

# Introduction to Technical Writing





# Technical Writing

## Agenda

- Technical Writing Overview
- Evaluating thesis statements
- Types of Engineering Documents

All good writing begins with  
terrible first efforts

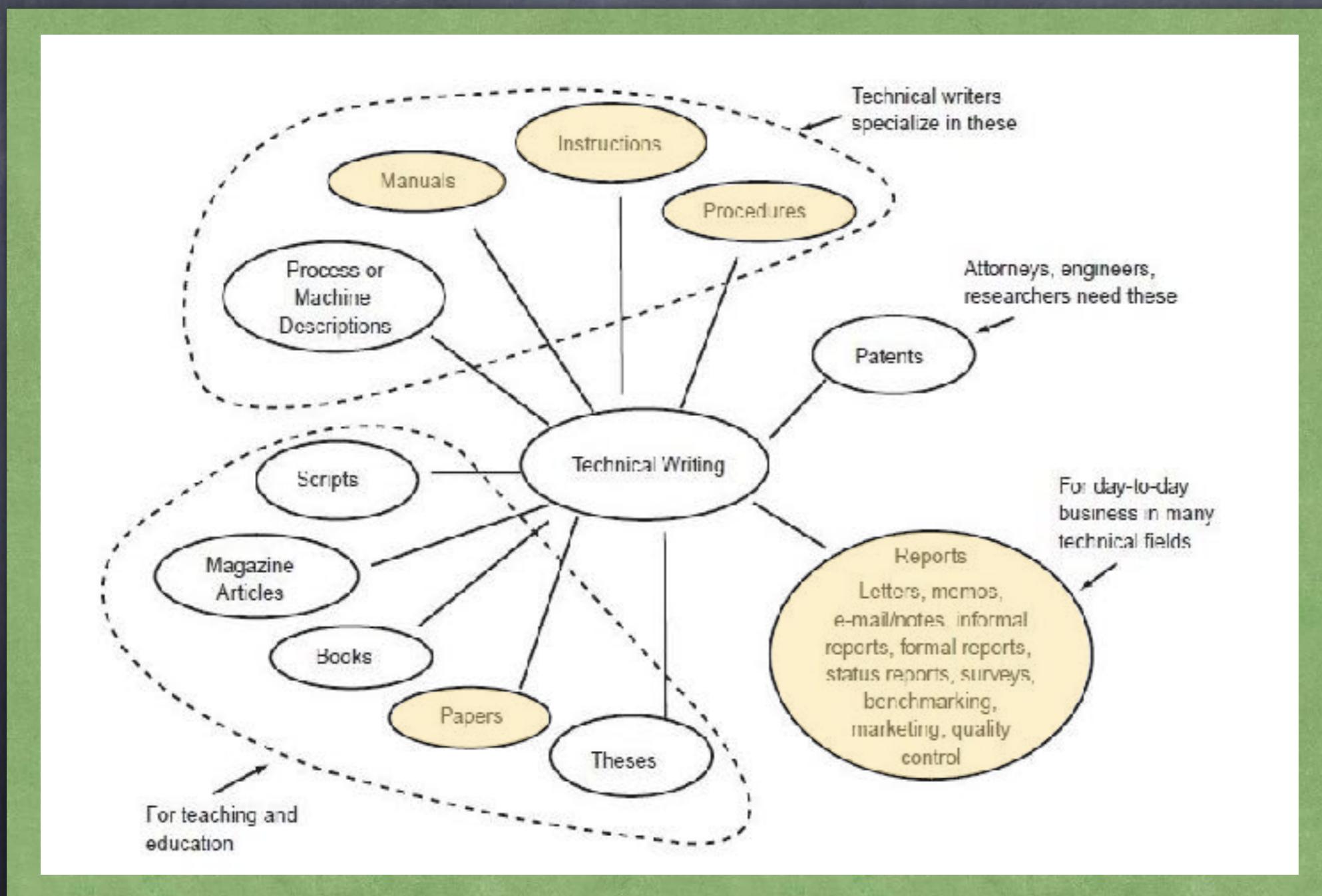


You need to start  
somewhere

# What is technical writing?

- Technical writing is writing that is done for the purpose of **educating**, **informing** or **directing** someone on how to do something
- It is often very **detail-oriented** and usually involves writing within fields where some advanced knowledge is required

