INTRO TO TECHNICAL COMMUNICATION

Joseph Montgomery
Winter 2019
LET'S START WITH LANGUAGE
Thought

Electrical/chemical signals

Muscle movement

Communication

Changes in air pressure (vibration)

Differences in light frequency and/or intensity

Thought

Electrical/chemical signals

Activation of sensory organs
All communication has purpose, audience(s), and constraints.
Consider familiar genres of communication: Who are their audiences, and what are their purposes? How do these audiences and purposes impact the conventions of these genres?
Technical communication is communication that serves a particular set of purposes for a particular set of audiences, under a particular set of restraints.
What are potential purposes of technical communication?
Who are potential audiences of technical communication?
Under what constraints does technical communication operate?
How do you define technical communication?
Given the particular audiences and purposes for which technical communication occurs, we can say that effective technical communication has certain characteristics.
AUDIENCE-CENTERED

• Addresses a variety of readers with varying knowledge and backgrounds
• Provides summary information for decision-makers and detailed information for specialists
• Is read selectively by different readers for different purposes
PROBLEM-ORIENTED

• Achieves project, job, and career goals
• Shares information on work being done or work to be done
• Includes specific, effective evidence to support claims
• Uses tables and graphs, as appropriate
RESPONSIBLE & ETHICAL

• Discloses purpose and scope in introductory material
• Might create legal liability
• Conveys accurate and complete information
• Attributes authorship and responsibility
MULTI-CHANNELED

• Follows genre conventions and meets audience expectations
• Is accessible by multiple audiences in multiple places
• Makes use of technology
EASY TO READ

• Organizes information logically
• Makes appropriate formatting and language choices
• Uses efficient wording
• Uses consistent wording
• Uses language appropriate to audience’s prior knowledge
• Is free of grammatical and typographical errors
Effective technical communication also considers human factors.
LIMITS OF PERCEPTION

• Font size, type (e.g., serif or sans serif), and style (bold, italics, etc.)
• Line length (10-12 words per line)
• Justification (body text should be left-aligned with ragged right margins)
• Tables and graphics that show data and allow for comparison and contrast
LIMITS OF MEMORY

• Repetition
• Chunking
• Highlighting
• Foreshadowing
• Referring back
• Integrating figures and tables
LIMITS OF READING SPEED, TIME, AND COMPREHENSION

• Headings and subheadings
• Numbered sections
• White space
• Formatted lists (numbered and bulleted)
• Running headers, footers, and page numbers
Thought
Electrical/chemical signals
Muscle movement

Communication
Changes in air pressure (vibration)
Differences in light frequency and/or intensity

Thought
Electrical/chemical signals
Activation of sensory organs
Effective technical communication utilizes formatting to convey information.
FORMAT is inFORMATION design.
Alex Barber lives at 404 Charles St. Christine Diamond lives at 711 Pearl St.
Edmund Fitzgerald lives at 81 Cross St. Gianna Hammond lives at 43 Washtenaw Avenue.
Isaac Jacobs lives at 52 Charles St. Kyle Miller lives at 1500 Pearl St.
Nancy O’Rourke lives at 503 Charles St. Peter Riley lives at 72 Washtenaw Avenue.
Sarah Tyler lives at 42 Charles St. Uther Van Andel lives at 800 Cross St.
Wallace Xavier lives at 1432 Charles St. Ywain Zapata lives at 630 Cross St.
<table>
<thead>
<tr>
<th>First</th>
<th>Last</th>
<th>Add.</th>
<th>Street</th>
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<tbody>
<tr>
<td>Alex</td>
<td>Barber</td>
<td>404</td>
<td>Charles St.</td>
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<tr>
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<td>Pearl St.</td>
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Radius

2x
APPLES
Bananas
Kiwi
Oranges
Pineapples
STARFRUIT
Tangerines
Pears
Level 1  1  APPLES
Level 2  1.1  Bananas
Level 3  1.1.1  Kiwi
Level 3  1.1.2  Oranges
Level 2  1.2  Pineapples
Level 1  2  STARFRUIT
Level 2  2.1  Tangerines
Level 2  2.2  Pears
Genre conventions are systems of standardization within particular communities that allow for more efficient and effective communication.
Finally, effective technical communication generally uses the most concrete language available.
Level Four: Abstractions
life, beauty, love, time, success, power, happiness, faith, hope, charity, evil, good

Level Three: Broad Group Names
people, men, women, young people, everybody, nobody, industry, we, goals, things, television

Level Two: More Definite Groups
teen-agers, middle-class, clothing industry, parents, college campus, newborn child, TV comedies, house plants.

