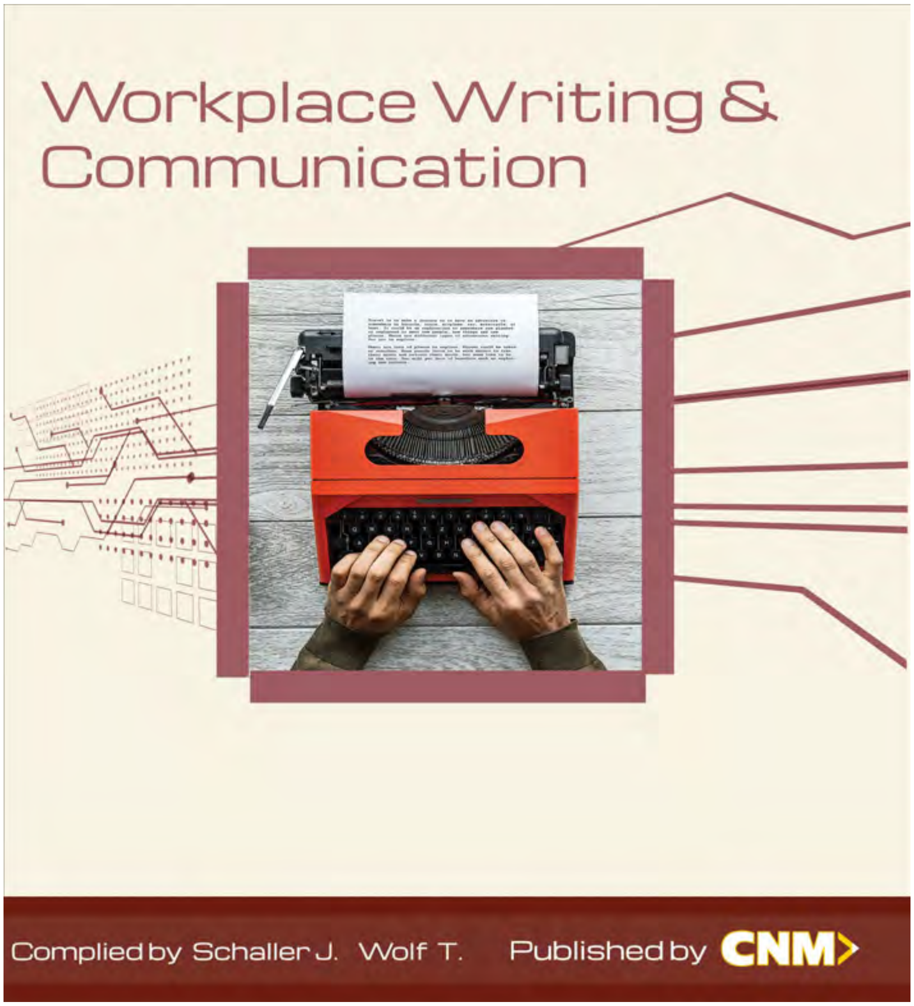
English 1210



Register

ENG1119 Technical Writing Table of Contents

Chapter 1: What is Technical Communication and Technical Writing?

You may be wondering how technical writing or technical communication differs from everyday writing, and we will explore the similarities and differences throughout this course, which uses free and openly licensed textbooks as a guide. One of the free and open textbooks we are using for this course is Technical and Report Writing created by Bay College Online Learning Department, and this book will be the tool we use to understand more about technical writing and communication. Other open access textbooks will also be used throughout the course, and you can locate more information about each book in the attributions at the end of their respective chapters. These sources explain that the field of technical communication is essential in a wide range of fields and occupations; it is a fully professional field with degree programs, certifications, and—yes!—even theory. Technical writing and workplace communication is a broad field with a significant amount of growth and income potential.

Technical writing is an audience-centered means of communication that provides a reader with clear and easy access to information. In the business world, time equates to profit, and profit is the force behind all business interaction. The technical writer and reader have a vis-à-vis relationship. The writer recognizes, respects, and addresses the importance of time in effective and efficient communication; as such, the writer provides documents written in detailed and specific formats, using clear language to send concrete information. The reader, in turn, should understand and analyze the information to give a thoughtful response.

What is Technical Communication?

//www.youtube.com/embed/Fi5eZ2XLJc4?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Technical Communication This video shows several common, everyday forms of technical communication.

The Meaning of "Technical"

Technical communication—or technical writing —is not limited to writing about a specific technical topic such as computers but about any technical topic. The term "technical" refers to knowledge that is not widespread, that is more the territory of experts and specialists. Whatever your major is, you are developing an expertise—you are becoming a specialist in a particular technical area. And whenever you try to write or explain something about your field or workplace, you are engaged in technical communication.

Academic Writing Versus Technical Writing

Technical writing requires a definite purpose, strict format, and use of appropriate language, which differentiates workplace communication and academic writing. The academic writer's purpose may be to write an assignment, a story, a letter, or a poem. These works may or may not have a defined reader beyond the instructor. However, technical writing is created with a definite purpose and assumes there will be a reader. Regardless of the number of the intended readers, some of whom may not read the document, technical writing always has a primary reader.

Workplace Writing

However, the focus for this technical communications course is not necessarily to prepare students' careers as technical writers, but to introduce students to the kinds of practical writing skills necessary for a technically-oriented, professional job. No matter what sort of professional work you do, you're likely to do a significant amount of writing—and much of it will be technical in nature. The more you know about basic technical-writing skills, the better your writing. And that will be good for the projects you work on, for the organizations you work in, and—most of all—good for you and your career.

Considerations of Technical Documents

There are key components of what makes a document strong. Therefore, writers keep these items in mind while constructing technical documents.

1) The Importance of Audience

Another key part of the definition of technical communication is the receiver of the information—the audience. Technical communication is the delivery of technical information to readers (or listeners or viewers) in a manner adapted to their needs, level of understanding, and background. In fact, this audience element is so important that it is a cornerstone of this course: you are challenged to write about technical subjects but in a way that a beginner—a non-specialist—could understand. This ability to "translate" technical information to non-specialists is a key skill to any technical communicator. In a world of rapid technological development, people are constantly falling behind.

Technology companies are constantly struggling to find effective ways to help customers or potential customers understand the advantages or the operation of their new products.

Not only is the the level at which you write important but so are the language choices you make. While you don't have to write about computers or rocket science—you will learn to communicate clearly. Your goal is to learn strategies that allow you to write in a way that even Grandad can understand!

2) Formatting and Language

Figure 1: Image of Textbook. Authored by: Dominik Wagner. License: CC BY: Attribution

Formatting and appropriate language are the basic design elements of all technical documents. A format that shows a hierarchical structure and a coordinate structure of information leads the reader through text. Readers should be able to identify a writer's organizational pattern quickly when reading a technical document. This sometimes refers to a document being "reader friendly." In addition, using appropriate language is significant in providing the reader with a thorough understanding of the purpose of the document, how the document relates to the reader's needs, and what action is expected of the reader.

A document may also have one reader (the primary reader) or several readers (the secondary readers). A primary reader is the person who ordered the report to be written or the person for whom a report is intended. These readers will usually read the entire report. Secondary readers are those readers who will read only the sections of the report that relate to them, their jobs, their departments, responsibilities, etc. For example, if a report was sent to several readers that detailed funding for different departments, the superintendent for piping may only want to read the section that relates to piping. This is where format, specifically the use of headings and document organization, is significant in allowing the reader easy access to information. The piping superintendent depends on a document's usability so he can scan through the document and clearly find the heading that identifies his department and saves time.

3) Cultural Communication

Technical writers need to be aware of the differences between the behavior and the norms, beliefs, and values of specific cultures. According to Edward T. Hall and Mildred Reed Hall, in *Understanding Cultural Differences*, each culture operates according to its own rules (1990, pp. 3-4). Hall and Hall add that problems occur when members of one culture apply their rules to another culture (1990, pp. 3-4). To communicate effectively with other cultures, the technical writer needs to not only be aware of rules governing behaviors that can be observed but also of the not-so-obvious rules that govern the norms, beliefs, and values of the people of a culture. The invisible rules of a culture dramatically impact the acceptance of ideas, plans, and strategies. The Cultural Iceberg illustrates patterns of world communication, showing indicators of Institutional Culture (the obvious behavior of a culture), which can be clearly seen as the tip of the iceberg, and People Culture (the norms, beliefs and values of a culture), which cannot be seen and which are the barriers to successful communication.

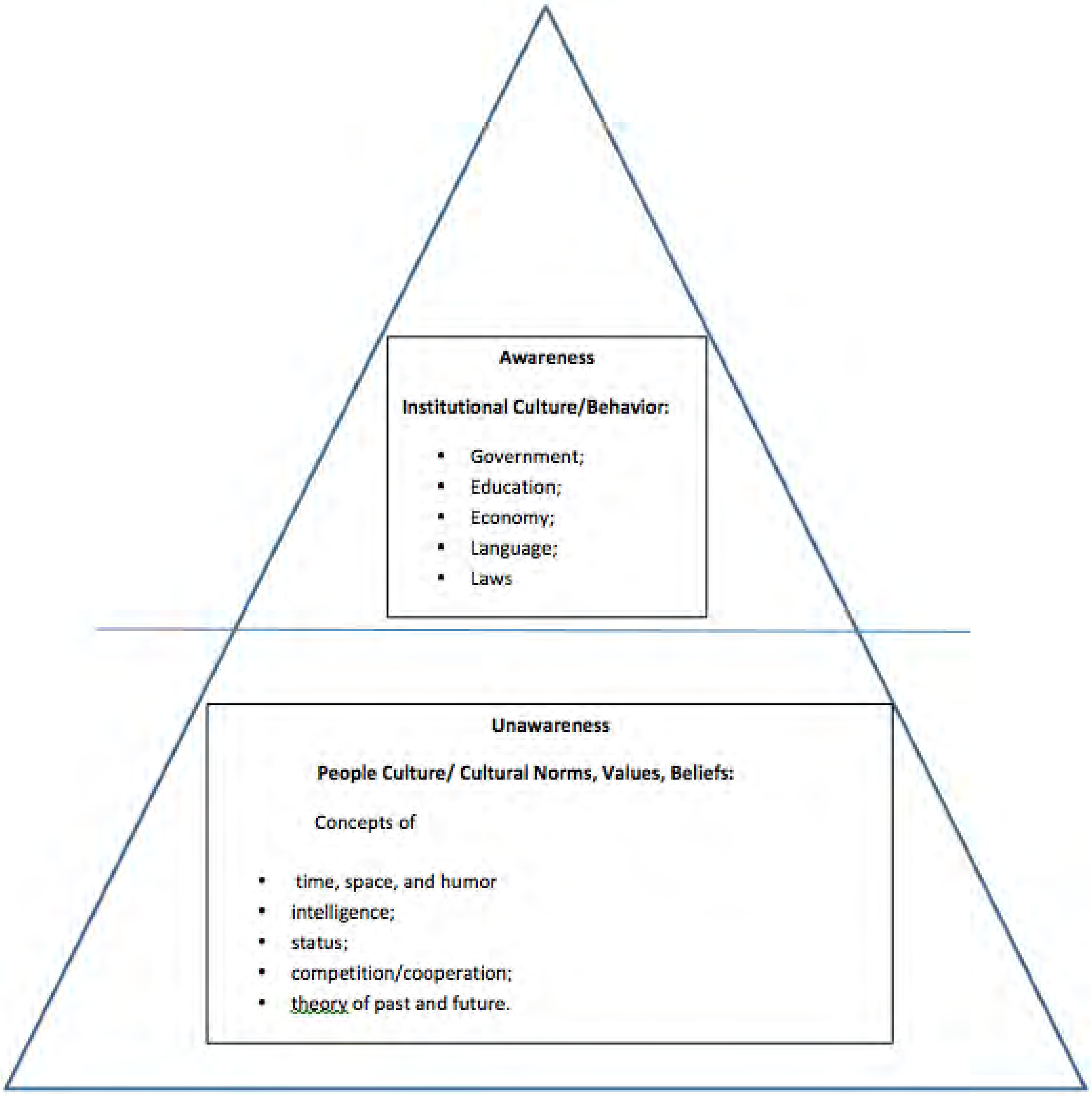


Figure 2: The Cultural Iceberg

4) Ethics

Figure 3: Image of signs

Technical writers, and, to some degree, all writers have a responsibility to their readers and to their employers to follow ethics when writing reports. Technical writers must use words that demonstrate valid appeals to reason, avoiding emotional words and phrases that appeal to basic emotion instead of justifiable reasoning. In addition, technical writers must use valid references to support ideas and strategies, avoiding referencing non experts to sway readers' support. Also, technical writers must use accurate numbers to report data, avoiding charts and tables that skew data. Using any type of fallacies in technical writing is unethical and could result in dire consequences.

Not only do technical writers have a responsibility to report accurate information, but they also have a responsibility to credit accurate sources of information. At no time is it acceptable to rearrange information in order to attempt to indicate that the writer is the source of someone else's idea or to indicate that the writer read a report that included information he/she cited, when the primary source of the information was cited in another report. All sources must be referenced accurately in the text and cited on a reference page.

Daniel G. Riordan (2005), in *Technical Report Writing Today*, cites Dombrowski to define three threads of ethics:

> *One major thread is that the communicator must be a good person who cares for the audience. Communicators must tell the truth as convincingly as possible, because truth will lead to the good of the audience. Another thread is that the communicator must do what is right, regardless of possible outcomes. A third thread is that communicators must act for the greatest good for the greatest number of people (p. 16).*

In addition, Riordan (2005) references the "code of ethics of the Society for Technical Writers, and cites five of the code's tenants:

My commitment to professional excellence and ethical behaviors means that I will…

- Use language and visuals with precision.
- Prefer simple direct expression of ideas.
- Satisfy the audience's need for information, not my own need for self-expression.
- Hold myself responsible for how well my audience understands my message.
- Report the work of colleagues, knowing that a communication problem may have more than one solution (Riordan, 2005, pp. 15-16).

