Technical Writing Practice 2- Overview

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Assessment

	Item	Description	Percentage
1.	Assignments	Homework and class exercises	15%
2.	Academic writing	"The one course that I found most useful at MPI"	5%
3.	Speaking and presentation	Group outline and presentation	7.5%
4.	Technical writing	Technical writing practice and presentation	20%
5.	Test	Knowledge assessment	12.5%
6.	Examination	3-hour written examination	40%
		Total Percentage:	100%

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COMP321 – ISI Report

Chapter 1. Introduction

Lead Paragraph

Section 1.1 Overview

Describe the general functions of your online shopping mall, which kind of products are sold, and what special considerations in problem domain, if any, are considered.

Section 1.2 Objectives

Description of objectives: List the functional requirements you attempt to implement.

Give summary and outline of your paper, telling readers what they should expect to find in it.

Chapter 6. Conclusion and Further Work

Summarize your work, describe limitations, and suggest future work

Note that you should include proper citations and references as well.

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FYP Proposal Presentation

1. **Project Description**

   This section gives a summary of the work to be done. The scope of the project should be stated. The major technical problems/challenges can also be summarized here

2. **Main tasks and Objectives**

   In this section, you are expected to clearly state the project objectives to be achieved, and give a brief illustration of each objective. Also, expected results/outcomes should be stated.

3. **Risk Assessment**

   This section describes the key risks of your project. You are to determine (either quantitatively or qualitatively) the risks related to a concrete situation and a recognized threat to your project. Contingency plans should also be stated.

   For example, if you work on a web crawler project in a specific website, there are possibilities that the crawler is forbidden by the website when they discover your intention. If you work on a hardware-related project, there are possibilities that the hardware cannot be delivered on time. Such kind of threats that potentially delay or even fail your project should be pre-cautioned and stated here.

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Topics to be covered in class

- Introduction Chapter of ISI report
- Abstract of FYP
- Result and Conclusion
- Design/Methodology/Implementation
- Poster Presentation for FYP

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Technical Writing

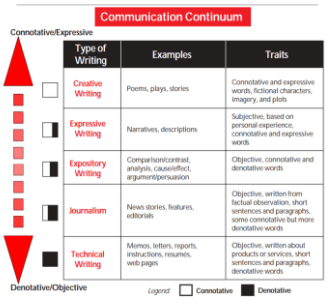
Based on the book: "Writing that Works: A Teacher's Guide to Technical Writing"

Objectives

- What is technical writing?
- **The five traits of technical writing**
- Common difficulties faced by technical writers

Communication Continuum

- Technical writing is not creative writing; it's neither the fictional tales of characters nor poetry which expresses deeply felt, universal emotions through similes and metaphors.
- Technical writing is neither an expressive essay narrating an occurrence nor an expository essay analyzing a topic!
- Technical writing is not journalism, written to report the news.
- Technical writing does not focus on poetic images, describe personal experiences, or report who won the basketball game.



Type of Writing	Examples	Traits
Creative Writing	Poems, plays, stories	Connotative and expressive words, fictional characters, imagery, and plots
Expressive Writing	Narratives, descriptions	Subjective, based on personal experience, connotative and expressive words
Expository Writing	Comparison/contrast, analysis, cause/effect, argument/persuasion	Objective, connotative and denotative words
Journalism	News stories, features, editorials	Objective, written from factual observation, short sentences and paragraphs, some connotative but more denotative words
Technical Writing	Memos, letters, reports, instructions, resumés, web pages	Objective, written about products or services, short sentences and paragraphs, denotative words

Denotation vs. Connotation
While denotation is the literal meaning of the word, connotation is a feeling or indirect meaning. For example:
- Denotation: blue (color blue)
- Connotation: blue (feeling sad) – The girl was blue.

What is Technical Writing?

Instead, technical writing is:

- an instructional manual for repairing machinery
- a recommendation report proposing a new computer system

In each case, the technical document must be precise, and easily understood.

Why is technical writing so important?

- Technical writing is a type of writing where the author is writing about a particular subject that requires direction, instruction, or explanation.
- This style of writing has a very different purpose and different characteristics than other writing styles such as creative writing or journalistic writing.
- Technical writing might not be as popular as its counterparts creative writing and journalistic writing, but it's just as important.