Level One: Specific, Identifiable Nouns
Levi 501 jeans, my three-bedroom house on Hollis Street, In Living Color, Apple commercials, African violets, Tina’s newborn sister, Mina
“Technology is very important in today’s society.”
At what level(s) of abstraction are the nouns “technology” and “society”? 
How could you rewrite the sentence to make it more concrete?

Consider the adjective as well as the nouns.
MEMO • RAN • DUM

a report, usually internal to the company, that provides a formal record of your work and serves as the building block for other types of reports; the memorandum is one genre of writing

BUT WHAT IS A GENRE?
in technical communication, the conventions and expectations people have for different types of communication, which are chosen for the actions they are used to accomplish
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an act of communication ... in an organizational system to transfer information necessary for the system to continue to function; it is both informative & persuasive and is characterized by its usefulness, clarity, and use of concrete language


Some ideas adapted from E. Hildinger’s An introduction to technical communication: Importance and qualities [unpublished slide deck].
IMPLICATIONS OF THE DEFINITIONS

memos, one genre of technical & professional communication, are tools people use to accomplish tasks.
Readers of technical communication have an interest, or a stake, in its contents.  

**interest = participation in advantage or responsibility**

in other words, readers usually have something to gain or lose, related to their own tasks and responsibilities, from reading your reports.
A WORD ABOUT READERS

Each piece of technical communication has multiple readers.

Even communications composed originally for one reader can be forwarded or saved for documentation.
Readers of technical communication each have a different stake in its contents. Each reader has his or her own task to accomplish, and will thus read with a unique purpose and strategy.
Memos, one genre of technical & professional communication, are tools people use to accomplish tasks. Memos, like all such tools, are most useful and effective when they meet people’s expectations for them: when they follow convention.
To: Sample Recipient(s), Title(s)  
Department within Organization

From: Sample Author(s), Title(s)

Subject: This line should include detailed information about the memo’s contents using sentence capitalization

Date: Month Day, Year

Foreword
The foreword is the first introduction readers have to your document, and it establishes the memo’s context by providing readers with a one-paragraph overview of the situation that prompted the need for the report and of the memo’s contents. To do so, it contains three types of information: a problem statement, a task statement, and a purpose statement. These answer the questions “What’s the trouble?”; “What were you supposed to do about it?”; and “What’s this report for?”

Summary
The summary, similar to a conclusion, continues the overview by summarizing (thus the name summary), in one paragraph, the most important information in memo’s body. To do so, it begins with an action statement, and then reports your main findings and the implications of those findings, and concludes with your recommendations (if applicable). These answer the questions “What actions did I take?”; “What were the findings or results of these actions?”; “What do my findings/results mean?”; and “What, if anything, should be done?” Together, your foreword and summary should not extend beyond the first page of your memo.

Discussion
The discussion is the body of the memo and contains details for more specialized readers. It begins with an introductory paragraph (more than one, if necessary) that re-establishes the memo’s context for those readers who may have skipped the foreword and summary. The introduction should end with a forecasting statement (one that outlines for readers what they will read about in the rest of the memo).