Key Takeaways

- Technical writing requires the communicator to share information in a clear, concise, and ethical manner.
- Considering your audience and their needs is essential to creating successful technical communication.
- Evaluating the audience's needs prior to designing the technical communication will help you achieve a final product that meets the readers needs and serves the appropriate function.

Chapter 2: What Is Rhetoric?

Rhetoric is the ancient art and science of persuasion, the study of persuasion, and the individual process of persuasion. Unfortunately, in the 21st century, rhetoric tends to be positioned as something separate from everyday communication. However, all human activities are rhetorical, whether or not we are conscious of it.

The Rhetorical Triangle

The principles Aristotle laid out in his Rhetoric nearly 2,500 years ago still form the foundation of much of our contemporary practice of argument. Teachers often use a triangle to illustrate the rhetorical situation present in any piece of communication; the triangle suggests the interdependent relationships among its three elements: **the voice** (the speaker or writer), **the audience** (the intended listeners or readers), and **the message** (the text being conveyed).

If each corner of the triangle is represented by one of the three elements of the rhetorical situation, then each side of the triangle depicts a particular relationship between two elements:

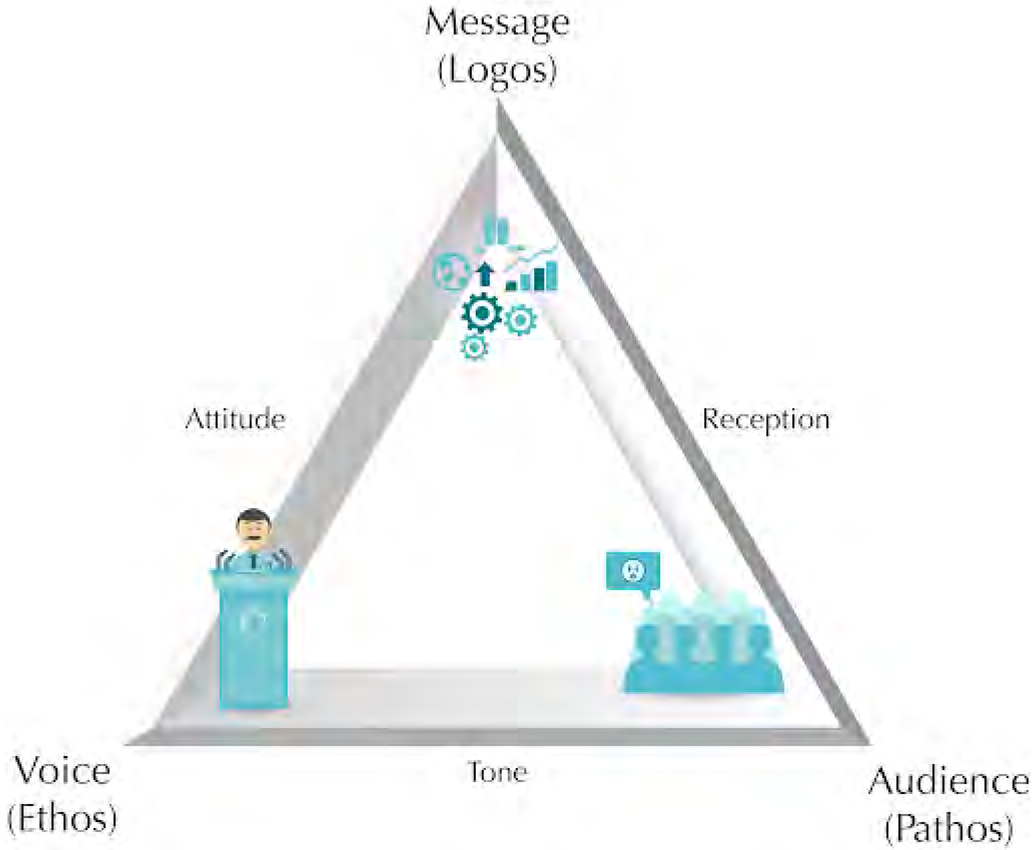


Figure 1: Image of Rhetorical Triangle, from Chapter 26 of an Introduction to College Writing, licensed under CC BY 4.0

- **Tone.** The connection established between the **voice** and the **audience.**
- **Attitude.** The orientation of the **voice** toward the **message** it wants to convey.
- **Reception.** The manner in which the **audience** receives the **message** conveyed.

The Rhetorical Situation

https://www.youtube.com/embed/f61SPxeIEgU?feature=oembed&enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Rhetorical Situation Writing exists as an interaction among three elements: the audience, the writer, and the issue. These elements are known collectively as the rhetorical situation.

Examining Rhetorical Context

Rhetoric is about strategic choices and approaches to communication whether textually, verbally, or even aurally and visually. When we communicate to different types of audiences about the same topic, we make strategic decisions on what details to include or omit, what types of evidence or support to use, and so on.

Let's imagine that you spent a little bit of time last weekend studying but mostly party-hopping and celebrating because your school's football team won the championship.

- When you speak to your **best friend** about your weekend, you are likely to provide details about how many parties you went to and what exactly you did at the parties, including gossip about mutual friends.
- When you speak to **your grandmother** about that same weekend, you might mention your study group meeting on Sunday afternoon, the take-out dinner you had on Friday night, and perhaps briefly mention that you celebrated the team's win with friends.
- When you speak to **your supervisor** at your on-campus job, you are likely to discuss the big football win (Go Team!), your looming exam schedule and how your study and exam schedule will impact your availability to work for

the rest of the term.

All versions are accurate representations of your weekend, but you make strategic choices about which details to include or not include based on the particular **rhetorical situation** of your discussion. That is, how and what you communicate is shaped by:

- The writer, author, creator, also known as the **rhetor**
- The **audience**, including primary, secondary, and tertiary audiences
- The **topic** of the communication
- The **purpose**, which often can be broken into a primary, secondary, and tertiary purpose
- The **context** and **culture** within which the communication is taking place.

The context and culture impact the rest of the rhetorical situation (rhetor, audience, topic, purpose).

The three rhetorical appeals, as discussed by Aristotle, are **ethos**, **pathos**, and **logos**. These three appeals are guided by **kairos**, which is about timing. The three appeals may be used alone, but arguments are most effective when they combine appeals to ethos, pathos, and logos, with strong grounding in kairos or timeliness.

Figure 2: Rhetorical by Brett Jordan and licensed under CC BY 2.0

Logos: an appeal to logical reason, logos is about the clarity, consistency, and soundness of an argument, from the premise and structure to the evidence and support. A rhetor appeals to logos by making reasonable claims and supporting those claims with evidence, such as statistics, other data, and facts. However, Logical and reasonable arguments and evidence are not universal across audiences, contexts, cultures, and times. What an audience considers reasonable claims and adequate evidence is influenced by an audience's values and beliefs. Further, data and facts may evolve over time as we obtain more evidence, information, and data.

For example, some people believe the Federal Drug Administration is part of a conspiracy to cover up evidence that common vaccines cause a variety of neurological, psychological, and physical disorders, despite extensive scientific evidence from around the world that demonstrates common vaccines are safe. The scientific evidence is not reasonable or logical (and therefore not persuasive) for the conspiracy audience because the evidence may come from manufacturers of vaccines, FDA-sponsored studies, or researchers or studies with have connections to the FDA or other government agencies. However, for other audiences—such as those who are simply unsure about the actual benefits or reasons for vaccines—the same studies and data may be quite persuasive.

Ethos: a Greek word for character, ethos is an appeal to character, especially authority and expertise. Ethos is often mistaken as an appeal to ethics. Though ethics are an aspect of a person's or organization's ethos, ethics are not the only component of character, authority, or expertise. The goal for an author is to build their ethos or their believability.

Celebrity and other endorsements are often based on ethos. Ethos is why an American Dental Association endorsement of a toothpaste is more powerful and generally holds more sway than an endorsement from a non-medical professional. At the same time, though, ethos as it relates to advertising is a bit complex. Sometimes people or organizations will have strong ethos not because they are professionals in a given field (such as dentistry) but because they may they demonstrate the ideal results or benefits of a product.

Let's take Sofia Vegara, for example. Vegara is a popular actor due to her role on the sitcom *Modern Family*. Her ethos as one of the world's most beautiful people makes her an especially useful spokesperson for an array of personal care products, in part because she is known not only as an actor but as an attractive person. It is no surprise that she is a spokesperson for a variety of cosmetic and personal products, from Cover Girl makeup to Head and Shoulders shampoo. The latter product, though, is where her ethos shines.

Head and Shoulders is a dandruff shampoo, and generally, flaky scalp is not associated with beauty. By having Vergara star in Head and Shoulders' commercials, and further, having Vergara happily admit that her family has been using Head and Shoulders for over twenty years, the company relies on Vergara's ethos as a confident, beautiful woman to combat embarrassment that some people (perhaps particularly women) may feel when faced with their own dandruff and flaky scalp and the need for a medicated shampoo. Vergara's emphasis on how long her family has used Head and Shoulders even suggests that perhaps some of Vergara's success in the beauty arena is due to Head and Shoulders.

Pathos: originally, pathos described appeals to audiences' sensibilities. Modern uses of pathos generally means an appeal to emotions, both positive and negative. A rhetor may appeal to emotions that an audience already has about a subject, or a rhetor may elicit emotions. The Emotions are all those feelings that so change men as to affect their judgements, and that are also attended by pain or pleasure. Such are anger, pity, fear and the like, with their opposites. We must arrange what we have to say about each of them under three heads. Take, for instance, the emotion of anger: here we must discover (1) what the state of mind of angry people is, (2) who the people are with whom they usually get angry, and (3) on what grounds they get angry with them. (Aristotle, 1378)

As Aristotle argues, emotions are central to our decision making, even if we are not consciously aware of it. If a rhetor desires to persuade a particular audience, then the rhetor must understand the ruling emotions regarding the topic and the specific audience. What makes the audience angry (or pleased), who or what is involved in producing or evoking that emotional state, and why does that particular audience become angry (or pleased) within a specific context? Knowing the answers to these questions will help a rhetor better prepare an argument and provide a basis for developing evidence and identifying counterarguments.

Pathos appeals can sometimes be overwhelming and dominate an argument because emotions in general can be overwhelming. When emotions are strong enough, they can overtake logic and reason. Political campaigns are excellent examples of pathos appeals. Political ads often play on the fears and hopes of different demographics. For example, a political ad focused aimed at retired and elderly voters may claim that a candidate plans on eliminating social support programs such as Medicare or will drastically cut Social Security benefits. These types of ads do not need to contain facts or evidence of such actions to be useful and successful because they rely on the fears and worries that the intended audience already has about financial and medical security.

Remember, pathos is about the emotional state of the audience, not the rhetor.

Kairos is the Greek word for time. In Greek mythology, Kairos (the youngest son of Zeus) was the god of opportunities. In rhetoric, kairos refers to the opportune moment, or appropriateness, for persuading a particular audience about a particular subject. Kairos depends on a strong awareness of rhetorical situation. Kairos is the where, why, and when of persuasion.

For example, nearly all op-eds and political essays are kairotic. The rhetors work to relate their ideas and messages to whatever is happening in the news and popular culture.

Rhetorical Applications in Technical Communication

Rhetoric teaches us that our communications must be shaped with an understanding of our intended audience and desired purpose. This is also true of technical communications. The goal of technical communications is to transfer information from Point A (the author/speaker) to Point B (the audience) as efficiently and effectively as possible. A strong rhetorical foundation helps facilitate that transmission.

Here’s another example: Did you ever play


“Candyland” by Dave Parker / CC-BY

Candy Land as a kid? Candy Land is a children’s board game where the objective is for players to race through the game to find the missing King Kandy and be the first to arrive at Candy Castle without becoming stuck in any of the pitfalls (stay away from Molasses Swamp!) that would slow a player down and allow others to pass. Think of the successful transmission of information like playing a game of Candy Land your job as an effective communicator is to avoid the factors that cause your audience to get “stuck” on their way to understanding.

In professional and technical communication, it is important to remember your rhetorical foundation in order to minimize the possibility of gaps/roadblocks in order to ensure your information is transmitted — you guessed it! — as efficiently and effectively as possible. Whether you are writing an email to a client, typing a memo for your boss, or preparing a presentation, considering audience, purpose, and context as you draft will help you be an effective communicator and increase your professional ethos.

Chapter Two is a synthesis of two sources:

Chapter 3: The Writing Process

Stages of the Writing Process

Writing, especially when compiling a larger document, is not something you sit down, complete in one session, and quickly submit. This is especially true when writing for the workplace where accuracy and clarity are necessary. In fact, writing should be seen as a process that is recursive where the writer moves in and out of various stages of writing and oftentimes revisits some of the stages.

Overview

The writing process is complicated according to the Wikibook *Rhetoric and Composition*, and it often seems loosely defined. According to *Webster's*, writing is " the way you use written words to express your ideas or opinions." Although we may think of it as little more than arranging letters and words on a page, a few moments' reflection reveals that it is much more than that. On the one hand, writing is an art–we don't say Shakespeare's language is "correct" but rather that it is beautiful. On the other hand, writing is a science–we want the instructions that came with our Blu-Ray player to be accurate, precise, and easy to understand.

Then there is the matter of what makes writing "good writing." Although we might say that both an instruction manual and a play are "well written," we appreciate them for different reasons. A play written in the clear, unambiguous language of an instruction manual would not be a hit on Broadway. In other words, writing must be judged according to its context–what is its purpose and audience? Finally, even readers with a great deal in common may not agree about the quality of any particular text, just as people's opinions differ about which bands are really great.

We really don't know why people have such preferences and can't make accurate predictions about what they will like or dislike. Simply put, writing isn't simple.

