The Technical Writing Process
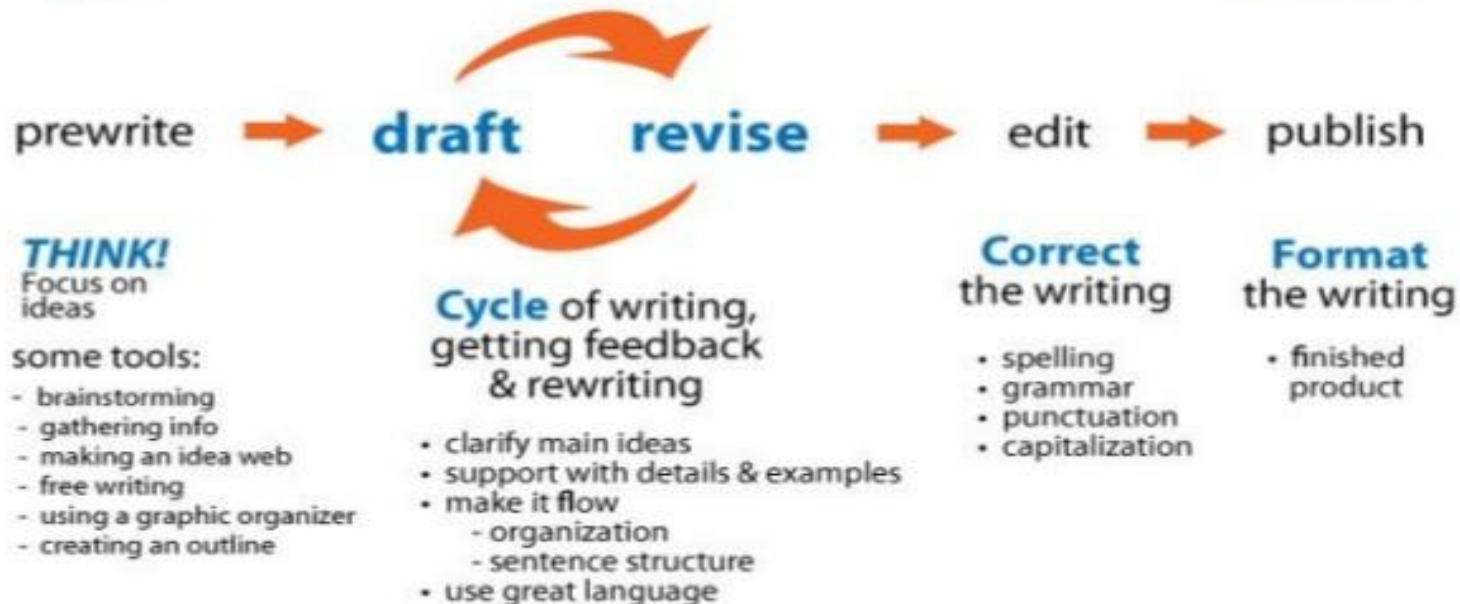
RECALL!

the writing process

Overarching Questions: Why am I writing this? (What's your **purpose**?)
For whom am I writing this? (Who is your **audience**?)

prewrite → **draft** **revise** → edit → publish

THINK!
Focus on ideas

some tools:
- brainstorming
- gathering info
- making an idea web
- free writing
- using a graphic organizer
- creating an outline

Cycle of writing, getting feedback & rewriting
- clarify main ideas
- support with details & examples
- make it flow
  - organization
  - sentence structure
- use great language

Correct
the writing
- spelling
- grammar
- punctuation
- capitalization

Format
the writing
- finished product

UPM

Technical Writing Process

"It's a reconstruction of an investigation."

The Technical Writing Process

TWP- Pre-Writing

1.Get to know the purpose

2.Get to know the audience

3.Get to know the context/situation of communication

4.Get to know the required document type (FORMAT, sections, layout)

Analyzing the purpose

Analyzing Audience

1. Executives
(Decision makers, directors, field experts)

2. Technologists, engineers and scientists

3. Technicians

4. Operators

5. Non-technical persons

Reader	Purpose
Executives	To make decisions based on applicability, and profitability. They want conclusions and alternatives rather than details.
Technologists, engineers, & scientists	Interested in information transfer. They need facts, details, theory, methodology, and conclusions.
Technicians	Need information to troubleshoot, modify, upgrade, and maintain or repair equipment. They need practical information in format that is easy to use. To facilitate understanding, they rely on visuals.
Operators	Need instructions to operate equipment or to perform procedures. They need a set of easy to understand commands in a step by step format with visuals.
Non technical persons	They read for interest and information

Audience Analysis Questions

- Who is or are they?

- What is there position in the organization or are they external?

- Why do they need the document?

- How will they use it?