A discussion may provide more background about the situation (context), and it does provide more details about your task(s), your actions, your findings and their implications, and your recommendation. (Everything you summarized in the summary—and more—is covered in the discussion in more detail.) Depending on the subject of the memo, this may take several pages and is broken up topically into subsections, each with its own descriptive heading.
Memos headers convey information about the reader(s) and their positions, the author(s) and their positions, the memo contents, and the date of the report.
A WORD ABOUT MEMO CONVENTIONS

Memos begin with introductory material that set the context and provide an overview for readers who want to know the big picture and/or need only generalized information. One way to do this is through a foreword and summary.
The situation within which something exists or happens, and that can help explain it. From Latin contextus, from con- ‘together’ + texere ‘to weave’. You can think of context as the thread connecting the current document to previous communication (emails, conversations, other memos).

https://dictionary.cambridge.org/us/dictionary/english/context
A WORD ABOUT MEMO

CONVENTIONS

The foreword establishes context.

the problem statement describes the organizational problem, or the subject, of the report and answers the question, “What’s the trouble?”

the task statement describes your job with regard to the problem and any criteria (standards) or constraints (limiting conditions) you needed to work within; it answers the question “What was I supposed to do about it?”

the purpose statement states the purpose of the report and answers the question, “What is this report for?”
The problem statement describes the problem or opportunity to which the memo responds. The request for the memo could indicate what the problem or opportunity is.

Our client, Fine Line Automotive, has asked us to conduct a life-cycle analysis of their current engine design. However, the costs of some of the engine components have not yet been estimated.
The task statement tells the reader what you were asked to do and/or what you did.

Therefore, our working group has conducted a thorough economic evaluation based on the cost estimates from our component suppliers.
The purpose statement tells the reader what they can expect to get out of reading the memo.

We are writing to report the results of our evaluation and recommend that these numbers be used in the life-cycle analysis.
Our client, Fine Line Automotive, has asked us to conduct a life-cycle analysis of their current engine design. However, the costs of some of the engine components have not yet been estimated. Therefore, our working group has conducted a thorough economic evaluation based on the cost estimates from our component suppliers. We are writing to report the results of our evaluation and recommend that these numbers be used in the life-cycle analysis.
Environmental Testing Facilities needs to provide accurate testing results to our clients. However, achieving this goal is impossible without properly calibrated equipment. **To ensure proper calibration on the binary diffusivity station, on 17 September** you asked us to ensure accurate measurements of the air velocity above the capillary component by calibrating the air rotameter. This memo presents the calibration results with emphasis on identifying linearity, reproducibility, and potential uncertainties in calibration.

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The summary presents the most important details and acts as the report’s conclusion.

the action statement describes the main actions you took and answers the question, “What did you do?”

the main findings or results of your project are stated and answer the question, “What were the findings or results of these actions?”

the implications of your findings answer the question, “What do these mean?”

the recommendations (if applicable) answer the question “What, if anything, should be done?”
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The main details of the report are in the memo body, sometimes called the discussion. This is for readers who need more than an overview. It will repeat all of the information in the foreword and summary while providing more information and uses forecasting and subheadings to help readers locate information.
Headings:
The discussion may be called “Discussion,” but it also may use a main level heading more descriptive of its contents. (It may consist of more than one main level section as well, such as “Procedure” and “Findings.”)

Introduction:
Conventionally, the discussion’s first paragraph (or first few paragraphs) re-establishes the context for readers who may have skipped the foreword and summary. It would end with a forecasting statement.

Discussion
The discussion is the body of the memo and contains details for more specialized readers. It begins with an introductory paragraph (more than one, if necessary) that re-establishes the memo’s context for those readers who may have skipped the foreword and summary. The introduction should end with a forecasting statement (one that outlines for readers what they will read about in the rest of the memo).

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Subheadings:
Topical subheadings would be used following the discussion’s introductions.
memos, one genre of technical & professional communication, are tools people use to accomplish tasks.

memos, like all such tools, are most useful and effective when they meet people's expectations for them: when they follow convention as the building blocks for other types of reports, memos can both simultaneously act as more than one genre and serve as an organizational basis for other types of genres.

**IMPLICATIONS OF THE DEFINITIONS**
COMMON MEMO GENRES

proposals
lab reports
progress reports
short research reports
What is the institutional problem or opportunity?
What is your task?
What’s your plan for starting this assignment?
Thanks to Dr. Erik Hildinger, Dr. Rhonda McCaffery, Dr. Karen Springsteen, and Professor Mary Jane Northrop for providing material used in this slide deck.