This course emphasizes "recursivity" in writing instruction, which means–moving forward through some steps and then circling back to redo previous steps–as the natural way many successful writers work. Good writers tend to switch frequently among the different steps as they work. An insight gained while editing one chapter might convince the writer that an additional chapter is needed; as a result, they might start another drafting phase–or even decide to divide one chapter into two or three, and begin re-organizing and developing new drafts. Likewise, failure to satisfy a publisher–whether it is your boss looking at a pamphlet you've written or a book publisher deciding whether to print and sell your book–might lead the author all the way back to the idea-development or organizing stages. In short, while it is very useful to think of writing as a process, the process is not a clear, always-the-same series of steps. Instead, it is a sometimes messy, forward-and-backward process in which you strive for simplicity but try to appeal to your audience, create but also organize, enjoy yourself if possible but also follow some rules, and eventually create a product that works.

If this sounds difficult, it's not–at least, not if you learn a few lessons this book can teach you–and you practice, practice, practice. The more real writing you do, the more of a real writer you will become. If you are reading this book, then your first goal likely is to do well in a college (or upper-level high school) "composition" or "rhetoric" class. In short, you want to learn how to write a good academic paper. There are a large number of tips and methods this book can show you. They will work best if, like the writing process itself, you go back and forth between reading this book and doing some actual writing: try some of these lessons out by writing; then return to new lessons or review some of the lessons you've already read to discover what you next can do with what you've written–or with a new writing. Each discipline or major has its own writing style, organizational method, and purpose or goal. Your major or discipline teachers can help you quite a bit as you learn to apply your academic writing skills to their discipline. And eventually, your goal is to write for your work–for your future profession.

With each of these types of writing–general academic, specific discipline/major, and future profession–you'll eventually become increasingly successful. As you learn the types better, you will find–like the experienced journalist on a quick deadline for a story–that often your writing will come more quickly and easily. However, whenever you have a major challenge in your future as a writer, you will know how to return to the circular or "recursive" steps of the process to develop difficult ideas, explain difficult concepts to your audience, and create pleasure and knowledge in both yourself and your audience because of your writing skills.

Five Evaluation Criteria

There are five criteria we can use to evaluate any piece of writing. These criteria are Focus, Development, Organization, Style, and Conventions.

Focus. What are you writing about? What claim or thesis are you defending? This criterion is the broadest, concerned with the context, purpose, and coherence of a piece of writing. Is your topic appropriate for an assignment? Do you stay on that topic or drift off on unhelpful tangents? Have you focused too minutely or too widely? For instance, an essay about the American Civil War in general is probably too broad for most college essays. You might be better off writing about a particular battle, general, or incident.

Development. Development is concerned with details and evidence. Do you provide enough supporting material to satisfy the expectations of your readers? A proper research paper, for instance, usually includes many references and quotations to many other relevant works of scholarship. A description of a painting would probably include details about its appearance, composition, and maybe even biographical information about the artist who painted it. Deciding what details to include depends on the intended audience of a piece. An article about cancer intended for young children would look quite different than one written for senior citizens.

Organization. Organization, often called "arrangement," concerns the order and layout of a paper. Traditionally, a paper is divided into an introduction, body, and conclusion. Paragraphs are focused on a single main idea or topic (unity), and transitions between sentences and paragraphs are smooth and logical. A poorly organized paper rambles, drifting among unrelated topics in a haphazard and confusing fashion.

Style. Style is traditionally concerned with clarity, elegance, and precision. An effective stylist is not only able to write clearly for an audience, but can also please them with evocative language, metaphors, rhythm, or figures of speech. Effective stylists take pains not just to make a point, but to make it well.

Conventions. This criterion covers grammar, mechanics, punctuation, formatting, and other issues that are dictated by convention or rules. Although many students struggle with conventions, the knowledge of where to place a comma in a sentence is usually not as important as whether that sentence was worth writing in the first place. Nevertheless, excessive errors can make even a brilliant writer seem careless or ignorant, qualities that will seldom impress one's readers.

Writing Process Steps

To avoid mistakes and communicate effectively, the writing process might consist of the following:

Prewriting

This is the planning done before writing a document. It may be defining the purpose of the task, analyzing the primary and secondary readers, sketching the document and what will go in each section, or gathering research.

Drafting

This is writing and compiling a first draft of the document. Sometimes, the writer worries more about getting ideas down more than guaranteeing every punctuation or grammar choice is correct.

Revising

When a writer revises, a writer revisits the draft and makes substantial changes to it. This is more than editing. It is adding, deleting, and moving entire sections of the document around to prepare it as a final, comprehensive document. In fact, it is here that many writers ask others for feedback before revising to ensure that another, unbiased set of eyes have looked over the document and easily understand it.

Editing

This is the final part of the process. It is reading through the document several times while looking for clarity, consistency, and accuracy. In fact, consider reading your document aloud and listening to it as you do so instead of reading and "seeing" it. Most individuals communicate mostly through talking and listening. Therefore, when you read aloud, you can hear if something in your document doesn't sound right and then correct it. You should be able to read it in a way that it is understandable and sounds conversational.

https://www.youtube.com/embed/vRJuwzCfix4?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

The writing process and process writing

Adapted from two textbooks: “Chapter 4 Technical Documents” of ENGL 145: Technical and Report Writing, 2017, written by Amber Kinonen and used according to Creative Commons CC-BY-4.0 The Stages of the Writing Process. from Rhetoric and Composition. Text is available under the CC BY-SA 3.0 License; additional terms may apply.

Creative Prewriting Techniques

To help you further establish your prewriting process, the textbook *English for Business Success* introduces several prewriting techniques and encourages you to ask questions to help think more about your topic. Remember, you have more strategies available to you, some less linear and more creative, to help you begin your writing journey. These include brainstorming, idea mapping, and searching the Internet. While reading about these strategies, think about which strategy fits your writing style and then consider trying some of the other options to see how they work for you.

Brainstorming

Brainstorming is similar to list making. You can make a list on your own or in a group with your classmates. Start with a blank sheet of paper (or a blank computer document) and write your general topic across the top. Underneath your topic, make a list of more specific ideas. Think of your general topic as a broad category and then list items

Figure 51: Brain Shooting Lightning, Creating a Brainstorm

that fit in that category. Often you will find that one item can lead to the next, creating a flow of ideas that can help you narrow your focus to a more specific paper topic.

Idea Mapping

Idea mapping allows you to visualize your ideas on paper using circles, lines, and arrows. This technique is also known as clustering because ideas are broken down and clustered, or grouped together.

https://www.youtube.com/embed/Sb_WgNsTOhI?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Jennifer Schaller- Idea Mapping

Many writers like this method because the shapes show how the ideas relate or connect, and writers can find a focused topic from the connections mapped. Using idea mapping, you might discover interesting connections between topics that you had not thought of before.

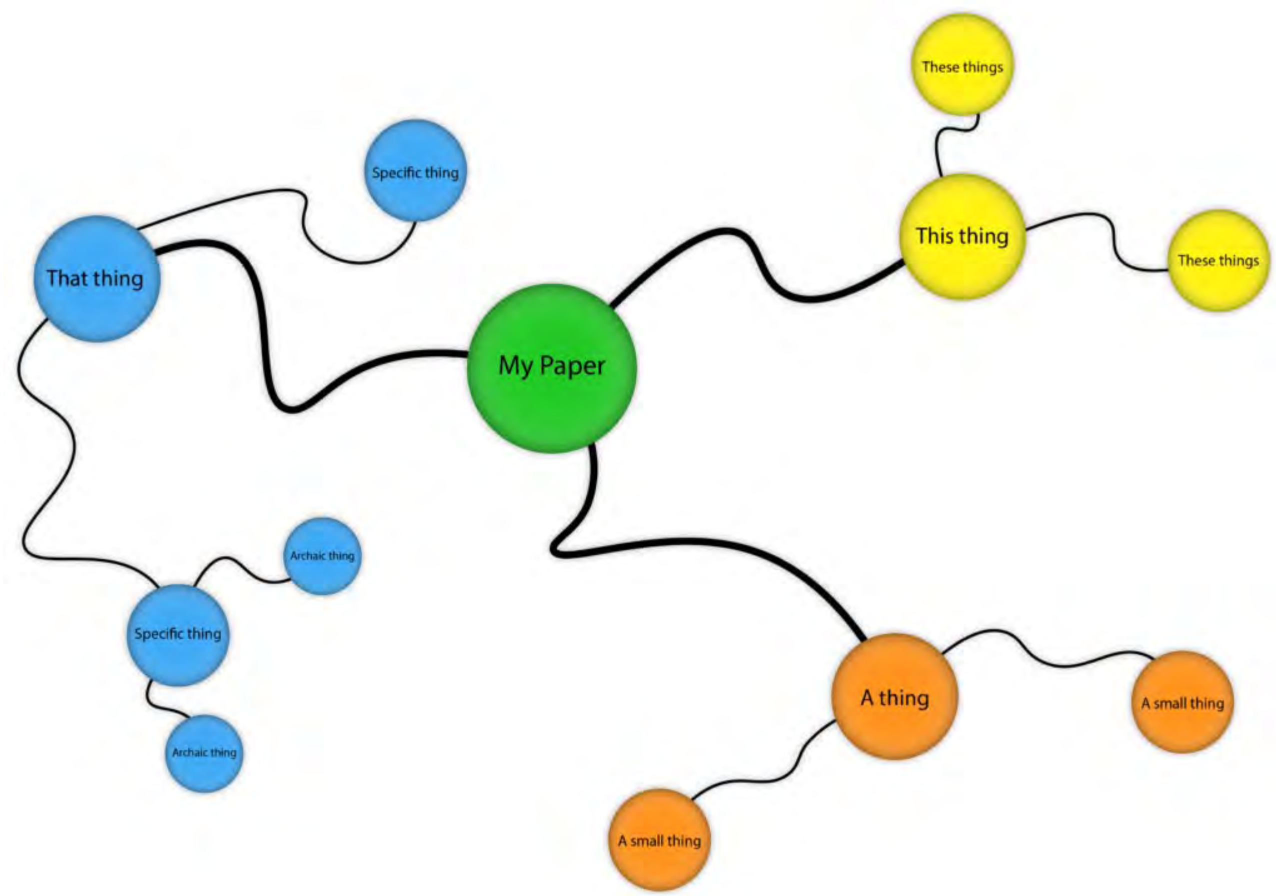


Figure 52: Illustration of an Idea Map

To create an idea map, start with your general topic in a circle in the center of a blank sheet of paper. Then write specific ideas around it and use lines or arrows to connect them together. Add and cluster as many ideas as you can.

Searching the Internet

Using search engines on the internet is a good way to see what kinds of websites are available regarding your topic. Writers use search engines not only to understand more about the topic's specific issues but also to get better acquainted with their audience.

When you search the internet, type some keywords from your broad topic or words from your narrowed focus into your browser's search engine (many good general and specialized search engines are available for you to try). Then look over the results for relevant and interesting articles.

Not all the results that online search engines return will be useful or reliable. CNM's Library offers additional information on evaluating online sources. Give careful consideration to the reliability of an online source before selecting a topic based on it. Remember that factual information can be verified in other sources, both online and in print. If you have doubts about any information you find, either do not use it or identify it as potentially unreliable. For more information, you can visit the following CNM Libraries.

Outlining

Most students see outlines as a royal pain. But not only are they often central to writing-intensive courses, they are frequently required on the job; for example, a project manager may require each individual team member to outline and compose different portions of a joint report. Do not be seduced by the belief that an outline is totally useless or simply mechanical; this will only be true if you make it so.

Self-Study

Plenty of tips on writing outlines are available on the web on university webpages. Here are two recommended sites:

"Types of Outlines and Samples" article from Purdue's Online Writing Lab (OWL)

[“Using Outlines” article from Indiana University, Bloomington]

The Value of Outlining

Outlines foster coherence by helping the writer to:

- plan both the sequence and hierarchy of information.
- make decisions about organization and content without the distraction of all the details of composition.
- avoid repetition, digression, poor emphasis, and poor flow.
- improve general organizational skills.

Considered in the light of the above ideal, outlines can be as fundamental to the writer as a flowchart is to the computer programmer. Good writers use outlines to flesh out their ideas, organize their thoughts, and discover their gaps.

Outlines can be writer-centered, of course, to aid you in expressing your ideas, but the material presented here assumes a reader-centered outline—i.e., one written for the eyes of a professor who will use the outline to provide you with some written feedback. As long as the mechanics of the outline are correct and the details concrete, most professors will not be too finicky about the quality of your outlining skills, and will simply take the opportunity to give you quick feedback on your ideas and organization.

Style for Outlines

When drafting an outline, keep the following stylistic tips in mind:

- Compose a thorough working title for your paper, with the title offering a window into the paper’s purpose and content.
- Double-space your type to allow room for comments.
- Present headings as scientific categories and assertions rather than as informal speculations (i.e., “How Manganese Oxides Trap Heavy Metals” rather than “Just How Do Manganese Oxides Trap Heavy Metals?”).

- Avoid presenting section headings as questions unless the questions themselves are especially compelling.
- Be certain that headings work in relation to one another.
- Avoid the use of acronyms in headings—write the material out.

When writing an outline for a class, even if you are unsure of what material to provide under each heading, include a draft of each major heading to demonstrate your overall plan and to encourage professor feedback.

Mechanics of Outlining

The mechanics of outlining are simple when stripped down to their essential elements. The two most common forms used are the Arabic System and the Decimal System. Indentations of a tab (1/2-inch or five spaces) are used to designate hierarchy of material, and order is indicated by sequential numbers, letters, or Roman numerals. Headings at the left margin are typically referred to as first-level headings, those indented one tab as second-level headings, and so on. The Decimal System requires a period between numbers, and note that, for both systems, the rising sequence of the numbers, letters, or Roman numerals is determined by the level of the heading under which a character falls.