The five traits of technical writing

Clarity
- Important points come first
- Reporter's Questions answered

Conciseness
- Words are generally one or two syllables
- Sentences average 10-12 words

Accessible document design
- Emphasize main points to help access
- Highlighting techniques not overused

Audience recognition
- Writer defines all high-tech terms
- Writer considers audience needs

Accuracy
- Correct punctuation
- Correct spelling
- Correct grammar & usage

The five traits of technical writing: Clarity

- If the audience responds to a memo, letter, report, or manual with, "Huh?" what has the writer accomplished?
- If the correspondence is not clearly understood, the reader will either call the writer for further clarification, or just ignore the information.
- In either case, the writer's time is wasted; the reader's time is wasted; the message is lost.
- Clarity avoids ambiguity and ensures the correct information is conveyed to your reader.

The five traits of technical writing: Clarity

- Clarity is not just a time concern. Think of it from this perspective: your company has written an installation manual for a product. The manual, unfortunately, is not clear. When the reader fails to understand the content, three negatives can occur:
  - BAD—The equipment is damaged. This requires the owner to ship the equipment back. The company will replace the equipment, costs accrue, and public relations have been frayed.
  - WORSE—The owner is hurt, leading to pain, anxiety, doctor's bills, and bad public relations.
  - EVEN WORSE—The company is sued. The company loses money, the writer of the manual loses a job, and public relations are severed.

Some examples on Clarity

Imprecise:	More precise:
Several holes were drilled in the plank.	
A few of the LED's on Design 1 were kind of faint.	
The beaker of water was placed in the ice bath until it was cool.	
Using a lower water cement ratio in the concrete mix will eliminate cracking.	
The tests performed proved that the custom data structure does not have errors.	
The team determined that Design A was the best.	

The five traits of technical writing: Conciseness

- Conciseness aids clarity.
- Conciseness achieved through short words. Use vocabulary that is right for the situation and doesn't use "fancy" or "flowery" words in an attempt to sound "smart" or impressive.
- Conciseness achieved through short sentences by avoiding
  a) redundancy
  b) prepositional phrases
  c) passive voice

Wordy Sentence	Less Wordy Sentence
We collaborated ***together*** on the projects.	We collaborated on the project.
This is a ***brand new*** innovation.	This is an innovation.
The ***other*** alternative is to eat soup.	The alternative is to eat soup.

a) Avoiding redundancy

Wordy Sentence	Concise Sentence
He drove **at a rapid rate.**	He drove rapidly.
I will see you **in the near future.**	I will see you soon.
I am **in receipt of** your e-mail message requesting an increase **in pay.**	I received your e-mail message requesting a pay raise.

b) Avoiding prepositional phrases

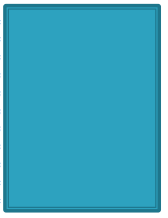
Passive Voice	Active Voice
It is my decision to run for office.	I decided to run for office.
There are sixteen people who tried out for the basketball team.	Sixteen people tried out for the basketball team.
The computer was purchased by Tom.	Tom purchased the computer.

c) Avoiding passive voice

The five traits of technical writing: Conciseness

- Writing unnecessarily complex sentences is tempting when you are trying to seem smart, but this can make your message less clear.

Wordy phrases	
make an adjustment	=
make a decision	=
provide assistance	=
a large number of	=
at the present time	=
due to the fact that	=
in order to	=
in the near future	=
prior to the start of	=
until such time as	=
in the event that	=



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Some notes on Conciseness

- Keep in mind, however, that shorter is not *always* better.
- For example, there may be times when you might sacrifice concision for the sake of sounding more personable, friendly or conversational.
- If you have to deliver bad news, a two-sentence email might come across as rude or uncaring, while writing a longer email that builds rapport and includes more qualitative, personable touches might soften the blow.
- This approach could have a positive impact on a team dynamic or a client relationship so that, even with a slightly higher word count, the final outcome is better.

