

# Technical Writing

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# What is technical writing?

- A straightforward explanation about a technical subject.
  - You explain a process, explain what you did, explain why something is important, etc.
- The purpose is to **INFORM**...

NOT to persuade or entertain.



# Characteristics of Technical Writing

- Utilitarian – useful or practical
- Clear – easy to understand
- Concise – gives a lot of information in a few words
- Detailed – has many specifics (and citations)
- Accurate – correct
- Precise – exact

# Writing Guide: Process and Rules

- Audience
- Topic
- Research
- Organization
- Paragraph Structure
- Style Rules
- Graphics
- Citations
- Introductions and Conclusions
- Revising
- Proofreading

# Writing Guide: Audience

You write for your audience NOT yourself.

- Meet your readers' needs. They need the information you have. Give it to them.
- For CS455 term paper, audience = peers in class
- Answer these questions:
  - What does your audience want/expect?
  - What do they need to know?
  - What do they already know?
  - What is their level of expertise?

TIP: put yourself in your audience's shoes.

# Writing Guide: Topic

- In CS455, you choose from a specified range of topics. See #1 on your term paper instructions.
- If you get to select the topic, pick something that interests you.
- Decide exactly what to tell your audience about the topic.
  - What would THEY want/need to know about it?
- Choose the scope and detail. This may need adjustment as you research.
  - Adjust for your page or word limits. **Your CS455 paper has word counts for each section.**

**TIP:** Because technical writing is concise, you can say more in less space.

**TIP:** Err on the side of too broad. It's easier to narrow a topic than expand it.

# Writing Guide: Research

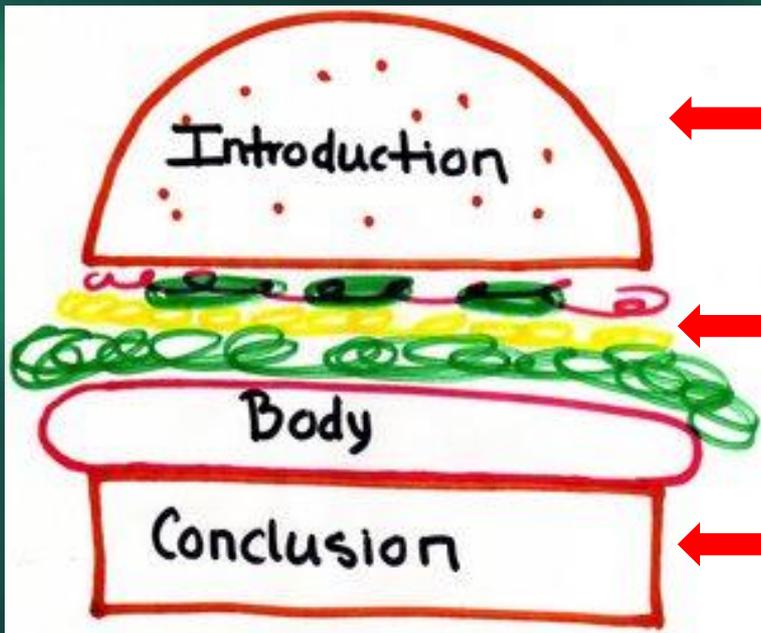
- There is no substitute for this step – you must justify your assertions!
- Cite your sources carefully
- Questions to guide your research:
  - Who has studied this before? What were their results/findings?
  - What is being done currently? Current state of the art?
  - Why is your topic important? Who agrees with you?

# Writing Guide: Organization

- Outline. This is the structure of your paper.
- For your CS455 paper, the broad structure is preset. See #2 on your term paper instructions.
- State your purpose or main point early.
- Deal with information in blocks.
- Don't...
  - Repeat ideas (redundancy)
  - Sprinkle similar information all over the paper.
- Use headings or subheadings for each block.
- Use bulleted or numbered lists.
- Arrange your examples and graphics.
- Organize so your paragraphs/blocks/ideas flow logically.