I. Introduction
  A. Distribution of Joints about Folds
  B. Joint Spacing and Fracture Porosity in the Petroleum Industry
  C. Effect of Lithology on Joint Development
  D. Objective
    1. Perform Petrographic Analysis of Elk Basin Sandstones
    2. Establish Correlation between Joint Spacing and Petrography
II. Background Literature
  A. Definition of Fracture Spacing Ration
  B. Past Work on Fracture Spacing Ration in Sedimentary Rocks
    1. Fracture Spacing Ration in Various Geological Localities
    2. Fracture Spacing Ration as a Function of Rock Properties
  C. Possible objective of interpreting the record of the Eemain interglacial.
III. Geologic Setting of Big Horn Basin
  A. Stratigraphy of Big Horn Basin
  B. Structural Geology of Big Horn Basin
  C. Description of Elk Basin
IV. Experimental Technique
  A. Sampling of Fracture Spacing Ration
  B. Sampling and Preparation of Thin Sections
  C. Point Counting Technique
V. Results
  A. Formation versus Composition
  B. Formation versus Porosity

The attached outline contains first-level headings that reflect a common approach writers take when organizing their original research. As often happens, the writer's first-level headings are somewhat generic, while the second- and third-level headings are more specialized to the subject matter of the essay. Note also the specificity of the title, of each section heading, and the relationships of the headings to each other. Such a detailed and professional outline helps the writer to keep organized during the writing process as well as gives the advisor an opportunity to give concrete feedback.

Chapter 4: Ethics in Technical Writing

In day-to-day life, most people have a sort of sliding scale on what constitutes ethical behavior: they would not tell a direct lie on trivial matters if doing so would hurt someone's feelings. For example, you might tell your best friend her new haircut looks attractive when in fact you believe that it does not. This lie, though minor, preserves your friend's feelings and does no harm to her or anyone else. Some might consider the context before determining how to act. For example, you might not tell a stranger that he was trailing toilet paper but you would tell a friend. In a more serious situation, a person might not choose to die to save a stranger's life, but she might risk dying to save her children's lives.

Ethical behavior, including ethical technical communication, involves not just telling the truth and providing accurate information, but telling the truth and providing information so that a reasonable audience knows the truth. It also means that you act to prevent actual harm, with set criteria for what kinds and degrees of harm are more serious than others (for example, someone's life outweighs financial damage to your company; your company's success outweighs your own irritation). As a guideline, ask yourself what would happen if your action (or non-action) became public. If you would go to prison, lose your friends, lose your job, or even just feel really embarrassed, the action is probably unethical.

Ethically Presenting Information

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.

A classic example of unethical technical writing is the memo report NASA engineers wrote about the problem with O ring seals on the space shuttle Challenger (see The Space Shuttle Challenger Disaster: A Study in Organizational Ethics). The unethical feature was that the crucial information about the O rings (O rings provide a seal) was buried in a middle paragraph, while information approving the launch was in prominent beginning and ending spots.

Presumably, the engineers were trying to present a full report, including safe components in the Challenger, but the memo's audience—non-technical managers—mistakenly believed the O ring problem to be inconsequential, even if it happened. The position of information in this document did not help them understand that the problem could be fatal. Possibly the engineers were just poor writers; possibly they did not consider their audience; or possibly they did not want to look bad and therefore emphasized all the things that were right with the Challenger. (Incidentally, the O rings had worked fine for several launches.)

Ethical writing, then, involves being ethical, of course, but also presenting information so that your target audience will understand the relative importance of information and understand whether some technical fact is a good thing or a bad thing.

Adapted from 9.2 Presentation of Information. This chapter was written by Annemarie Hamlin, Chris Rubio, and Michele DeSilva, Central Oregon Community College, and is licensed CC-BY 4.0. Thanks to Eleanor Sumpter-Latham, Humanities/Writing Professor at Central Oregon Community College for contributing to this chapter.

Typical Ethics Issues in Technical Writing

There are a few issues that may come up when researching a topic for the business or technical world that a writer must consider. Let's look at a few.

Research that Does Not Support the Project Idea

In a technical report that contains research, a writer might discover conflicting data which does not support the project's goal. For example, your small company continues to have problems with employee morale. Research shows bringing in an outside expert, someone who is unfamiliar with the company and the stakeholders, has the potential to impact the greatest change. You discover, however, that to bring in such an expert is cost prohibitive. You struggle with whether to leave this information out of your report, thereby encouraging your employer to pursue an action that is not feasible.

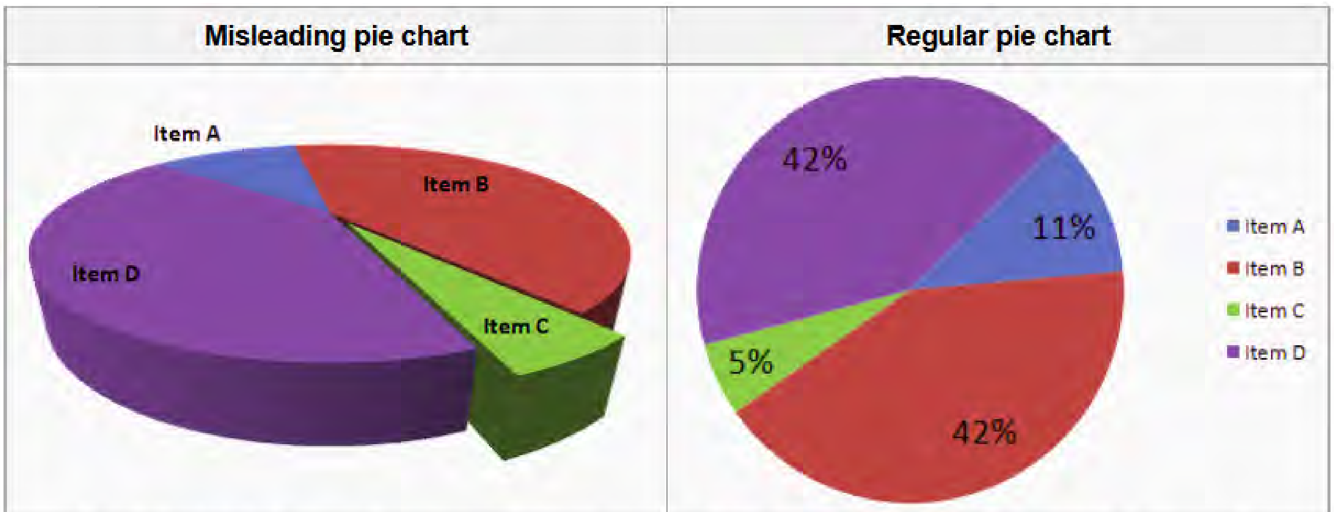
Suppressing Relevant Information

Imagine you are researching a report for a parents' group that wants to change the policy in the local school district requiring all students to be vaccinated. You collect a handful of sources that support the group's goal, but then you discover medical evidence that indicates vaccines do more good than potential harm in society. Since you are employed by this parents' group, should you leave out the medical evidence, or do you have a responsibility to include all research, even some that might sabotage the group's goal?

Presenting Visual Information Ethically

Visuals can be useful for communicating data and information efficiently for a reader. They provide data in a concentrated form, often illustrating key facts, statistics or information from the text of the report. When writers present information visually, however, they have to be careful not to misrepresent or misreport the complete picture.

The visual below shows two perspectives of information in a pie chart. The data in each is identical but the pie chart on the left presents information in a misleading way (see Fig. 1). What do you notice, however, about how that information is conveyed to the reader?



In the misleading pie chart, Item C appears to be at least as large as Item A, whereas in actuality, it is less than half as large.

Fig. 1 – Misleading and regular pie chart

Imagine that these pie charts represented donations received by four candidates for city council. The candidate represented by the green slice labeled "Item C," might think that she had received more donations than the candidate represented in the blue "Item A" slice. In fact, if we look at the same data in a differently oriented chart, we can see that Item C represents less than half of the donations than those for Item A. Thus, a simple change in perspective can change the impact of an image.

Similarly, take a look at the bar graphs in figure 2 below. What do you notice about their presentation?

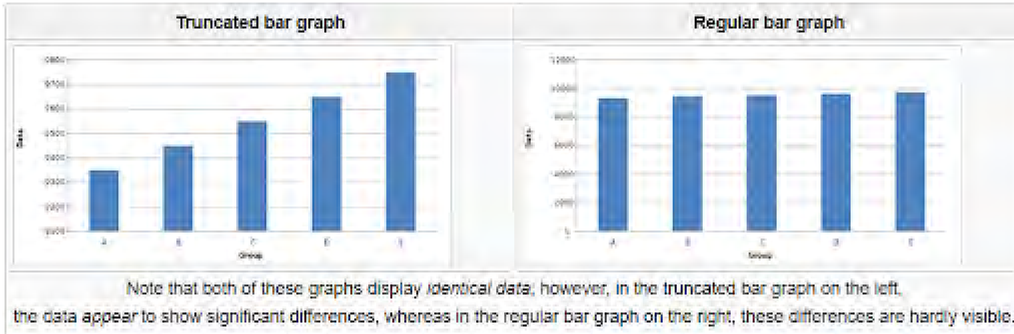


Fig. 2 – Misleading and regular bar graphs

If the bar graph above were to represent sales figures for a company, the representation on the left would look like good news: dramatically increased sales over a five-year period. However, a closer look at the numbers shows that the graph shows only a narrow range of numbers in a limited perspective (9100 to 9800). The bar graph on the right, on the other hand, shows the complete picture by presenting numbers from 0-1200 on the vertical axis, and we see that the sales figures have been relatively stable for the past five years.

Presenting data in graphical form can be especially challenging. Keep in mind the importance of providing appropriate context and perspective as you prepare your graphics.

Limited Source Information in Research

Thorough research requires that a writer integrates information from a variety of reliable sources. These sources should demonstrate that the writer has examined the topic from as many angles as possible. This includes scholarly and professional research, not just from a single database or journal, for instance, but from a variety. Using a variety of sources helps the writer avoid potential bias that can occur from relying on only a few experts. If you were writing a report on the real estate market in Central Oregon, you would not collect data from only one broker's office even if this office might have access to broader data on the real estate market because utilizing only one source may create the assumption that you are biased. Collecting information from multiple brokers would demonstrate thorough and unbiased research.

A Few Additional Concerns

You might notice that most of these ethics violations could easily happen accidentally. Directly lying is unlikely to be accidental, but even in that case, the writer could believe that the lie achieved some "greater good" and was therefore necessary. Even more common is an ethics violation where a technical designer sees information as true and does not recognize the bias in the information's presentation.

Most ethics violations in technical writing are (probably) unintentional, BUT they are still ethics violations. That means technical writers must consciously identify their biases and check to see if a bias has influenced any presentation: whether in charts and graphs, or in discussions of the evidence, or in source use (or, of course, in putting the crucial O ring information where the launch decision makers would realize it was important).

For example, scholarly research is theoretically intended to find evidence either that the new researcher's ideas are valid (and important) or evidence that those ideas are partial, trivial, or simply wrong. In practice, though, most folks are primarily looking for support. "Hey, I have this great new idea that will solve world hunger, cure cancer, and make mascara really waterproof. Now I just need some evidence to prove I am right!"

In fact, if you can easily find 94 high-quality sources that confirm you are correct, you might want to consider whether your idea is worth developing. Often in technical writing, the underlying principle is already well-documented (maybe even common knowledge for your audience) and the point SHOULD be to use that underlying principle to propose a specific application.

Using a large section of your report to prove an already established principle implies that you are saying something new about the principle—which is not true. A brief mention ("Research conducted at major research universities over the last ten years (see literature review, Smith and Tang, 2010) establishes that. . . .") accurately reflects the status of the principle; then you would go on to apply that principle to your specific task or proposal.

Adapted from 9.3 Typical Ethics Issues in Technical Writing. This chapter was written by Annemarie Hamlin, Chris Rubio, and Michele DeSilva, Central Oregon Community College, and is licensed CC-BY 4.0. Thanks to Eleanor Sumpter-Latham, Humanities/Writing Professor at Central Oregon Community College for contributing to this chapter.

Chapter 5: Basic Workplace Genres

This Workplace Communication course takes a genre-based approach to analyze the rhetorical situation of multiple genres of workplace writing. When writing for a workplace audience, a writer must consider the audience, context, and purpose of the texts they will publish for a wider workplace audience. The following chapter outlines requirements and best practices for memos, emails, letters, and employment materials.

Memos

Technical and Report Writing describes memos as a commonly accepted method of communication within a specific business, company, or institution. The fact that memos are only used internally means they are different from letters, emails, and texting, which can be used inside and outside of the workplace. The successful operation of a company depends on memos for communication between the employees and separate departments within the company. Types of memos include: inquiries, recommendations, problem-solution, progress, and others

A memo's format provides employees with clear and easy access to information. The message is direct and it follows a specific format for consistency. All memos includes a heading block that identifies the recipient, the sender, the date, and the subject of the message.

However, the message has three parts, each of which is identified by a specific heading. The three parts are the introduction, the body, and the conclusion. The introduction references background information and informs the purpose of the message. The body is the message, and this section can include a simple paragraph or multiple paragraphs. The conclusion expresses what the writer expects the recipient to do. The conclusion could be one paragraph or several paragraphs, or the conclusion could be a simple sentence that asks for the recipient to contact the sender if there are questions.

Memo Purpose

A memo's purpose is often to inform, but it occasionally includes an element of persuasion or a call to action. All organizations have informal and formal communication networks. The unofficial, informal communication network within an organization is often called the **grapevine**, and it is often characterized by rumor, gossip, and innuendo. On the grapevine, one person may hear that someone else is going to be laid off and start passing the news around. Rumors change and transform as they are passed from person to person, and before you know it, the word is that they are shutting down your entire department.

One effective way to address informal, unofficial speculation is to spell out clearly for all employees what is going on with a particular issue. If budget cuts are a concern, then it may be wise to send a memo explaining the changes that are imminent. If a company wants employees to take action, they may also issue a memorandum. For example, on February 13, 2009, upper management at the Panasonic Corporation issued a declaration that all employees should buy at least $1,600 worth of Panasonic products. The company president noted that if everyone supported the company with purchases, it would benefit all (Lewis, 2009).