The five traits of technical writing: Accessible document design

- Accessibility is regarding page layout— the way the text looks on the page.
- Look at this paragraph. The page layout makes it nearly impossible for the reader to understand the text.

Regarding part number 315564-000, we received 541 units of wafer #3206-2. These were rejected. For the same part number, we received 643 units of wafer #3206-4. These were accepted. Three hundred and twenty-nine units of wafer #3206-5 from the same part number. These were accepted. Next, 344 of part number 315564-000's wafer #3206-6 were accepted. However, the 143 units of wafer #3206-7 (same part number) were rejected. Finally, all 906 units of wafer #3206-8 were rejected. These also were from part number 315564-00.

Part Number 315564-00			
Wafer #	Quantity Received	Accepted	Rejected
3206-2	541		X
3206-4	643	✔	
3206-5	329	✔	
3206-6	344	✔	
3206-7	143		X
3206-8	906		X

- Using highlighting techniques (tables, headings and subheadings, different font sizes, column lines, and white space), below is a revised copy.

The five traits of technical writing: Audience recognition

- Successful technical writers know that they can only achieve clarity by recognizing their audiences.
- What does the audience know, need to know, and want to know?

Achieving Audience Recognition

Audience	Style	Example
High Tech Peers	Abbreviations/ Acronyms OK	Please review the enclosed **OP** and **EN**.
Low Tech Peers	Abbreviations/ Acronyms need parenthetical definitions.	Please review the enclosed **OP** (Operating Procedure) and **EN** (Engineering Notice).
Lay Readers	No abbreviations/ acronyms. Explanations instead.	By following the enclosed operating procedure, you can ensure that your printer will run to our engineers' desired performance levels.

The five traits of technical writing: Accuracy

- Effective technical writing must be correct, whether grammatically, mathematically, electronically, etc.
- Errors in technical writing make the company and the employee look bad.
- More importantly, errors can lead to damages, injuries, lawsuits, or just embarrassment and misunderstandings.
- Understand the importance of proofreading:
  - Use the computer's spell check
  - Let it sit—for a day or a weekend. When the document is cold, students are more objective about their own writing.
  - Use peer evaluations—others will see the errors we miss.
  - Read it aloud—sometimes we can hear errors.

Common difficulties faced by technical writers – Messy structure

Some of the most common difficulties technical writers (and their readers) face – and how to fix them.

1. Messy structure
   - Many technical documents confuse readers and fail to achieve their aims because they were not planned properly to begin with.
   - This lack of planning means that documents, especially longer ones, end up structured in an illogical fashion.
   - At worst, it makes the document virtually unusable.

How to fix it:

Before you begin writing at all, think carefully about the overall layout of the document. Creating a simple outline will help you structure it appropriately and optimally.

Common difficulties faced by technical writers – Too much jargon

2. Too much jargon
   - What is familiar and self-evident to you may not be so to the readers.

   How to fix it:
   - Take a few moments to identify and visualise your readers.
   - Then consider what level and type of technicality in the writing will be appropriate for them – and what won't be.
   - Those acronyms that roll off your tongue because you use them every day – are they well known elsewhere?

Common difficulties faced by technical writers – Inconsistency

3. Inconsistency
   - Technical writing should convey coherent ideas and trains of thought. When a document is by multiple authors, or updated piecemeal without due regard for overall consistency and readability, these can result in choppiness in the document's style, layout, tone, point of view, and so on.

     How to fix it:
   - If you're making changes to an existing document, get a sense of the surrounding context – including things like tone and tense.
   - Try to align your changes with these, so that new material is incorporated seamlessly (or, if necessary, signposted appropriately).
   - Jumps in tone or tense can be overlooked even more easily than typos and grammatical errors.

Common difficulties faced by technical writers – Dense presentation

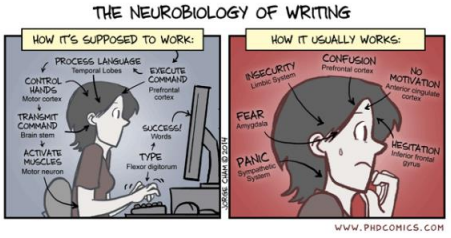
4. Dense presentation
   - Long, unbroken chunks of text, for example, are visually off-putting and hard to follow. They can make a reader's brain shut down out of sheer effort and frustration. The prevalence of jargon and complex concepts add further cognitive loads, and it all adds up.