# Types of technical writing



# General Writing

- General writing is a form of writing that is done for the purpose of expressing thoughts, emotions, personal experiences of the author

# Comparison

	TECHNICAL WRITING	GENERAL WRITING
<b>CONTENT</b>	<i>FACTUAL &amp; STRAIGHT- FORWARD</i>	<i>IMAGINATIVE</i>
<b>STYLE</b>	<i>STANDARD STRUCTURED FORMAT</i>	<i>INFORMAL, ARTISTIC NON-STRUCTURED FORMAT</i>
<b>PURPOSE</b>	<i>TO INFORM &amp; PERSUADE</i>	<i>TO ENTERTAIN &amp; CAPTIVATE</i>
<b>TONE</b>	<i>OBJECTIVE</i>	<i>SUBJECTIVE</i>
<b>VOICE USED</b>	<i>ACTIVE, USES 3RD PERSON</i>	<i>USES 1ST PERSON</i>
<b>VOCABULARY</b>	<i>SPECIALIZED</i>	<i>EVOCATIVE</i>
<b>AUDIENCE AVAILABLE</b>	<i>SPECIFIC</i>	<i>GENRAL</i>

# Similarity

- Both writings are used for engaging the reader
- Both writings must be free from grammatical errors

# Common Engineering Documents

- Inspection or trip reports
- Research, laboratory, and field reports
- Specifications
- Proposals
- Progress reports
- Instructions
- Recommendation and feasibility
- Reports

# Document Considerations

- Don't obsess over the names of reports
- Find out your company's requirements
- Think about content and organization
- Carefully craft with the report introduction



There are no secrets to **success**

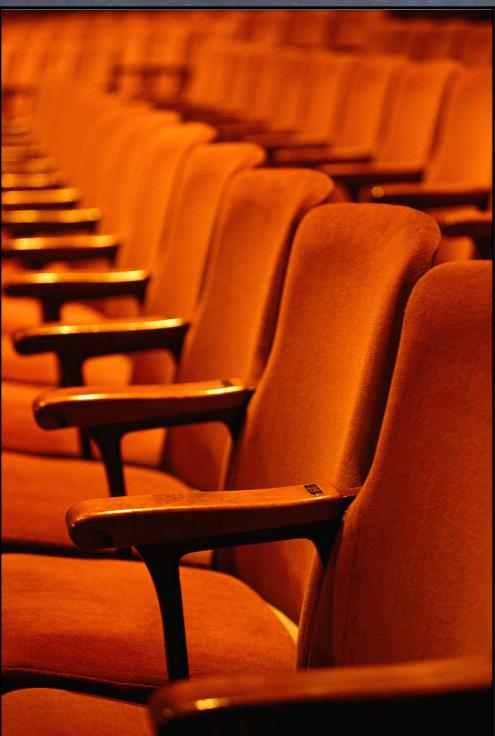
It is the result of  
**preparation, hard work,**  
and **learning from failure.**