While memos do not normally include a call to action that requires personal spending, they often represent the business or organization's interests. They may also include statements that align business and employee interest, and underscore common ground and benefit.

Memo Format

A memo has a specific format; this format includes a header that clearly indicates who sent the document and identifies the intended recipients. Pay particular attention to the title of the individual(s) in this section. Date and subject lines are also present, followed by a message that contains a declaration, a discussion, and a summary.

In a standard writing format, readers might expect to see an introduction, a body, and a conclusion. All these are present in a memo, and each part has a clear purpose. The declaration in the opening uses a declarative sentence to announce the main topic. The discussion elaborates or lists major points associated with the topic, and the conclusion serves as a summary.

Let’s examine a sample memo.

To: All Employees
From: Maya James, President, Provincial University
Date: September 21, 2012
Subject: Future Expenditure Guidelines

After careful deliberation, I have determined it is necessary to begin the initial steps of a financial stewardship program that carries Provincial University through what appears to be a two-year cycle of a severe provincial shortfall in revenue and subsequent necessary legislative budget reductions.

Beginning September 24, 2012, the following actions are being implemented for the General Fund, Auxiliary Fund, and Capital Fund in order to address the projected reductions in our provincial aid for the remainder of this year 2012–2013 and for the next year 2013-2014.

1. Only purchases needed to operate the university should be made so that we can begin saving to reduce the impact of the 2013–2014 budget reductions.

2. Requests for out-of-province travel will require approval from the Executive Committee to ensure that only necessary institutional travel occurs.

3. Purchases, including in-province travel and budget transfers, will require the appropriate vice president's approval.

Please understand that we are taking these prudent steps to create savings that will allow ProvU to reduce the impact of projected cuts in expected 2013–2014 legislative reductions. Thank you for your cooperation, and please direct any questions to my office.

Figure 1: Business Memo

Five Tips for Effective Business Memos

Audience Orientation

Always consider the audience and their needs when preparing a memo. An acronym or abbreviation that is known to management may not be known by all the employees of the organization, and if the memo is to be posted and distributed within the organization, the goal is clear and concise communication at all levels with no ambiguity.

Professional, Formal Tone

Memos are often announcements, and the person sending the memo speaks for a part or all of the organization. While it may contain a request for feedback, the announcement itself is linear, from the organization to the employees. The memo may have legal standing as it often reflects policies or procedures, and may reference an existing or new policy in the employee manual, for example.

Subject Emphasis

The subject is normally declared in the subject line and should be clear and concise. If the memo is announcing the observance of a holiday, for example, the specific holiday should be named in the subject line—for example, use “Thanksgiving weekend schedule” rather than “holiday observance”.

Direct Format

Some written business communication allows for a choice between direct and indirect formats, but memorandums are always direct. The purpose is clearly announced.

Objectivity

Memos are a place for just the facts, and should have an objective tone without personal bias, preference, or interest on display. Avoid subjectivity.

https://www.youtube.com/embed/n5Zyn9y_MDs?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

The Key Forms of Business Writing: Basic Memo. Authored by: UpWrite Press ocated at: http://youtu.be/n5Zyn9y_MDs. License: All Rights Reserved. License Terms: Standard YouTube License© Video Attribution .

The following scenario provides examples of how different types of memos are utilized in a real world situation: You are a consultant for a construction company. The project manager of the company has charged you with following the progress of a job that the company has contracted. To keep the project manager informed of the progress of the job, you may send him/her one of three types of memos: A Projection Analysis Timeline Memo, which is sent before the job begins and details the expected beginning and ending dates of the job; a Progress Memo, which is sent during the progression of the job and details the progress of the job, and a Period Report Memo, which is sent after the completion of the job and details the completion dates of all phases of the job.

Emails

Electronic mail, usually called email, is quite familiar to most students and workers. It may be used like text, or synchronous chat, and it can be delivered to a cell phone. In business, it has largely replaced print hard copy letters for external (outside the company) correspondence, as well as taking the place of memos for internal (within the company) communication. Email can be useful for messages that have slightly more content than a text message, but it is still best used for fairly brief messages.

Many businesses use automated emails to acknowledge communications from the public, or to remind associates that periodic reports or payments are due. You may also be assigned to "populate" a form email in which standard paragraphs are used but you choose from a menu of sentences to make the wording suitable for a particular transaction.

Emails may be informal in personal contexts, but business communication requires attention to detail, awareness that your email reflects you and your company, and a professional tone so that it may be forwarded to any third party if needed. Email often serves to exchange information within organizations. Although email may have an informal feel, remember that when used for business, it needs to convey professionalism and respect. Never write or send anything that you wouldn't want read in public or in front of your company president.

Tips for Effective Business Emails

- Proper salutations should demonstrate respect and avoid mix-ups in case a message is accidentally sent to the wrong recipient. For example, use a salutation like "Dear Ms. X" (external) or "Hi Barry" (internal).
- Subject lines should be clear, brief, and specific. This helps the recipient understand the essence of the message. For example, "Proposal attached" or "Your question of 10/25."
- Close with a signature. Identify yourself by creating a signature block that automatically contains your name and business contact information.
- Avoid abbreviations. An email is not a text message, and the audience may not find your wit cause to ROTFLOL (roll on the floor laughing out loud).
- Be brief. Omit unnecessary words.
- Use accepted formatting. Include line breaks between sentences or divide your message into brief paragraphs for ease of reading. A good email should get to the point and conclude in three small paragraphs or less.
- Reread, revise, and review. Catch and correct spelling and grammar mistakes before you press "send." It will take more time and effort to undo

the problems caused by a hasty, poorly written email than to get it right the first time.

- Reply promptly. Watch out for an emotional response—**never reply in anger**—but make a habit of replying to all emails within twenty-four hours, even if only to say that you will provide the requested information in forty-eight or seventy-two hours.
- Use “Reply All” sparingly. Do not send your reply to everyone who received the initial email unless your message absolutely needs to be read by the entire group.
- Avoid using all caps. Capital letters are used on the Internet to communicate emotion or yelling and are considered rude.
- Test links. If you include a link, test it to make sure it is complete.
- Email ahead of time if you are going to attach large files (audio and visual files are often quite large) to prevent exceeding the recipient’s mailbox limit or triggering the spam filter.
- Give feedback or follow up. If you don’t receive a response in twenty-four hours, email or call. Spam filters may have intercepted your message, so your recipient may never have received it.

For reference, please review the example of a business email below. Figure 2 is a letter written specifically for the situation and audience.


To: Harriet Adamo, Physical Plant Manager, XYZ Corporation
From: Mel Vargas, Construction Site Manager, Maxim Construction Co.
Sent: Mon 10/25/09 8:14 AM
Subject: construction interruptions

Harriet,

I know employees of XYZ Corp. are looking forward to moving into the new ABC Street building in January, but recently groups of employees who do not have business here have been walking through the building. These visits create a safety hazard, interrupt the construction workers, and could put your occupancy date in jeopardy.

Would you please instruct your staff members who haven't already been moved to ABC Street to stay out of the building? If they need to meet here with someone who has already moved, they should conduct their business and leave promptly via the nearest staircase.

We need to avoid further interruptions so our construction workers can get the building ready for occupancy on schedule. If you have any questions, please call me.

Thanks,
Mel

Melvin R. Vargas
Construction Site Manager, Maxim Construction Co.
1234 Main Street, Big City, USA 98765-1111
(111) 123-4567, ext. 98

Figure 2: Sample Business Email

Netiquette

We create personal pages, post messages, and interact via mediated technologies as a normal part of our careers, but how we conduct ourselves can leave a lasting image, literally. The photograph you posted on your Facebook, Instagram, or Snapchat may have been seen by your potential employer, or that nasty remark in a post may come back to haunt you later. Some fifteen years ago, when the Internet was a new phenomenon, Virginia Shea laid out a series of ground rules for communication online that continue to serve us today.

Virginia Shea's Rules of Netiquette

- Remember the human on the other side of the electronic communication.
- Adhere to the same standards of behavior online that you follow in real life.
- Know where you are in cyberspace.
- Respect other people's time and bandwidth.
- Make yourself look good online.
- Share expert knowledge.
- Keep flame wars under control.
- Respect other people's privacy.
- Don't abuse your power.
- Be forgiving of other people's mistakes.

Shea, V. (1994). Netiquette. San Francisco, CA: Albion Books.

Her rules speak for themselves and remind us that the golden rule (treat others as you would like to be treated) is relevant wherever there is human interaction.

Although email is a valuable communication tool, its widespread use in academic and business settings has introduced some new challenges for writers.

Because it is a relatively new form of communication, basic social conventions for writing and responding to email are still being worked out. Miscommunication can easily occur when people have different expectations about the emails that they send and receive. In addition, email is used for many different purposes, including contacting friends, communicating with professors and supervisors, requesting information, and applying for jobs, internships, and scholarships. Depending on your purposes, the messages you send will differ in their formality, intended audience, and desired outcome. Finally, the use of email for advertising purposes has clogged communication channels, preventing some emails from reaching their intended audience. Writers are challenged to make their email stand apart from "spam" and to grab and hold the attention of their audience.

So—how do you know when sending an email is the most effective way of getting your message across? When is a brief message sufficient, and when it is more appropriate to send a longer, more professional email? How should a writer decide what style of writing is appropriate for each task? How can you prevent your email from ending up in the junk pile? Keep reading for answers to these questions!

When is Email the Appropriate Form of Communication to Use?

email is a good way to get your message across when:

- You need to communicate with a person who is hard to reach via telephone, does not come to campus regularly, or is not located in the same part of the country or world (for instance, someone who lives in a different time zone).
- The information you want to share is not time-sensitive. The act of sending an email is instantaneous, but that does not mean the writer can expect an instantaneous response. For many people, keeping up with their email correspondence is a part of their job, and they only do it during regular business hours. Unless your reader has promised otherwise, assume that it may take a few days for him/her to respond to your message.
- You need to send someone an electronic file, such as a document for a course, a spreadsheet full of data, or a rough draft of your paper.
- You need to distribute information to a large number of people quickly (for example, a memo that needs to be sent to the entire office staff).
- You need a written record of the communication. Saving important emails can be helpful if you need to refer back to what someone said in an earlier message, provide some kind of proof (for example, proof that you have paid for a service or product), or review the content of an important meeting, deadline, memo.

When is Email Not an Appropriate Form of Communication to Use?

Email is not an effective means of communication when:

- Your message is long and complicated or requires additional discussion that would best be accomplished face-to-face. For example, if you want feedback from your supervisor on your work or if you are asking your professor a question that requires more than a yes/no answer or simple explanation, you should schedule a meeting instead.
- Information is highly confidential. Email is NEVER private! Keep in mind that your message could be forwarded on to other people without your knowledge. A backup copy of your email is always stored on a server where it can be easily retrieved by interested parties, even when you have deleted the message and think it is gone forever.
- Your message is emotionally charged or the tone of the message could be easily misconstrued. If you would hesitate to say something to someone's face, do not write it in an email.

Who is Your Audience?

People have different opinions about the form and content of emails, so it is always helpful to be aware of the expectations of your audiences. For example, some people regard email as a rapid and informal form of communication—a way to say "hello" or to ask a quick question. However, others view email as simply a more convenient way to transmit a formal letter. Such people may consider an informal email rude or unprofessional.

A message like this one might be o.k. to send your friend, but not to your professor:

Hey Joan,

Do you know what the assignment is about? Can U help me?

M

Although it may be obvious to you that you wouldn't send such an email to your professor, let's carefully examine what assumptions this message makes about the reader and his/her expectations.

The tone of this message is casual; it assumes that the reader knows who the sender is and has a close personal relationship with the sender. Because it contains an ambiguous reference to "the assignment," this message also assumes that the reader is familiar with the subject matter at hand (for instance, it assumes the reader will know which course and which particular assignment the sender is referring to). In this message, the writer also makes an implicit assumption about the reader's familiarity with the slang that is often used when sending an instant message or text message. If the reader is not familiar with this type of slang, the "U" in "Can U help me?" might be confusing, or it might even be taken as a sign that the writer is too lazy to type out the word "you."

Making assumptions about your audience's expectations increases the risk that your message or its tone will be misinterpreted. To ensure that your message has its intended effect, use the following questions to help you think about your audience and their needs:

- Who is your audience? How often does your audience use email to communicate? How comfortable is your audience with using electronic communication—for example, when in their lifetime did they begin using email (childhood or adulthood)?
- What is your audience's relationship to you—for example, is the reader your teacher? Your boss? A friend? A stranger? How well do you know him/her? How would you talk to him/her in a social situation?
- What do you want your audience to think or assume about you? What kind of impression do you want to make?

Important components of an effective email:

Subject Lines

Email subject lines are like newspaper headlines. They should convey the main point of your email or the idea that you want the reader to take away from your email. Therefore, be as specific as possible. One word subjects such as "Hi," "Question," or "FYI" are not informative and don't give the reader an idea of how important your message is. If your message is time sensitive, you might want to include a date in your subject line, for example, "Meeting on Thurs, Dec 2."

Greetings and Sign-offs

Include a greeting, also known as a salutation, and a closing statement. Don't just start with your text, and don't stop at the end without a polite signature. If you don't know the person well, you may be confused about how to address him/her ("What do I call my TA/professor?") or how to sign off (From? Sincerely?). Nonetheless, it is always better to make some kind of effort. When in doubt, address someone more formally to avoid offending them. Some common ways to address your reader are:

- Dear Professor Varela,
- Hello Ms. McMahon,
- Hi Mary Jane,

It is always better to address a specific person, but if you are unable to locate the name of the person you are addressing, or if the email addresses a diverse group, try something generic, yet polite:

- Dear members of the selection committee,
- Hello everyone,

Your closing is extremely important because it lets the reader know who is contacting them. Always sign off with your name at the end of your email. If you don't know the reader well, you might also consider including your title and the organization you belong to; for example:

- Mary Watkins

Senior Research Associate

Bain and Company

- Joseph Smith

English 1210-53 Student

For your closing, something brief but friendly, or perhaps just your name, will do for most correspondence:

- Thank you,
- Best wishes,
- See you tomorrow,
- Regards,

For a formal message, such as a job application, use the kind of closing that you might see in a business letter:

- Sincerely,
- Respectfully yours,

Cc: and Bcc: ('Carbon copy' and 'Blind carbon copy')

Copying individuals on an email is a good way to send your message to the main recipient while also sending someone else a copy at the same time. This can be useful if you want to convey the same exact message to more than one person. In professional settings, copying someone else on an email can help move a project forward, especially if the person receiving the copy is in a supervisory role. For example, copying your boss on an email to a non-responsive co-worker might prompt the co-worker to respond. Be aware, however, that when you send a message to more than one address using the Cc: field, both the original recipient and all the recipients of the carbon copies can see all the email addresses in the To: and Cc: fields. Each person who receives the message will be able to see the addresses of everyone else who received it.