     How to fix it:
   - Short words, sentences, and paragraphs are generally preferable.
   - Some passages can be broken up with bullet points, which makes them far easier to digest.
   - ***Be concise.*** Keep your sentences short and to the point. More examples on https://ohiostate.pressbooks.pub/feptechcomm/chapter/3-writing-style/
   - ***Use visuals to support your text.*** Use flowcharts, tables, and graphics where appropriate and necessary for clarification, and make sure that any text included is large enough to read.

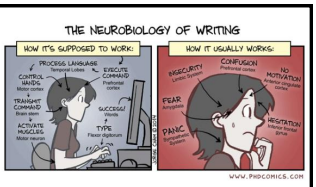
Examples of editing for concision

1. Keep this information on file for future reference.
   After:
2. Ideally, it would be best to place the billing ticket just below the monitor and above the keyboard.
   After:
3. We need to act on the suggestions that the supervisors offer us.
   After:
4. Due to the fact that we reduced the weight of the AEV, we used less energy.
   After:
5. It was the offset battery that made the AEV fall off the track.
   After:
6. There is a danger of poor communication causing a bad outcome in the team project.
   After:

Feelings of student writers



How to start writing?



- If you think that a blank sheet of paper or a blinking cursor on the computer screen is a scary sight, you are not alone.
- Many writers, students, and employees find that beginning to write can be intimidating.
- When faced with a blank page, however, experienced writers remind themselves that writing, like other everyday activities, is a process. Every process, from writing to cooking, bike riding, and learning to use a new cell phone, will get significantly easier with practice.
- Just as you need a recipe, ingredients, and proper tools to cook a delicious meal, you also need a plan, resources, and adequate time to create a good written composition. I
- In other words, writing is a process. Effective writing can be simply described as good ideas that are expressed well and arranged in the proper order.

How to start writing?

- **Asking Questions**
  - Who? What? Where? When? Why? How? In everyday situations, you pose these kinds of questions to get more information.
  - You seek the answers to these questions to gain knowledge, to better understand your daily experiences, and to plan for the future.
  - Asking these types of questions will also help you with the writing process.
  - As you choose your topic, answering these questions can help you revisit the ideas you already have and generate new ways to think about your topic.
  - You may also discover aspects of the topic that are unfamiliar to you and that you would like to learn more about.
  - All these idea-gathering techniques will help you plan for future work on your assignment.

Ethics in Technical Writing

- Like other professionals, technical writers come up against ethical issues regularly and must make decisions about how to move forward with a project in the face of ethical dilemmas.
- Writers may encounter situations in which they must ask the following kinds of questions:
  - What kinds of support material and sources are ethical to use?
  - Are open web sources just as valid as academic sources for certain topics?
  - Can email communications be used without permission?
  - What if the writer discovers that a company falsified data about the effectiveness of its product?

Ethical issues are complicated

- Ethics principles provide the basis for deciding whether "x" is ethical, but in reality, ethical issues are complicated.
- For example, if one way of presenting evidence requires some manipulation of data but seems to be the only way of keeping sales strong enough for your company to survive, what should you do?
  - If you take the unethical route, odds are good that few (or no) people will realize you have done so, and you would not be doing anything illegal.
  - If you take the ethical route, and sales plummet, few people will recognize the ethical issue, but most will clearly understand that you caused the sales decline.

Ethics: General Principles

- How a writer presents information in a document can affect a reader's understanding of the relative weight or seriousness of that information.
- For example, hiding some crucial bit of information in the middle of a long paragraph deep in a long document seriously de-emphasizes the information.
- On the other hand, putting a minor point in a prominent spot (say the first item in a bulleted list in a report's executive summary) tells your reader that it is crucial.

Summary

- **The five traits of technical writing**
  - Clarity, Conciseness, Accessible document design, Audience recognition, Accuracy
- Common difficulties faced by technical writers
  - Messy structure
  - Too much jargon
  - Inconsistency
  - Dense presentation