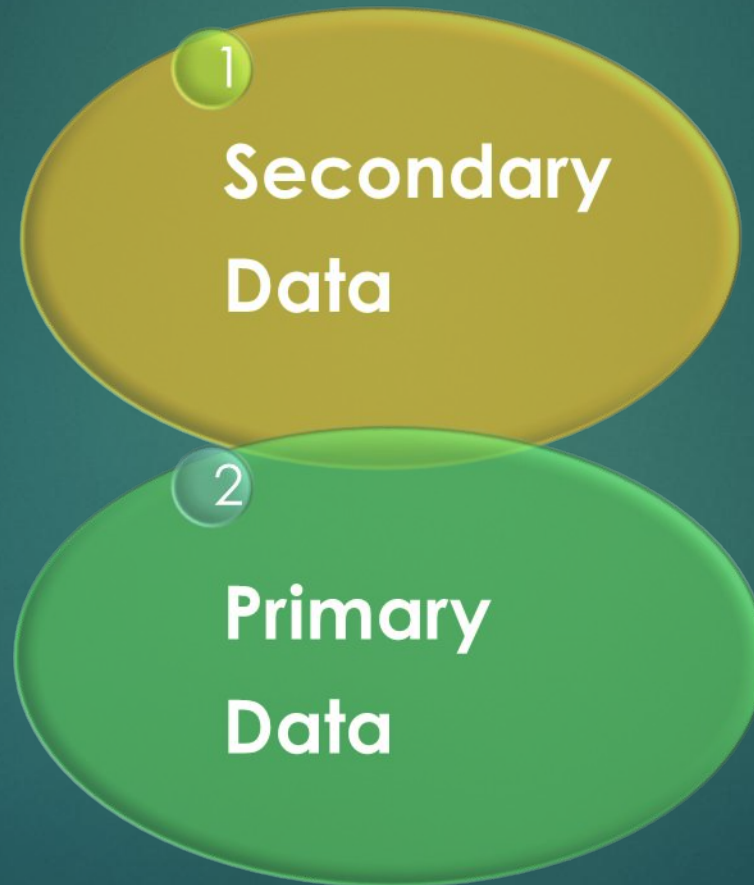- What is their attitude towards the subject matter?

- What is the level of their technical knowledge about the subject?

TWP- Investigation

1 **Data collection**

2 **Data analysis**

3 **Work out with take-home messages**

TWP- Investigation-Determine the type of data you need

1 **Secondary Data**

2 **Primary Data**

TWP-Investigation-Secondary Sources

- Technical reports (industrial/corporate/available in company records)

- Research papers/articles (academic)

- Governmental reports and documents

- Newspaper

- Leading business/tech magazines

- Recognized business/tech blogs/podcasts/wikis

TWP-Investigation-Secondary Sources

- ► Technical books
- ► Almanacs and statistical resources
- ► Interviews on TV, radio, etc
- ► Electronic databases
- ► Online databases
- ► Company websites

TWP- Investigation-Recognized Research Journal Publishers

- ► **IEEE**
- ► **ACM**
- ► **Sage**
- ► **Emerald**
- ► **Taylor and Francis**
- ► **Wiley**
- ► **Elsevier**
- ► **Routledge**
- ► **Springer**