Blind copying emails to a group of people can be useful when you don't want everyone on the list to have each other's email addresses. The only recipient address that will be visible to all recipients is the one in the To: field. If you don't want any of the recipients to see the email addresses in the list, you can put your own address in the To: field and use Bcc: exclusively to address your message to others. However, do not assume that blind copying will always keep recipients from knowing who else was copied—someone who is blind copied may hit "reply all" and send a reply to everyone, revealing that he/she was included in the original message.

Some Additional Tips for Writing More Effective Emails:

Think about your message before you write it. Don't send emails in haste. First, decide on the purpose of your email and the outcome you expect from your communication. Then think about your message's audience and what he/she/they may need in order for your message to have the intended result. You will also improve the clarity of your message if you organize your thoughts before you start writing. Jot down some notes about what information you need to convey, what questions you have, etc., then organize your thoughts in a logical sequence. You can try brainstorming techniques like mapping, listing, or outlining to help you organize your thoughts.

Reflect on the tone of your message. When you are communicating via email, your words are not supported by gestures, voice inflections, or other cues, so it may be easier for someone to misread your tone. For example, sarcasm and jokes are often misinterpreted in emails and may offend your audience. Similarly, be careful about how you address your reader. For instance, beginning an email to your professor or TA with "Hey!" might be perceived as being rude or presumptuous (as in, "Hey you!"). If you're unsure about how your email might be received, you might try reading it out loud to a friend to test its tone.

Strive for clarity and brevity in your writing. Have you ever sent an email that caused confusion and took at least one more communication to straighten out? Miscommunication can occur if an email is unclear, disorganized, or just too long and complex for readers to easily follow. Here are some steps you can take to ensure that your message is understood:

1. Briefly state your purpose for writing the email in the beginning of your message.
2. Be sure to provide the reader with a context for your message. If you're asking a question, cut and paste any relevant text (for example, computer error messages, assignment prompts you don't understand, part of a previous email message, etc.) into the email so that the reader has some frame of reference for your question. When replying to someone else's email, it can often be helpful to either include or restate the sender's message.
3. Use paragraphs to separate thoughts (or consider writing separate emails if you have many unrelated points or questions).
4. Finally, state the desired outcome at the end of your message. If you're requesting a response, let the reader know what type of response you require (for example, an email reply, possible times for a meeting, a recommendation letter, etc.) If you're requesting something that has a due date, be sure to highlight that due date in a prominent position in your email. Ending your email with the next step can be really useful, especially in work settings (for example, you might write "I will follow this email up with a phone call to you in the next day or so" or "Let's plan to further discuss this at the meeting on Wednesday").

Format your message so that it is easy to read. Use white space to visually separate paragraphs into separate blocks of text. Bullet important details so that they are easy to pick out. Use bold face type or capital letters to highlight critical information, such as due dates. (But do not type your entire message in capital letters or boldface—your reader may perceive this as "shouting" and won't be able to tell which parts of the message are especially important.)

Proofread

Re-read messages before you send them. Use proper grammar, spelling, capitalization, and punctuation. If your email program supports it, use spelling and grammar checkers. Try reading your message out loud to help you catch any grammar mistakes or awkward phrasing that you might otherwise miss.

Questions to Ask Yourself Before Sending an Email Message:

- Is this message suitable for email, or could I better communicate the information with a letter, phone call, or face-to-face meeting?
- What is my purpose for sending this email? Will the message seem important to the receiver, or will it be seen as an annoyance and a waste of time?
- How many emails does the reader usually receive, and what will make him/her read this message (or delete it)?
- Do the formality and style of my writing fit the expectations of my audience?
- How will my message look when it reaches the receiver? Is it easy to read? Have I used correct grammar and punctuation? Have I divided my thoughts into discrete paragraphs? Are important items, such as due dates, highlighted in the text?
- Have I provided enough context for my audience to easily understand or follow the thread of the message?
- Did I identify myself and make it easy for the reader to respond in an appropriate manner?
- Will the receiver be able to open and read any attachments?

Letters

Principles to Keep in Mind: Business Writing is Different

Writing for a business audience is usually quite different than writing in the humanities, social sciences, or other academic disciplines. Business writing strives to be crisp and succinct rather than evocative or creative; it stresses specificity and accuracy. This distinction does not make business writing superior or inferior to other styles. Rather, it reflects the unique purpose and considerations involved when writing in a business context.

When you write a business document, you must assume that your audience has limited time to read it and is likely to skim. Your readers have an interest in what you say insofar as it affects their working world. They want to know the "bottom line": the point you are making about a situation or problem and how they should respond.

Business writing varies from the conversational style often found in email messages to the more formal, legalistic style found in contracts. A style between these two extremes is appropriate for the majority of memos, emails, and letters. Writing that is too formal can alienate readers, and an attempt to be overly casual may come across as insincere or unprofessional. In business writing, as in all writing, you must know your audience.

There are some similarities within the genres of letter writing and memo writing. The following video goes over this and more:

https://www.youtube.com/embed/GkQn76-8MvM?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

In most cases, the business letter will be the first impression that you make on someone. Though business writing has become less formal over time, you should still take great care that your letter's content is clear and that you have proofread it carefully.

Pronouns and Active versus Passive Voice

Personal pronouns (I, we, and you) are important in letters and memos. In such documents, it is perfectly appropriate to refer to yourself as "I" and to the reader as "you". Be careful, however, when you use the pronoun "we" in a business letter that is written on company stationery, since it commits your company to what you have written. When stating your opinion, use "I"; when presenting company policy, use "we".

The best writers strive to achieve a style that is so clear that their messages cannot be misunderstood. One way to achieve a clear style is to minimize your use of the passive voice, which is a sentence where the subject receives an action. Although the passive voice is sometimes necessary, often it not only makes your writing dull but also can be ambiguous or overly impersonal. Here's an example of the same point stated in passive voice and in the active voice:

PASSIVE: The net benefits of subsidiary divestiture were grossly overestimated. [Who did the overestimating?]

ACTIVE: The Global Finance Team grossly overestimated the net benefits of subsidiary divestiture.

The second version is clearer and thus preferable.

Of course, there are exceptions to every rule. What if you are the head of the Global Finance Team? You may want to get your message across without calling excessive attention to the fact that the error was your team's fault. The passive voice allows you to gloss over an unflattering point—but you should use it sparingly.

Focus and Specificity

Business writing should be clear and concise. Take care, however, that your document does not turn out as an endless series of short, choppy sentences. Keep in mind also that "concise" does not have to mean "blunt"—you still need to think about your tone and the audience for whom you are writing. Consider the following examples:

- After carefully reviewing this proposal, we have decided to prioritize other projects this quarter.
- Nobody liked your project idea, so we are not going to give you any funding.

The first version is a weaker statement, emphasizing facts not directly relevant to its point. The second version provides the information in a simple and direct manner. But you don't need to be an expert on style to know that the first phrasing is diplomatic and respectful (even though it's less concise) as compared with the second version, which is unnecessarily harsh and likely to provoke a negative reaction.

Business Letters: Where to Begin

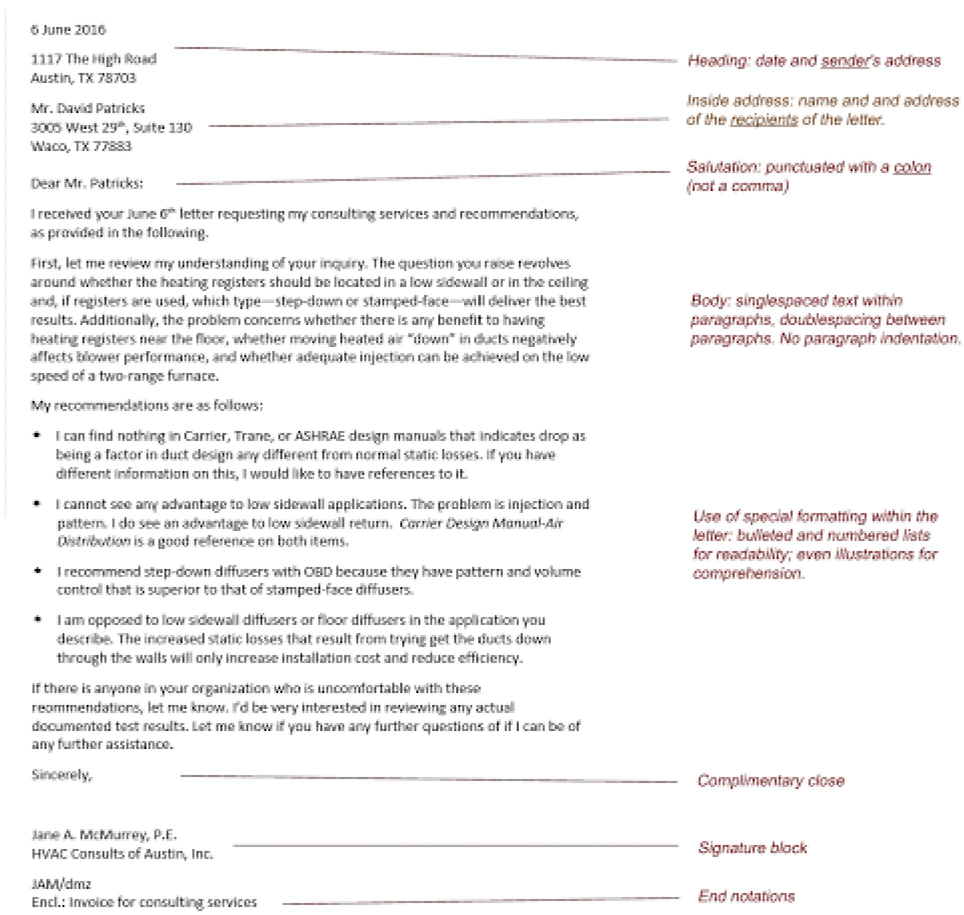
Before you begin to draft a business letter, spend a moment to reread the description of your task (for example, the advertisement of a job opening, instructions for a proposal submission, or assignment prompt for a course).

1. Think about your purpose and what requirements are mentioned or implied in the description of the task. List these requirements. This list can serve as an outline to govern your writing and help you stay focused, so try to make it thorough.

2. Identify qualifications, attributes, objectives, or answers that match the requirements you have just listed. Strive to be exact and specific, avoiding vagueness, ambiguity, and platitudes. If there are industry- or field-specific concepts or terminology that are relevant to the task at hand, use them in a manner that will convey your competence and experience.
3. Avoid any language that your audience may not understand. Your finished piece of writing should indicate how you meet the requirements you've listed and answer any questions raised in the description or prompt.

Common Components of a Business Letter

The following visual is concerned with the mechanical and physical details of business letters. All of the essential components of a traditional business letter are illustrated below:


6 June 2016

1117 The High Road
Austin, TX 78703

Mr. David Patricks
3005 West 29th, Suite 130
Waco, TX 77883

Dear Mr. Patricks:

I received your June 6th letter requesting my consulting services and recommendations, as provided in the following.

First, let me review my understanding of your inquiry. The question you raise revolves around whether the heating registers should be located in a low sidewall or in the ceiling and, if registers are used, which type—step-down or stamped-face—will deliver the best results. Additionally, the problem concerns whether there is any benefit to having heating registers near the floor, whether moving heated air "down" in ducts negatively affects blower performance, and whether adequate injection can be achieved on the low speed of a two-range furnace.

My recommendations are as follows:

- I can find nothing in Carrier, Trane, or ASHRAE design manuals that indicates drop as being a factor in duct design any different from normal static losses. If you have different information on this, I would like to have references to it.
- I cannot see any advantage to low sidewall applications. The problem is injection and pattern. I do see an advantage to low sidewall return. *Carrier Design Manual-Air Distribution* is a good reference on both items.
- I recommend step-down diffusers with OBD because they have pattern and volume control that is superior to that of stamped-face diffusers.
- I am opposed to low sidewall diffusers or floor diffusers in the application you describe. The increased static losses that result from trying get the ducts down through the walls will only increase installation cost and reduce efficiency.

If there is anyone in your organization who is uncomfortable with these recommendations, let me know. I'd be very interested in reviewing any actual documented test results. Let me know if you have any further questions of if I can be of any further assistance.

Sincerely,

Jane A. McMurrey, P.E.
HVAC Consults of Austin, Inc.