Collin Powell

# Getting Started



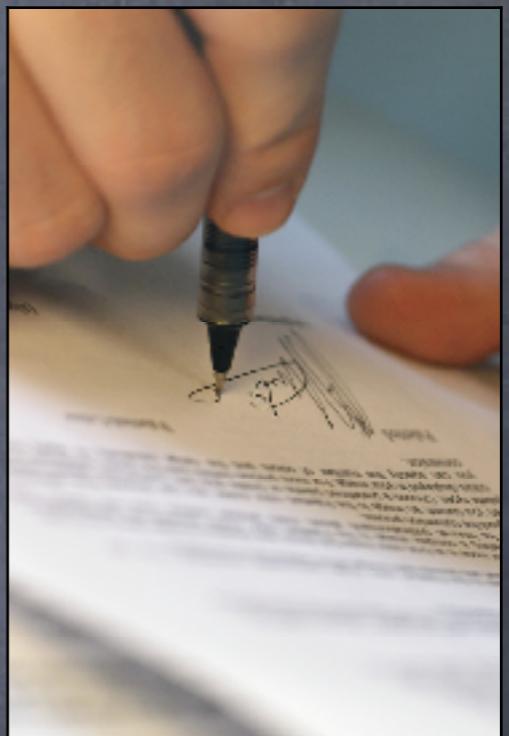
Topic



Audience



Purpose



Thesis

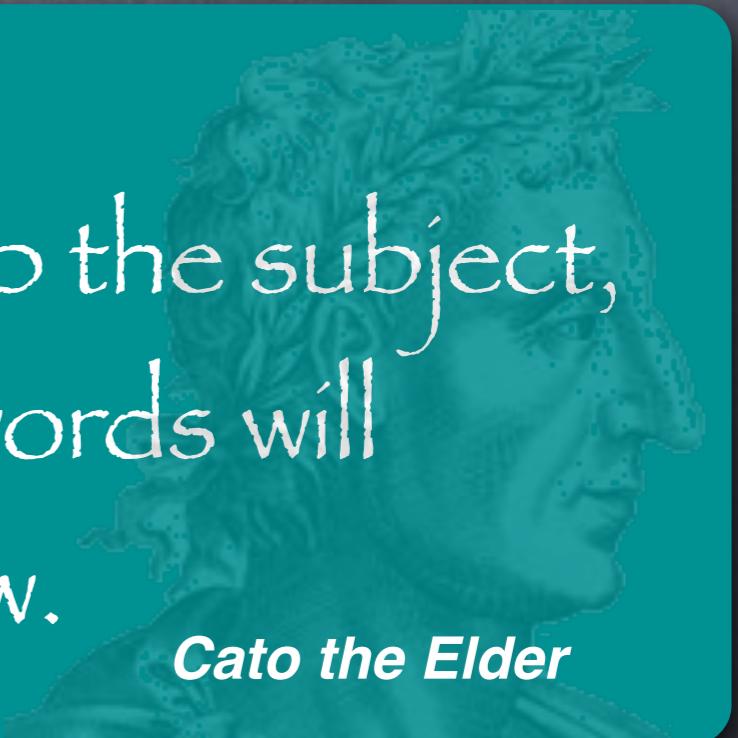
# Selecting a Topic

- Subjects are broad areas of knowledge
- Topics are specific aspects of subjects

“

Grasp the subject,  
the words will  
follow.

*Cato the Elder*



# Selecting a Topic

- Topics will sometimes be assigned to you in your career (Give an overview of Project X)
- Other times you may have to choose your topic