TWP- Investigation-NOTE

- **Document your sources.**

TWP- Investigation-Primary Data collection methods
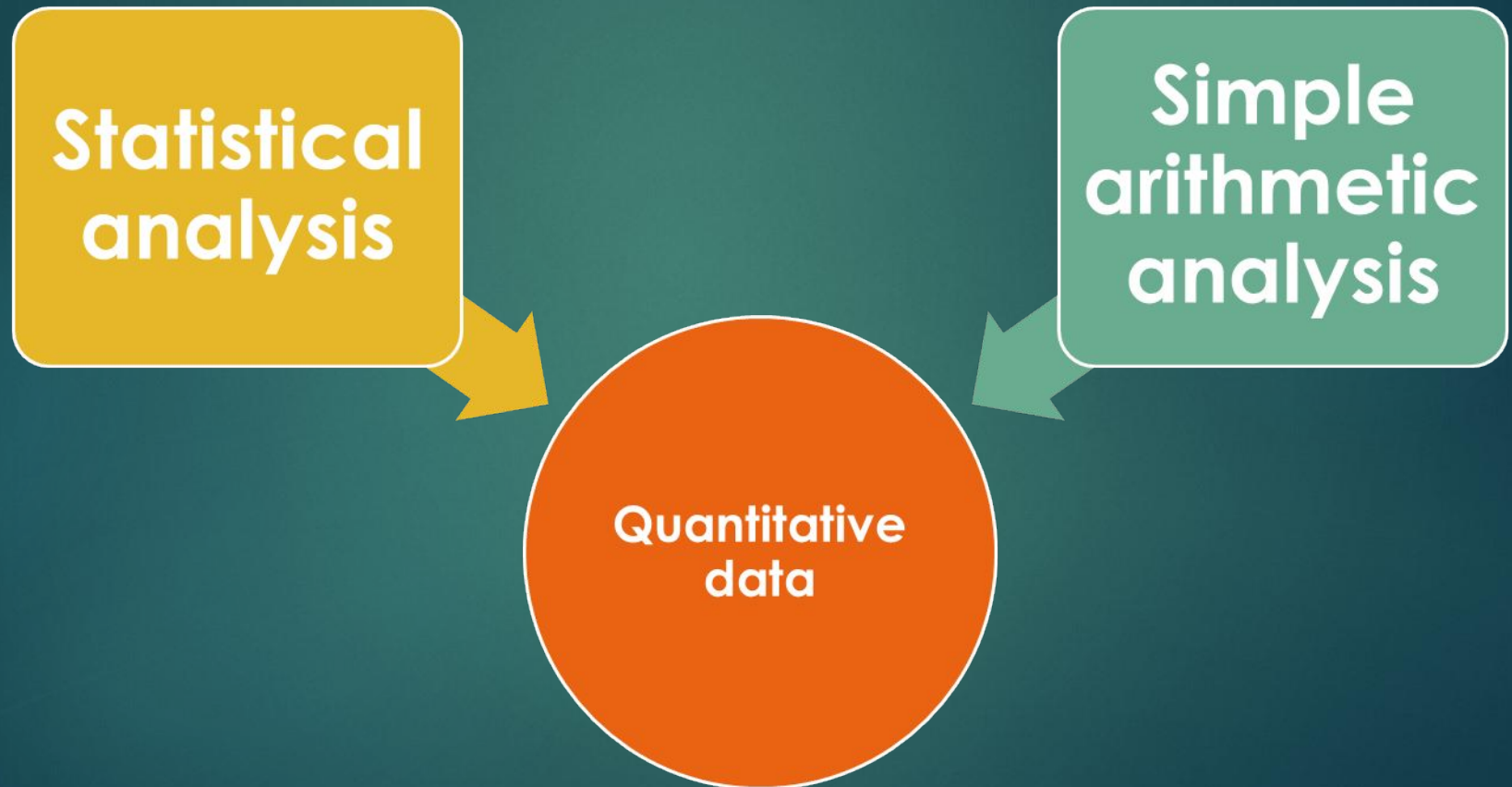
Questionnare

Interviews

Observations

Experiments

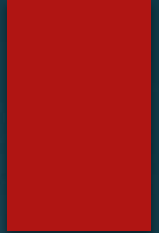# TWP-Investigation-Sampling

- For primary data, choose research participants carefully.

- Your questionnaire must measure what it is intended to measure.

- Define your target population.

- Draw a representative sample out of it if it is too large.

- There can be two sampling methods

TWP- Investigation-Data analysis

Statistical analysis

Simple arithmetic analysis

Quantitative data

TWP- Investigation-Data Analysis

➤ Data have to be processed.

➤ Analyze data and extract relevant information and find answers to the research questions.

➤ Separate main ideas from supporting evidences and details.

➤ Assign headings to related information.

➤ Be objective and unbiased.

TWP- Investigation-Data Analysis-Secondary data

You can use information from secondary sources in three ways:

1. Quote a source (use quotation marks/indented paragraphs for longer passages)

2. Paraphrase the material and mention the source

3. Summarize-present the gist of the material in your own words (give main ideas leaving out supporting information)

TWP-Investigation-Statistical analysis

➤ Use statistical software

➤ Simple arithmetic analysis can also be done, like, mean, median, mode, percentages, frequency

➤ Analyze the data to spot trends-any repeatable patterns taking place over time, including growth, decline, and cyclic trends

➤ Analyze causation (cause and effect relationship between 2 factors/variables)

➤ Correlation (simultaneous change in 2 variables that you are measuring such as customer satisfaction drops when product reliability drops)

TWP- The Road Map

- ► Arrange key facts and citations from the literature into a crude road map/outline BEFORE writing the first draft.

- ► Think in paragraphs and sections.

TWP- The Road Map

Write on the go!

- ➤ Work with take-home messages

- ➤ Organize your paper

- ➤ Visual aids for the collected data is suggested.
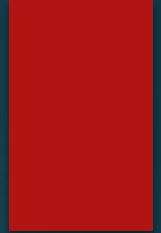
TWP- The Road Map-Compositional Organization

- Similar ideas and paragraph should be grouped.

TWP-Drafting

- ➤ Don't be a perfectionist!

- ➤ The goal of the first draft is to get the ideas in complete sentences in an/a order/sequence.

- ➤ Writing the first draft is the hardest step for most people. Minimize the pain by writing the first draft quickly and efficiently!

TWP-Revision & Editing

- ► Read your writing out loud
  - ► The brain processes the spoken word differently than the written word!
- ► Edit for Style (SCOPE)
- ► Do an organizational review
  1. In the margins of your paper, tag each paragraph with a phrase or sentence that sums up the main point.
  2. Then move paragraphs around to improve logical flow and bring similar ideas together.

TWP-Revision & Editing

- Get outside feedback
  - Ask someone outside your department to read your manuscript.
  - Without any technical background, they should easily grasp:
    - the main findings
    - take-home messages
    - significance of your work
  - Ask them to point out particularly hard-to-read sentences and paragraphs!