JAM/dmz
Encl.: Invoice for consulting services

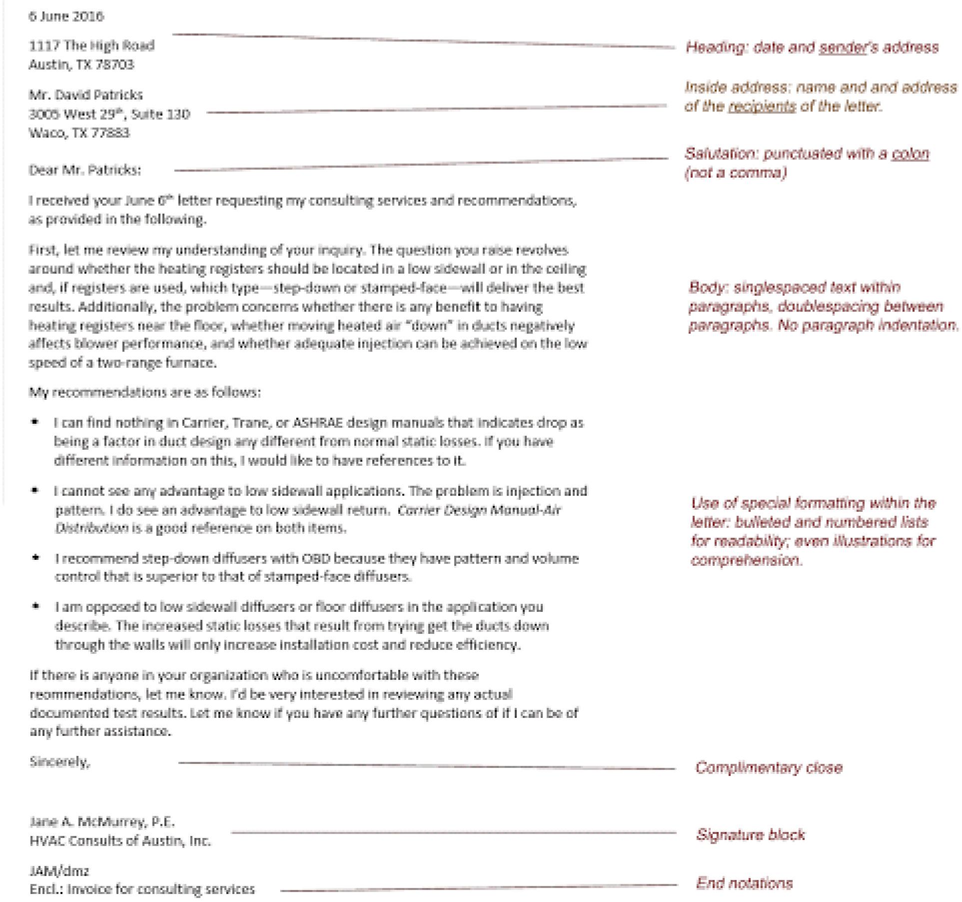
Figure 3: Traditional Business Letter

Common Components of Business Letters

Heading. The heading contains the writer's address and the date of the letter. The writer's name is not included; only a date is needed in headings on letterhead stationery

Inside address. The inside address shows the name and address of the recipient of the letter. This information can help prevent confusion at the recipient's offices. Also, if the recipient has moved, the inside address helps to determine what to do with the letter. In the inside address, include the appropriate title of respect of the recipient; and copy the name of the company exactly as that company writes it. When you are unable to locate the names of individuals, remember to address them appropriately: Mrs., Ms., Mr., Dr., and so on. If you are not sure what is correct for an individual, try to find out how that individual signs letters or consult the forms-of-address section in a dictionary.

Salutation. The salutation directly addresses the recipient of the letter and is followed by a colon (except when a friendly, familiar, sociable tone is intended, in which case a comma is used). Notice that in the simplified letter format, the salutation line is eliminated altogether. If you don't know whether the recipient is a man or woman, the traditional practice has been to write "Dear Sir" or "Dear Sirs"—but that's sexist! To avoid this problem, salutations such as "Dear Sir or Madame," "Dear Ladies and Gentlemen," "Dear Friends," or "Dear People" have been tried—but without much general acceptance. Deleting the salutation line altogether or inserting "To Whom It May Concern" in its place, is not ordinarily a good solution either—it's impersonal.



6 June 2016

1117 The High Road
Austin, TX 78703

Mr. David Patricks
3005 West 29th, Suite 130
Waco, TX 77883

Dear Mr. Patricks:

I received your June 6th letter requesting my consulting services and recommendations, as provided in the following.

First, let me review my understanding of your inquiry. The question you raise revolves around whether the heating registers should be located in a low sidewall or in the ceiling and, if registers are used, which type—step-down or stamped-face—will deliver the best results. Additionally, the problem concerns whether there is any benefit to having heating registers near the floor, whether moving heated air "down" in ducts negatively affects blower performance, and whether adequate injection can be achieved on the low speed of a two-range furnace.

My recommendations are as follows:

- I can find nothing in Carrier, Trane, or ASHRAE design manuals that indicates drop as being a factor in duct design any different from normal static losses. If you have different information on this, I would like to have references to it.
- I cannot see any advantage to low sidewall applications. The problem is injection and pattern. I do see an advantage to low sidewall return. *Carrier Design Manual-Air Distribution* is a good reference on both items.
- I recommend step-down diffusers with OBD because they have pattern and volume control that is superior to that of stamped-face diffusers.
- I am opposed to low sidewall diffusers or floor diffusers in the application you describe. The increased static losses that result from trying get the ducts down through the walls will only increase installation cost and reduce efficiency.

If there is anyone in your organization who is uncomfortable with these recommendations, let me know. I'd be very interested in reviewing any actual documented test results. Let me know if you have any further questions of if I can be of any further assistance.

Sincerely,

Jane A. McMurrey, P.E.
HVAC Consults of Austin, Inc.

JAM/dmz
Encl.: Invoice for consulting services

Figure 4: Letter formatted using the block letter format

Always spend the extra time to locate the name of the person you are writing to; the best solution is to make a quick, anonymous phone call to the organization and ask for a name. If that strategy is unsuccessful, the last resort is to address the salutation to a department name, committee name, or a position name: "Dear Personnel Department," "Dear Recruitment Committee," "Dear Chairperson," "Dear Director of Financial Aid," for example.

Subject or reference line. As shown in the order letter, the subject line replaces the salutation or is included with it. The subject line announces the main business of the letter.

Body of the letter. The actual message of course is contained in the body of the letter, the paragraphs between the salutation and the complimentary close.

Complimentary close. The “Sincerely yours” element of the business letter is called the complimentary close. Other common ones are “Sincerely yours,” “Cordially,” “Respectfully,” or “Respectfully yours.” You can design your own, but be careful not to create florid or wordy ones. Notice that only the first letter is capitalized, and it is always followed by a comma.

Signature block. Usually, you type your name four lines below the complimentary close, and sign your name in between. If you are a woman and want to make your marital status clear, use Miss, Ms., or Mrs. in parentheses before the typed version of your first name. Whenever possible, include your title or the name of the position you hold just below your name. For example, “Technical writing student,” “Sophomore data processing major,” or “Tarrant County Community College Student” are perfectly acceptable.

End notations. Just below the signature block are often several abbreviations or phrases that have important functions.

- Initials. The initials in all capital letters in the preceding figures are those of the writer of the letter, and the ones in lower case letters just after the colon are those of the typist.
- Enclosures. To make sure that the recipient knows that items accompany the letter in the same envelope, use such indications as “Enclosure,” “Encl.,” “Enclosures (2).” For example, if you send a resume and writing sample with your application letter, you’d do this: “Encl.: Resume and Writing Sample.” If the enclosure is lost, the recipient will know.
- Copies. If you send copies of a letter to others, indicate this fact among the end notations also. If, for example, you were upset by a local merchant’s handling of your repair problems and were sending a copy of your letter to the Better Business Bureau, you’d write this: “cc: Better Business Bureau.” If you plan to send a copy to your lawyer, write something like this: “cc: Mr. Raymond Mason, Attorney.

The memo section of chapter four “Basic Workplace Genres” is synthesized from the following sources:

- "Chapter 4 Technical Documents" of *ENGL 145: Technical and Report Writing*, 2017, written by Amber Kinonen and used according to Creative Commons CC BY 4.0

- And "Module Seven: Memos–Purpose and Format" from Lumen Learning's Technical Writing course, found at the following address: https://www.oercommons.org/courses/technical-writing/view and used according to Creative Commons CC BY 4.0
- Lewis, L. (2009, February 13). *Panasonic orders staff to buy £1,000 in products*. Retrieved from http://business.timesonline.co.uk/tol/business/markets/japan/article5723942.ece

The letter and email sections of chapter four "Basic Workplace Genres" are adapted from "Chapter 4 Technical Documents" of *ENGL 145: Technical and Report Writing*, 2017, written by Amber Kinonen and used according to Creative Commons CC BY 4.0

Chapter 6: Employment Materials

This chapter focuses on the application letter (sometimes called a cover letter) and résumé, which when grouped together are often called the job package. You may already have written one or both of these employment-seeking documents. That's okay. Read and study this section, and then apply the guidelines here to the résumés and application letters you have created in the past.

In many job applications, you attach an application letter to your résumé. Actually, the letter comes *before* the résumé.

The role of the application letter is to draw a clear connection between the job you are seeking and your qualifications listed in the résumé. To put it another way, the letter matches the requirements of the job with your qualifications, emphasizing how you are right for that job. The application letter is not a lengthy summary of the résumé—not at all. It generally introduces the qualifications that match the job posting and explains how you, as an applicant, can help the company achieve their mission. So, you are explaining how your skills and experiences can help the company achieve their goals.

As you begin to think about persuasive writing strategies during a job search, it is equally important to spend adequate time preparing to write your employment materials. This can save you many headaches in the drafting process. This section covers strategies that can help in your job search.

Preparing for a Job Search

Finding a suitable job opening itself can be a time-consuming process. Here are a few resources you can use to begin your job search:

- **Job boards**: browse sites like Indeed, CareerBuilder, Glassdoor and

Monster to search for jobs in your field.
- **Specialty job lists:** look for lists of jobs in specific industries such as food service (Poached), nonprofits (Idealist), or media (MediaBistro)
- **Company, organization and government web sites**: visit the employment section on websites of companies you admire; search federal, state, county, and city websites for job government job postings.
- **Your own network:** talk to friends, past employers, and professors or visit LinkedIn to search for openings at companies in your network.
- **Your college:** visit your college or university placement office/career center and attend job fairs hosted at your college.
- **Job Connection Services (JCS):** Get in touch with CNM's Job Connection Services, which manages an online job database where employers post jobs for CNM students and graduates. You can also directly contact JCS at the following email address: cnmjobconnect@cnm.edu.

Many job seekers also use Craigslist to look for work; just be aware that Craigslist postings often lack detail and may come from headhunters or placement agencies, rather than from the direct employer.

Once you have found a job, make sure to print and/or save a copy of the job posting or job description. You will use this document to help you tailor your application materials. Because companies often delete the job posting once they have received sufficient applicants, it is important that you save your own copy of the document by copying the text and pasting it into a new document, or by saving the webpage.

Conducting a Self-Inventory

As you work on your résumé, you may worry that you have nothing valuable to include, or you may worry that you are bragging. Instead of thinking of your resume as a way to brag, try thinking about it as a way to showcase your skills, work ethic, and experience. One way to overcome these hurdles is to allocate pre-writing time to a self-inventory. Brainstorm your skills, accomplishments, and knowledge. What did you accomplish at work, school, or a volunteer position? What skills have you learned? What would you tell a friend or family member you were proud of having achieved there? Think about how your skills can benefit the company or organization you are applying to work for. Start writing down key terms and action verbs that describe your experiences and accomplishments, and don't worry yet about putting them into a résumé format.

Drafting Strategies

A great way to begin your drafting process is by brainstorming action verbs that describe your skills, so you may want to browse a key term list such as the one below. First, scan the groupings of skills (Communication Skills, Creative Skills, Financial Skills etc.) for key terms related to skills you have or work you have done. Then, write down 1) categories of skills you have (again, Communication Skills, Creative Skills, Financial Skills etc.) and 2) action verbs that describe skills you have or work you have done (e.g. analyzed, performed, calculated, advocated, etc.).

BRAINSTORMING ACTION VERBS

Communication/ People Skills	Creative Skills	Management/ Leadership Skills	Helping Skills	Organizational Skills
Collaborated	Combined	Assigned	Aided	Arranged
Communicated	Created	Coordinated	Arranged	Categorized
Developed	Developed	Decided	Assisted	Distributed
Edited	Drew	Improved	Contributed	Organized
Incorporated	Illustrated	Led	Cooperated	Recorded
Proposed	Planned	Managed	Encouraged	Responded

Suggested	Revised	Oversaw	Helped	Updated
Synthesized	Shaped	Recommended	Motivated	Tracked
Translated	Crafted	Reviewed	Supported	Monitored
Facilitated	Conceived	Supervised	Prepared	Synthesized
Mediated	Established	Delegated	Bolstered	Adapted

Table adapted from Creating Resumes I by Roads to Success, licensed under CC BY-SA 4.0.

As you gather information about your work history and skills, double check that your information is accurate and current – gather dates of employment, dates of trainings, lists of activities you have been involved in, academic awards, achievements and special projects. Job descriptions or performance reviews from previous jobs can also include key terms to include on your résumé. Finally, ask former coworkers or managers about your significant workplace contributions.

Free Writing

Find a partner and a piece of paper. Take ten-minute turns speaking and writing. The speaker should describe past work history and experience, especially as it relates to the job at hand. The writer should take notes while listening to their partner's description, taking care to note any key terms they hear. The writer should also ask questions that help the speaker go into detail about the experience (who, what, when, where, why?). Finally, the writer should help identify any skills or achievements the speaker may not realize he or she has; sometimes we have a skill that we don't recognize, because we assume it is something *everyone* can do. Then, switch.

Researching Your Potential Employer

An important step in the job search process is researching your potential employer as well as the job for which you're applying. The more you know about an employer and a position, the easier it will be to complete the application process. The easiest way to research a potential employer is to visit the company's website. Look for an "about us" page or a "mission statement," and observe how the company describes its goals and values.

Try to answer the following questions about the company or organization:

- Whom does this company serve?
- Who are this company's partners or competitors?
- What technologies would I use at this company?
- What is the tone of this company's materials (formal, conservative, humorous, "cutting edge," etc.)?
- How would you describe this company's brand?

Here are a few more ways to research a company: search for its name on LinkedIn and other social media sites, browse for news articles about the company or press releases written by the company, speak with friends or colleagues who work for the company, or call the company to request an informational interview.