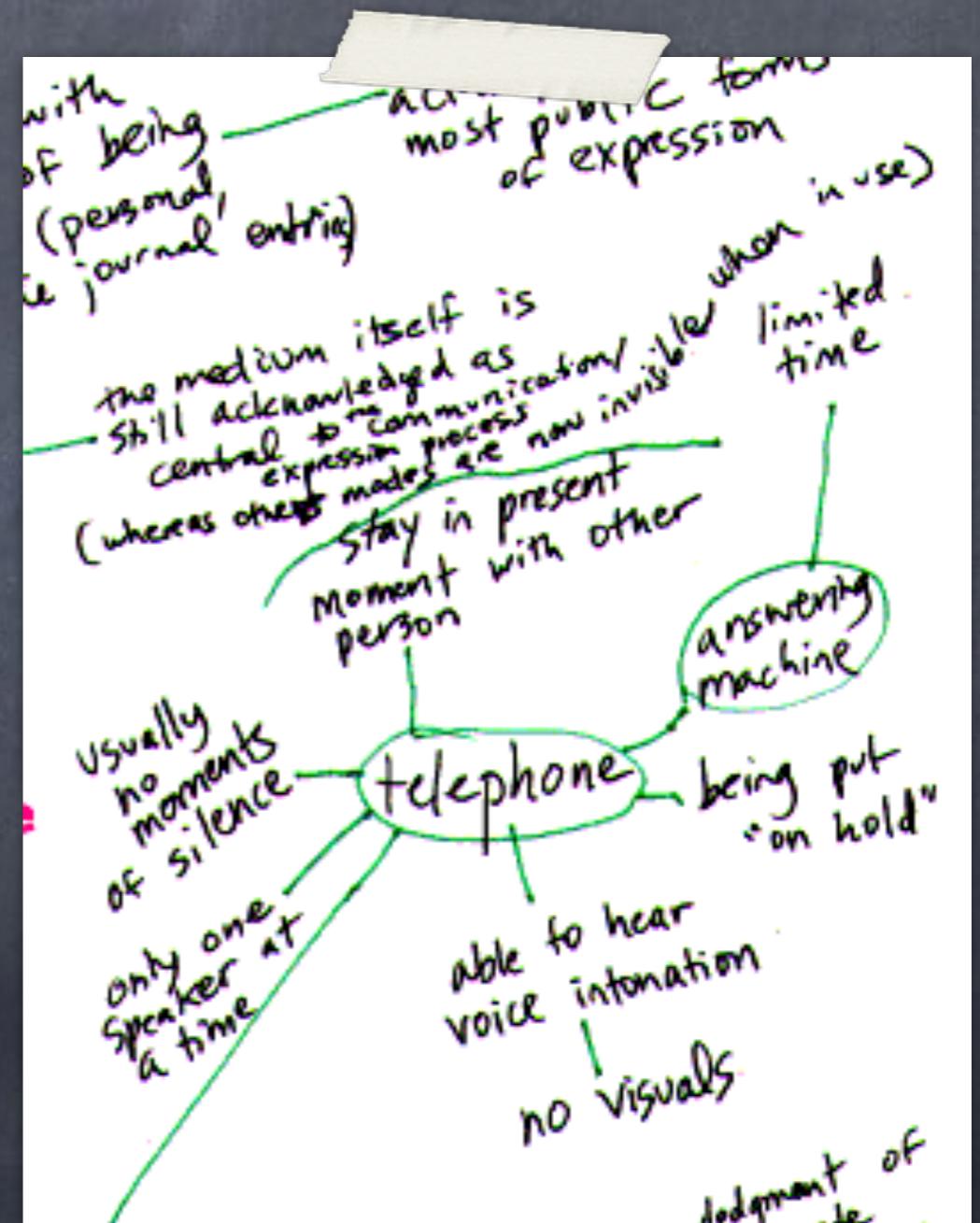
# Brainstorming

## First Phase

- List ideas without evaluation, the more the better
- Explore tangents

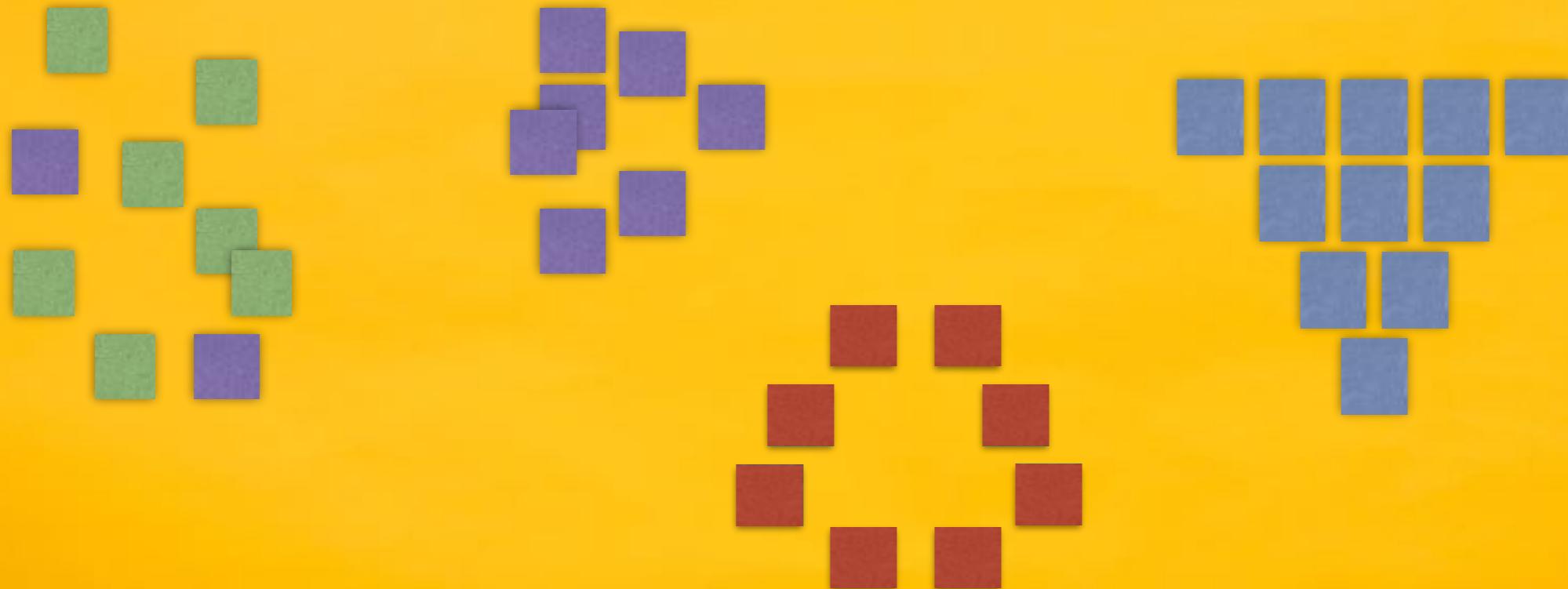
## Second Phase

- Group Ideas
- Condense
- Eliminate



# Brainstorming

- Silent Brainstorming
- Group Brainstorming



# The post-it note method





# The post-it note method



# The powerpoint method



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Technical Writing  
Agenda

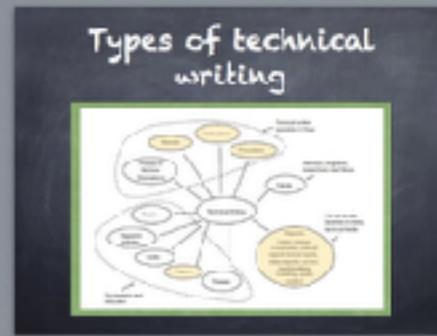
- Technical Writing Overview
- Technical Report Memo

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General Writing

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	TECHNICAL WRITING	GENERAL WRITING
CONTENT	FACTUAL & STRONG FOCUS	EMOTIONAL
STYLE	STANDARD STRUCTURED FORMAT	UNSTRUCTURED, INDIVIDUALIZED, PERSONALIZED FORMAT
PURPOSE	TO INFORM & INSTRUCT	TO ENTERTAIN & CONVICT
TONE	PROFESSIONAL	PERSONAL
VOICE/VERB	ACTIVE, PRECISE, PROFOUND	IDEAS OF PROFOUND
VOCABULARY	SPECIFIC	GENERAL
GLOSSARIES	AVAILABLE	NONE

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Similarity

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There are no secrets to **SUCCESS**  
It is the result of **preparation, hard work, and learning from failure.**  
Collin Powell

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Getting Started

- Topic
- Audience
- Purpose
- Thesis

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Selecting a Topic

- Subjects are broad areas of knowledge
- Topics are specific aspects of subjects

CC  
Group the subject,  
the words will  
follow.  
Dale Carnegie

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Selecting a Topic

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Brainstorming

First Phase

- List Ideas without evaluation, the more the better
- Explore tangents

Second Phase

- Group ideas
- Condense
- Eliminate

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# Analyzing the Audience

- Age
- Education
- Gender
- Language
- Occupation
- Ethnicity
- Religion
- Socio-Economic Background
- Knowledge of Subject
- Attitude towards Subject

# Using Audience Analysis Data to Forecast Reactions

- Audience knowledge
- Audience interest
- Audience understanding
- Audience attitude toward your subject
- Audience attitude toward You the speaker

