If the work does not have an author, cite the source by its title in the signal phrase or use the first word or two in the parentheses. Titles of books and reports are italicized or underlined; titles of articles, chapters, and web pages are in quotation marks.
    - o A similar study was done of students learning to format research papers ("Using APA," 2001).
- **Note**: In the rare case the "Anonymous" is used for the author, treat it as the author's name (Anonymous, 2001). In the reference list, use the name Anonymous as the author.
- **Organization as an Author:** If the author is an organization or a government agency, mention the organization in the signal phrase or in the parenthetical citation the first time you cite the source.
    - o According to the American Psychological Association (2000),...
- If the organization has a well-known abbreviation, include the abbreviation in brackets the first time the source is cited and then use only the abbreviation in later citations.
    - o First citation: (Mothers Against Drunk Driving [MADD], 2000)
    - o Second citation: (MADD, 2000)
- **Two or More Works in the Same Parentheses:** When your parenthetical citation includes two or more works, order them the same way they appear in the reference list, separated by a semi-colon.
    - o (Berndt, 2002; Harlow, 1983)
- **Authors With the Same Last Name:** To prevent confusion, use first initials with the last names.
    - o (E. Johnson, 2001; L. Johnson, 1998)
- **Two or More Works by the Same Author in the Same Year:** If you have two sources by the same author in the same year, use lower-case letters (a, b, c) with the year to order the entries in the reference list. Use the lower-case letters with the year in the in-text citation.
    - o Research by Berndt (1981a) illustrated that...
- **Introductions, Prefaces, Forewords, and Afterwords:** When citing an Introduction, Preface, Foreword, or Afterwords in-text, cite the appropriate author and year as usual.
    - o (Funk & Kolln, 1992)
- **Personal Communication:** For interviews, letters, e-mails, and other person-to-person communication, cite the communicator's name, the fact that it was personal communication, and the date of the communication. **Do not include personal communication in the reference list.**
    - o (E. Robbins, personal communication, January 4, 2001).

- A. P. Smith also claimed that many of her students had difficulties with APA style (personal communication, November 3, 2002).
- **A Work by Three to Five Authors:** List all the authors in the signal phrase or in parentheses the first time you cite the source. Use the word "and" between the authors' names within the text and use the ampersand in the parentheses.
  - (Kernis, Cornell, Sun, Berry, & Harlow, 1993)
  - In subsequent citations, only use the first author's last name followed by "et al." in the signal phrase or in parentheses.
  - (Kernis et al., 1993)
- **A Work by Two Authors:** Name both authors in the signal phrase or in the parentheses each time you cite the work. Use the word "and" between the authors' names within the text and use the ampersand in the parentheses.
  - Research by Wegener and Petty (1994) supports...
  - (Wegener & Petty, 1994)

Basic Rules (Reference List)

- Authors' names are inverted (last name first); give the last name and initials for all authors of a particular work for up to and including seven authors. If the work has more than seven authors, list the first six authors and then use ellipses after the sixth author's name. After the ellipses, list the last author's name of the work.
- Reference list entries should be alphabetized by the last name of the first author of each work.
- For multiple articles by the same author, or authors listed in the same order, list the entries in chronological order, from earliest to most recent.
- When referring to books, chapters, articles, or Web pages, capitalize only the first letter of the first word of a title and subtitle, the first word after a colon or a dash in the title, and proper nouns. Do not capitalize the first letter of the second word in a hyphenated compound word.
- Italicize titles of longer works such as books and journals.
- **Single Author**
  Last name first, followed by author initials.
  - Berndt, T. J. (2002). Friendship quality and social development.*Current Directions in Psychological Science, 11*, 7-10.
- **Two Authors**
  List by their last names and initials. Use the ampersand instead of "and."
  - Wegener, D. T., & Petty, R. E. (1994). Mood management across affective states: The hedonic contingency hypothesis. *Journal of Personality and Social Psychology, 66*, 1034-1048.

- **Three to Seven Authors**

  List by last names and initials; commas separate author names, while the last author name is preceded again by ampersand.
  - Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A., Harlow, T., & Bach, J. S. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology, 65*, 1190-1204.

- **More Than Seven Authors**

  List by last names and initials; commas separate author names. After the sixth author's name, use an ellipses in place of the author names. Then provide the final author name. There should be no more than seven names.
  - Miller, F. H., Choi, M. J., Angeli, L. L., Harland, A. A., Stamos, J. A., Thomas, S. T., . . . Rubin, L. H. (2009). Web site usability for the blind and low-vision user. *Technical Communication, 57*, 323-335.

- *Two or More Works by the Same Author in the Same Year*

  If you are using more than one reference by the same author (or the same group of authors listed in the same order) published in the same year, organize them in the reference list alphabetically by the title of the article or chapter. Then assign letter suffixes to the year. Refer to these sources in your essay as they appear in your reference list, e.g.: "Berdnt (1981a) makes similar claims..."
  - Berndt, T. J. (1981a). Age changes and changes over time in prosocial intentions and behavior between friends. *Developmental Psychology, 17*, 408-416.
  - Berndt, T. J. (1981b). Effects of friendship on prosocial intentions and behavior. *Child Development, 52*, 636-643.

- *Article in a Magazine*
  - Henry, W. A., III. (1990, April 9). Making the grade in today's schools. *Time, 135*, 28-31.

- *Article in a Newspaper*

  Unlike other periodicals, p. or pp. precedes page numbers for a newspaper reference in APA style. Single pages take p., e.g., p. B2; multiple pages take pp., e.g., pp. B2, B4 or pp. C1, C3-C4.
  - Schultz, S. (2005, December 28). Calls made to strengthen state energy policies. *The Country Today*, pp. 1A, 2A.

- *Review*
  - Baumeister, R. F. (1993). Exposing the self-knowledge myth [Review of the book *The self-knower: A hero under control*, by R. A. Wicklund & M. Eckert]. *Contemporary Psychology, 38*, 466-467.

▪ *Article From an Online Periodical*

Online articles follow the same guidelines for printed articles. Include all information the online host makes available, including an issue number in parentheses.

- o   Author, A. A., & Author, B. B. (Date of publication). Title of article. *Title of Online Periodical, volume number*(issue number if available). Retrieved from http://www.someaddress.com/full/url/

- o   Bernstein, M. (2002). 10 tips on writing the living Web. *A List Apart: For People Who Make Websites, 149*. Retrieved from http://www.alistapart.com/articles/writeliving