# Writing Guide: Paragraphs

The “hamburger” explanation for paragraph formation:



Summarize what you are going to talk about and in what order.

Details, position, supporting evidence.

Briefly recap and then **TRANSITION** your reader to the next paragraph.

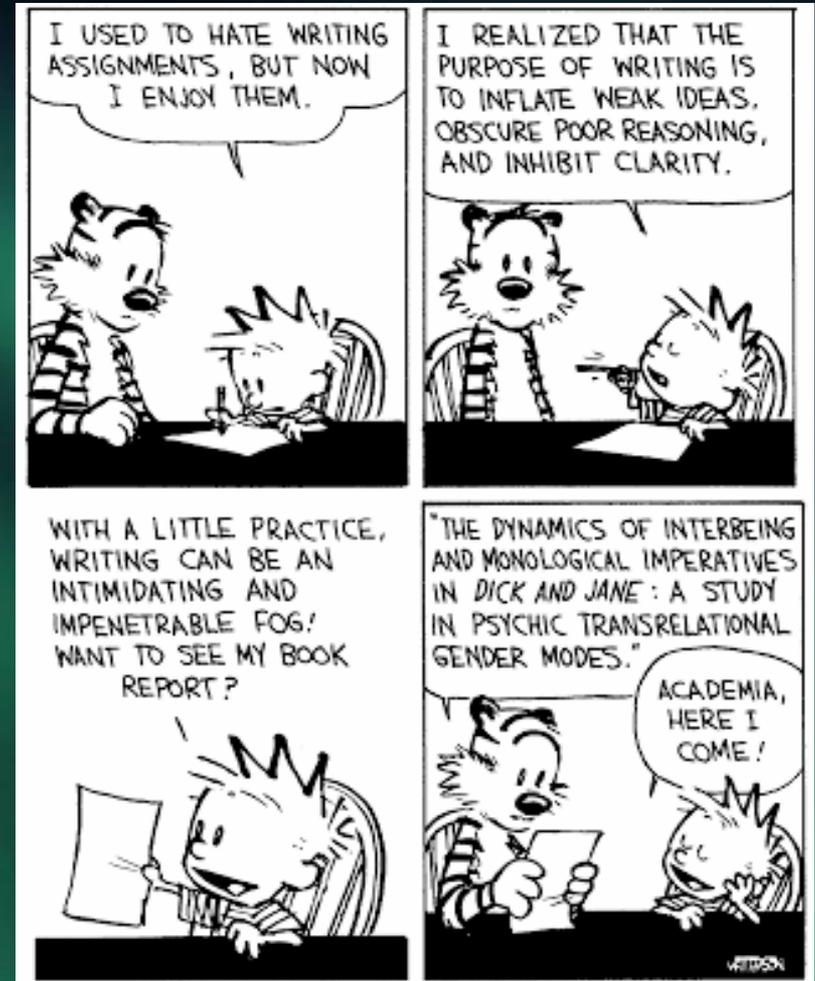
# Writing Guide: Style Rules

## CLARITY :

- Avoid jargon and slang
- Eschew sesquipedalian verbiage
- No textspeak: OMG LOL D 4 U!
- Define terms (with or without acronyms) on the first appearance in the paper. After that, you can use the acronym alone.

*Peanut Butter and Jelly (PB&J)*

- **WRITE HOW YOU SPEAK.** Verbal communication is more efficient than written.



# Writing Guide: Style Rules

BRIEF AND CONCISE – explain your point efficiently

- Don't waste your reader's time. Get to the point!
- If material doesn't help explain your work, DON'T include it.
- Remove redundancy.
- Limit parenthetical material. It's usually a digression.
- Beware "i.e." and "e.g."
- **WRITE TIGHT!** NEVER use 2 words when one will do.

Example: Remove ~~needless~~ words.