# Audience Considerations



Peers



Management



Clients

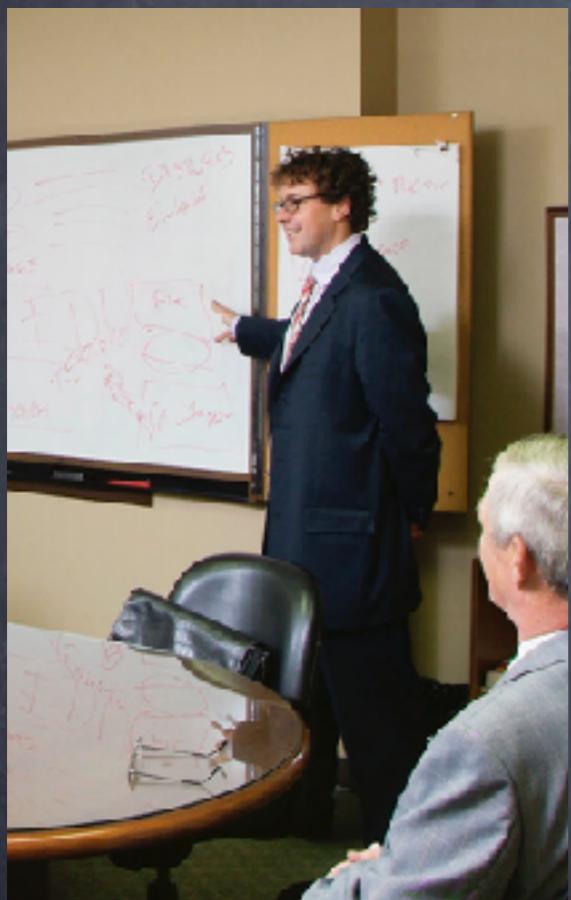
# Audience Considerations



Peers

- Prior knowledge of
  - topic/project/proposal
  - field knowledge
  - specialized engineering area

# Audience Considerations



- Sufficient details without overwhelming their knowledge level
- Knowledge of engineering jargon and terms
- Distilling the executive summary