# Writing Guide: Style Rules

## DETAILED :

- Use details wisely because you must...
  - Explain and analyze facts, data, figures. Don't just data dump.
- Make sure your details are accurate.
- If you are unsure what to give details about, focus on your main point(s), results, and what they mean.

# Writing Guide: Style Rules

- Use third person. Because the subject matter is more important than the writer's voice, technical writing style uses objective, not subjective, tone. Do not use I, we, they, etc.

Example: “The research will...”  
“The experimental results show...”

- Use active voice – clear subject, strong verb.

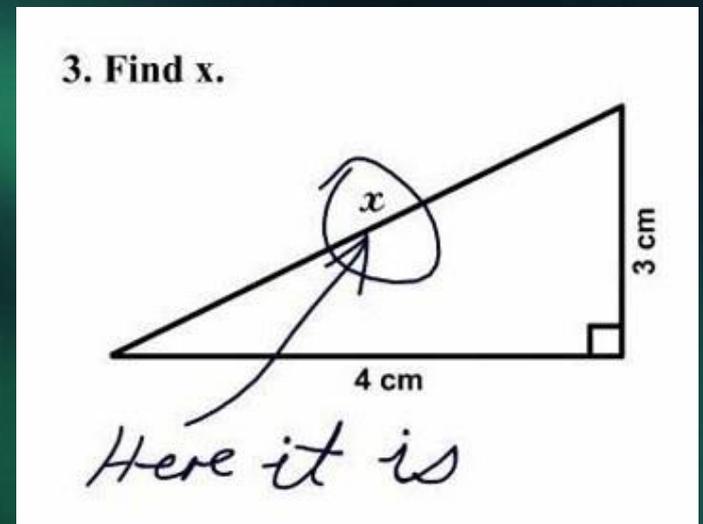
Example:

Passive: “A paper will be produced by the research.”

Active: “The research will produce a paper.”

# Writing Guide: Graphics

- Figures (pictures, charts, graphs) and tables.
- Graphics can be very valuable. A picture is worth a thousand words.
- Make them easy to understand and a readable size and resolution.
- Describe them in the text and in the caption.
- Captions go above tables and below figures/pictures.
- Reference them in the text as Figure 1, Table 1, etc.
- Number them in the order of appearance.



# Writing Guide: Citations

- Common styles for technical/scientific writing:
  - APA (American Psychological Association)
  - Numbered
    - By the alphabetical reference list
    - By the order of appearance in the paper

Use this style in your CS455 paper.
- DO NOT use MLA.

# Writing Guide: Introductions and Conclusions

The most difficult part of the paper to write. **TIP:** write them last.

The **INTRODUCTION** is a road map for the rest of your paper. It summarizes for your reader:

- your topic
- your rationale
- why it is important
- contains a thesis or main argument/point and the kind of information you will use to support it
- the organization of the paragraphs and pages that follow
- Avoid the “dawn of man” beginnings.

# Writing Guide: Introductions and Conclusions

## The CONCLUSION...

- Requires critical thinking and a mental leap. “Think large.”
- Interprets the outcome of your work.
- Is a set of assertions:
  - What do your results mean?
  - What is the significance? Move from the specific concern of your paper to the broader concerns of the reader's world.
  - What are the broader implications of your argument?
  - Why are they important?

Is NOT a recap or summary of your paper!

# Writing Guide: Revising

- Critical, but often skipped.
- Time-consuming. Allow A LOT of revision time.
- May require gathering more research.
- Minimum time estimates:
  - Short paper = several days
  - Long paper = one week
  - Group project = two weeks

**TIP:** Create a project schedule. Work backward from the due date. Add revision time first and DON'T reduce it.

# Proofreading

- Ask other people to read it.
- Read it once very slowly, then...
- Read it aloud.
- Read it backwards.
- Spell-check, but don't rely on it alone!
- Check formatting and citations. *Appearance matters!*
- Take at least an hour off between proofreads.

Overnight is better!