# Audience Considerations

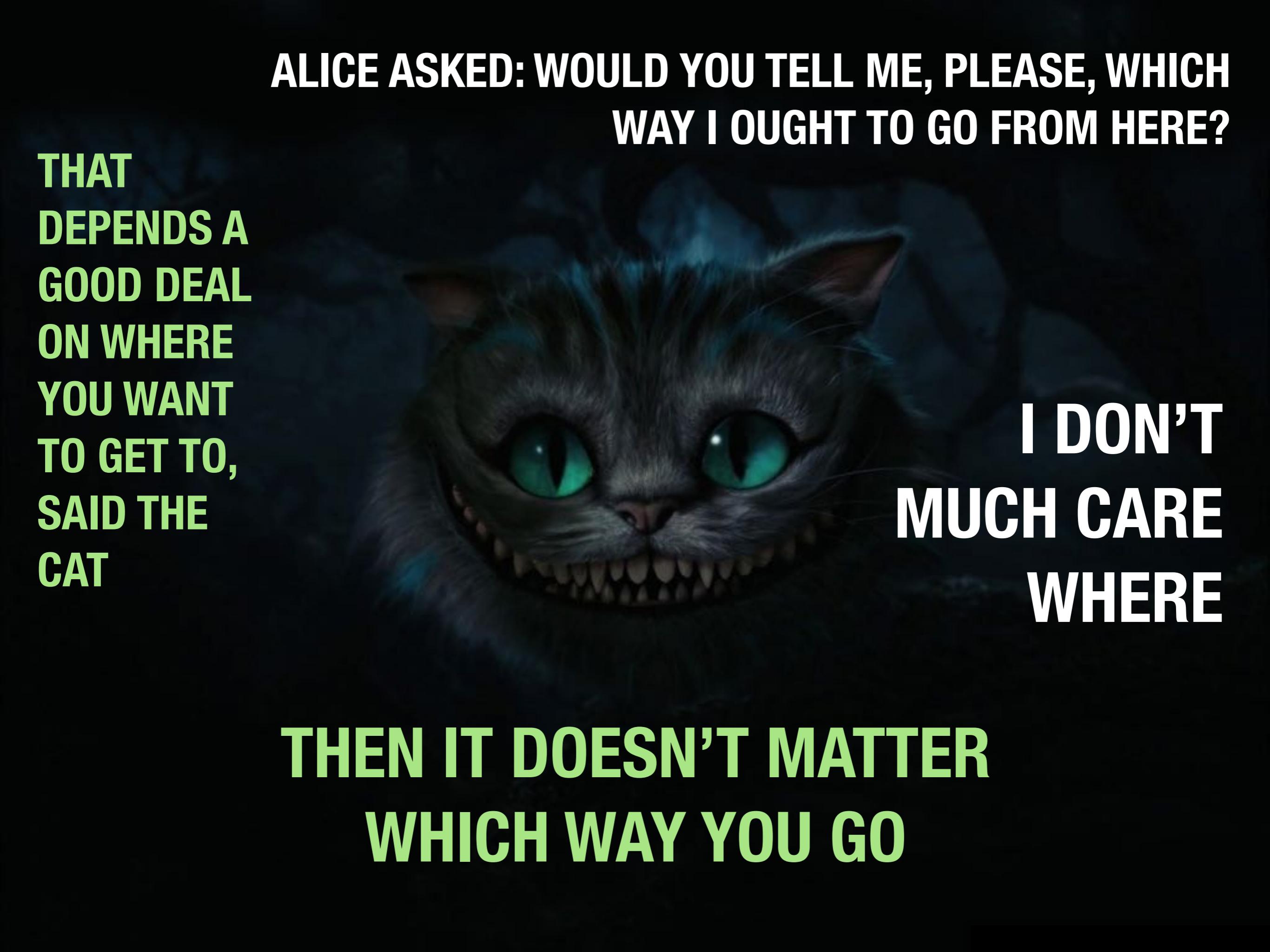


Clients

- Addressing their primary concerns
- Avoiding engineering speak

# Defining your purpose

- What do you want the audience to learn or do?
- If you are making an argument, why do you want them to agree with you?
- If they already agree with you, what is your writing goal?
- How can your audience benefit from what you have to present?



ALICE ASKED: WOULD YOU TELL ME, PLEASE, WHICH  
WAY I OUGHT TO GO FROM HERE?

THAT  
DEPENDS A  
GOOD DEAL  
ON WHERE  
YOU WANT  
TO GET TO,  
SAID THE  
CAT

I DON'T  
MUCH CARE  
WHERE

THEN IT DOESN'T MATTER  
WHICH WAY YOU GO

# Developing your thesis

## • Thesis Statement

Single statement  
that outlines the  
specific  
elements of the  
document or  
speech  
supporting the  
goal statement

“ If you can't write  
your message in  
a sentence, you  
can't say it in an  
hour

*Dianna Booher*

# Developing your thesis

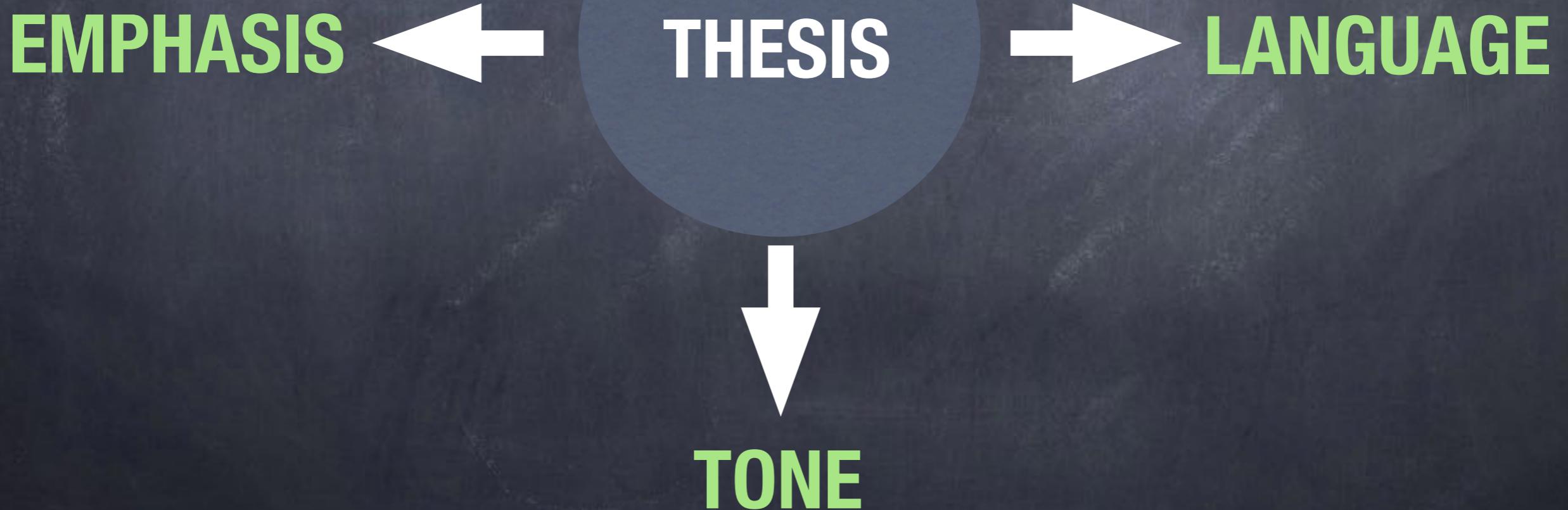
- The thesis sets up your entire document or speech for the audience (e.g. the roadmap)
- Collect and organize your ideas on the topic, then write your thesis
- All your main points should support the thesis

# Writing the Thesis

- Does this document or speech list a specific number of main points?
  - If no, Identify and list specific ideas for audience to understand
- Review list and group items
- Select 2 to 5 items
- Write a thesis statement the identifies your topic and previews main ideas

# Writing the Thesis

MAIN POINTS



# Sample Thesis Statements

## Analytical

- An analysis of the college admission process reveals one challenge facing counselors: accepting students with high test scores or students with strong extracurricular backgrounds.

# Sample Thesis Statements

## Explanatory

- The life of the typical college student is characterized by time spent studying, attending class, and socializing with peers.

# Sample Thesis Statements

## Argumentative

- High school graduates should be required to take a year off to pursue community service projects before entering college in order to increase their maturity and global awareness

**BLOTT**

**Bottom Line On Top**

## Memo

To: Department Heads  
From: Debora Lynn  
Date: December 10, 2006  
Subject: Annual Bonus Leave for Employees with Outstanding Performance

Starting January 1, we will introduce the following modification in our company policy with regard to annual leave: every year one employee from each department will be awarded special annual bonus leave for outstanding performance.

The eligible employees will have additional five (5) days of annual leave credited on January 15. The bonus leave will be accounted for separately and will remain available until used, notwithstanding any other limitation of the total number of days of annual leave that may be carried forward.

We will have a meeting on December 15 at 10:00 a.m. to discuss the results of the 2006 performance evaluation and approve the final list of employees eligible for the bonus. The announcement to the employees will follow the meeting. If you have any questions or comments, please let me know before the meeting.

# Bottom Line On Top

- Most important information in first paragraph
- Setups rest of the document

# BLOT

- A solid BLOT = Successful document
- More than just the thesis
- Helps the reader understand the rest of the document

# KISS

Keep It Simple Stupid

# KISS Principle

- Avoid
  - run-on sentences
  - Unclear pronoun references
- Short and simple sentences are best
- Beware of jargon and unknown acronyms

A photograph of a thick stack of engineering documents. The pages are numerous, tightly packed, and exhibit a variety of colors including red, blue, green, yellow, and white. The stack is held together by a large, metallic pink and gold three-ring binder. The perspective is from the side, showing the depth of the paper pile.

# Engineering documents

# Inspection and Trip Reports

- Also known as site reports, accident reports, investigative reports

Introduction

Background

Factual discussion

Actions taken

Interpretive,  
evaluative, or  
advisory discussion

# **Research, Laboratory, and Field Reports**

**Introduction**

**Background**

**Literature review**

**Theory, method, procedure, and equipment**

**Observations, data, findings, and results**

**Conclusions**

**Implications and further research**

**Information sources**

# Proposals

## Types

- solicited
- unsolicited
- external
- internal

Introduction

Background: need, opportunity

Proposed project

Description of the project

Benefits, feasibility

Method, approach

Qualifications (proposer's)

Schedule

Costs

Conclusion

# Progress Reports

Introduction

Project description

Progress summary

Time periods

Project tasks

Combinations

Problems encountered

Changes in

requirements

Overall project

assessment

Conclusion

# Instructions (Operating Procedures)

## Content, style:

- Task orientation
- Notices (note, caution, warning, danger)
- Writing style (imperatives, 2nd-person)

## Format issues:

- Headings
- Bulleted and numbered lists
- Illustrations

# Recommendation + Related Reports

- Recommendation reports
- Evaluation reports
- Feasibility reports
- Proposals (often viewed as this category of report)

# Recommendation report: Structure

Introduction

Background: problem,  
opportunity

Requirements

Technical background

Description of the options

Point-by-point  
comparisons

Summary table

Conclusions

Recommendation

Information sources