As you research, look for ways to connect with the company:

- What do you admire about the company?
- Where do your values and interests overlap with those of the company?
- What makes this company a good fit for you?

Try to summarize your connection to the company in one sentence. Remember that your potential employer is also your audience, and adapt your tone, examples, and level of technicality accordingly.

Researching the Potential Job

To research the job itself, take advantage of the job description you have found. The job description is your secret weapon; in this document, you are told what the employer is looking for in a candidate.

Print out the job description and annotate it; delve into a conversation with it:

- **Highlight or underline any qualifications that you hold** — any skills you have, technologies you've used, etc.
- **Make note of any past achievements that relate to any of the preferred qualifications.** For example, if the job description seeks a candidate who can diagnose and solve technical problems, write down an example of a specific time in which you did so in a professional or academic setting.
- **Circle any key terms you might use in your own materials**. Using the same terms as a potential employer demonstrates to that employer that you are able to "speak their language."
- **Note any questions/uncertainties and any qualifications you do not have** in order to decide what to highlight and what to downplay in your materials (as well as what you need to learn more about).

Word Cloud

Make a word cloud of your job description, using a site like www.wordle.net (you will cut and paste the text of the job description into a word cloud generator – note that you might have to try a few different programs before you find one that's compatible with your computer.) A word cloud presents text as a visual display, re-organizing content so that the largest words are those that appear most frequently (see Figure 1). A word cloud can be a helpful visual tool to identify key terms to use in your resume and cover letter. You might also be surprised to find that a "big word" (a commonly repeated key term) is one that you would not automatically associate with the job.

In Figure 1, below, we see how some of the words are obvious terms we would expect to find in a children's museum job description – museum, children, exhibits, playing, etc. However, diversity" and "diverse" are both large terms, too. If you were applying for this job, you would now know to talk about your commitment to diversity/experience working with people from diverse backgrounds.

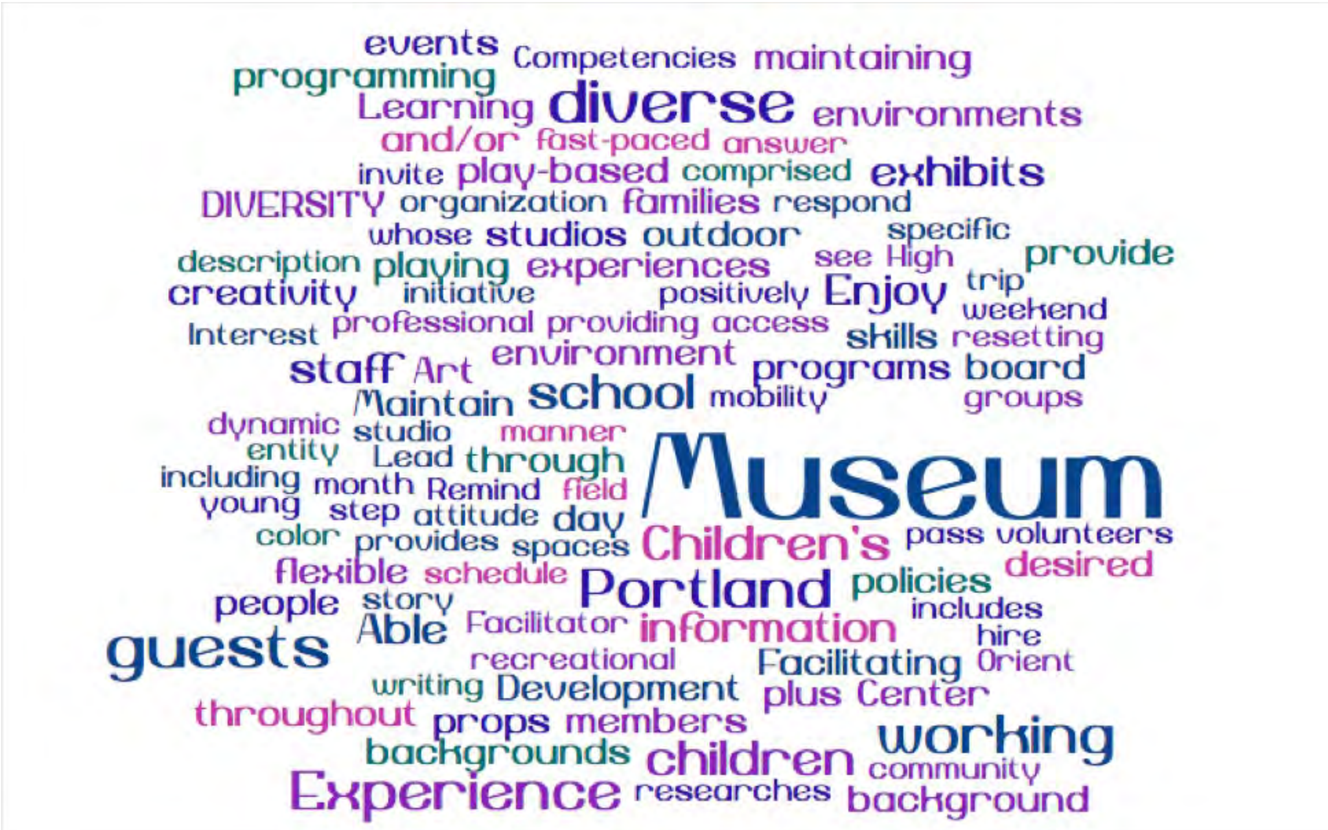


Figure 1: Portland Children's Museum Experience Facilitator Job Description as a Word Cloud References

---

References

"Preparation." From *Technical Writing*. Authored by Allison Gross, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License, except where otherwise noted.

Résumé Formats

The purpose of a résumé is twofold:

- A résumé is an overview of your skills, experience, and education as they relate to your career objective, and

- A résumé is a marketing tool that conveys your "personal brand."

All of us want our résumés to stand out from the stack. However, the best way to create an eye-catching résumé is not through gimmicks or flash, but rather through substance and customization.

Formats: Chronological Résumé vs. Functional (Skills) Résumé

Work histories come in a variety of forms; so do résumés. Although career experts enjoy debating which style is the best, ultimately you must consider which fits your current situation. Which style will allow you to best package your work history, and convey your unique qualifications?

The **chronological résumé** is a traditional format whose principal section is the "Employment Experience" section. In the chronological résumé's "Employment Experience" section, jobs are listed in reverse chronological order, and achievements/skills are detailed underneath each position.

In contrast, a **functional (skills) résumé**, features a well-developed "Skills & Achievements" section, in which skills are organized into categories. The functional résumé still includes an "Employment Experience" section, but it is streamlined to include only the basic information about each position held.

A **hybrid (or combination) résumé** includes a well-developed "Skills & Achievements" section that highlights the candidate's most important and relevant skills, but it also includes select bullets under each job in the "Employment Experience" section.

The following pages contain examples of chronological, functional (skills), and hybrid résumé formats.

https://www.youtube.com/embed/iWn_E_hKtCA?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Making your Resume Stand Out from the Crowd (2017)

Résumé Sections and Guidelines

Whatever format you choose, employers will expect to see certain key sections. There is some room for creativity in organization and phrasing, but make sure to be thorough. Each number in the list below corresponds to a section on the sample résumé that follows; as you read through the list, refer to the sample résumé to see how the section appears in context.

Key Sections of a Résumé

Whatever format you choose, employers will expect to see certain key sections. There is some room for creativity in organization and phrasing, but make sure to be thorough. Each number in the list below corresponds to a section on the sample résumé that follows; as you read through the list, refer to the sample résumé to see how the section appears in context.

- MIA SANTIAGO
- 123 Four Street · City 10110 · 123.456.7890
- you@email.com· www.website.com

- **←1**

- PROFILE
- Business student with extensive retail experience and award-winning customer service skills. Successfully implemented social media presence and branding to improve sales. Strong written communication and graphic design background. Fluent in Spanish.
- **←2**

- EDUCATION
- **A.A.S.** Business (Will Graduate 2018)
- Portland Community College Additional Coursework in Graphic Design
- Great Sales Seminar, 2015, 2016
- Customer Service Training, Macy's, 2015
- **←3**

- SKILLS
- **Customer Service**
- **←4**

1. Received "Outstanding Customer Service" Award, 2016

2. Assisted up to 100 customers daily in locating merchandise and making purchasing decisions
3. Increased monthly sales approximately $1,000 by utilizing add-on sales techniques
4. Supported customers by fielding and resolving key concerns
5. Effectively handled irate customers and complaints in a friendly, patient manner

- **Merchandising/Marketing**

1. Assisted manager in analyzing sales and marketing trends for purchasing seasonal merchandise
2. Launched and managed social media presence to increase sales
3. Created innovative in-store displays and promotional

materials
4. Stocked, priced, and inventoried merchandise

- **Administrative**

1. Produced daily, weekly, and monthly sales reports
2. Balanced cash drawer with consistently high level of accuracy

- EXPERIENCE

- **Retail Associate**, *Macy's*, Portland, OR Dec 15 – present
- **Sales Representative**, *Target*, Portland, OR Sept 14 – Dec 15
- **Server,** *Otis Café*, Lincoln City, OR Jan 12 – Sep 14

- **←5**

Résumé Guidelines

I. **Contact Info:** Create a header that includes your address, telephone number, professional email address, and possibly a Linkedin page.
II. **Headline (Also called Summary, Profile or Highlights of Qualifications)**: include a brief summary of your professional self

to grab your reader's attention. Think of this section as your "elevator pitch," offering a quick impression of your personal brand. Include a few key (relevant) achievements/strengths (in bullets or sentences). Summary/profile sections are especially useful for candidates with a long work history, or who have experienced job transitions. Here are two formulas for a one-sentence headline:

III. – "Accomplished [job title]/Certified [industry] professional holding more than [x] years of experience, specializing in [x,y,z]."
IV. – "[Field of study] graduate seeking opportunity to focus on [x,y,z,] and promote [desired company's mission or goal]."Have you been starting your résumé with an **Objective** statement? These days, most experts recommend leaving the objective off your résumé entirely. Objectives too often emphasize what you want from a job, rather than what you can offer an employer, and thus are generally seen as a waste of space.
V. **Skills/Achievements/Qualifications:**
VI. – Use sub-headers to group skills into skill set headings (management skills, customer service skills, laboratory skills, communication skills, etc.). Use targeted headings based on the qualifications your potential employer is seeking.
VII. – Include only the most relevant, targeted skills and achievements.
VIII. – Emphasize quantifiable achievements and results: skills, equipment, money, documents, personnel, clients, etc.- Use the active voice (supervised sixteen employees, increased profits, built websites) vs. the passive voice (was responsible for supervising or duties included…)
IX. – See the "Building a Better Bullet" section below for more information on how to craft an effective "skill bullet."
X. **Employment Experience:**
XI. – List positions in reverse chronological order (most recent first).
XII. – Include basic information for each job: job title, employer, dates employed, city/state (and country if outside the U.S.) of employment.- Include internships and skilled volunteer positions (but if you do, title the section "Experience" rather than

“Employment”).

XIII. – Consider filtering work experience into “Related Experience” and “Experience” instead of one employment section to highlight most relevant jobs (and downplay less significant experience).

XIV. **Education:**

XV. – Place your education section after the headline/summary section if it is recent and relevant, after the experience section if your stronger qualification is employment experience.- List the most current degree/school attended first, and proceed in reverse chronological order.

XVI. – Include the following information for each educational item: the name of the school, the school’s location, your graduation date or anticipated graduation date, the degree earned (and major if appropriate).- DO NOT include high school if you are in college unless your high school work was outstanding or unique (like a trade/technology/arts high school).

XVII. – Include trainings and certifications (e.g. first aid certifications, sales seminars, writing groups).

XVIII. – Develop this section by adding educational accomplishments:

XIX.

XX. o Your GPA (if it is 3.0 or better, and **if** it is expected in your industry)

XXI. o Relevant courses (if they prepared you for the job)

XXII. o Special accomplishments (conferences, special papers/projects, clubs, offices held, service to the school)

XXIII. o Awards and scholarships (could also be separate section – Honors)

XXIV. **Optional Sections (not included in Figure 5):**

XXV. – Volunteer Work: List skilled volunteer work (building websites, teaching classes) under skills, along with your other qualifications, but include general volunteer work (making meals for a soup kitchen, etc.) toward the end of your resume in its own section or under activities.

XXVI. – Activities:

XXVII.

XXVIII. o DON'T include a section titled "Hobbies" or "Other," with irrelevant interests.

XXIX. o DO include interests that may be relevant to the position, but aren't professional skills (sports for Nike, Eagle Scouting for leadership, golfing for business jobs, game design/play for game design jobs, blogging for PR jobs). Market yourself in the best light.

XXX. o DO include honors, awards, publications, conferences attended, languages spoken, etc. You may choose to include a separate honors section or fold these into your skills/achievements section.

XXXI. **References:** Do not list references on your résumé. Instead, give a separate sheet at the employer's request. Generally, three references are sufficient. The most important references are your superiors, but you can also use co-workers, clients, or instructors. Contact each person to verify his/her willingness to act as a reference for you. Your reference sheet should match the look of your cover letter and your résumé.

The following tips will help you write a résumé that adheres to the conventions employers expect while ditching fluff in favor of expertise.

Using "Me" and "I":

The convention in a résumé is to write in sentence fragments that begin with active verbs. Therefore, you can leave out the subjects of sentences. Example: "I eliminated the duplication of paperwork in my department by streamlining procedures" would become "Eliminated paperwork duplication in a struggling department by streamlining procedures."

Quantifiable Skills:

The more you can present your skills and achievements in detail, especially quantifiable detail, the more authoritative you will sound. This means including references to technologies and equipment you have used; types of documents you have produced; procedures you have followed; languages you speak;

amounts of money you have handled; numbers of employees you have supervised or trained; numbers of students you have taught; technical languages you know; types of clients you have worked with (cultural backgrounds, ages, disability status – demographic information that might be relevant in your new workplace); graphic design, blogging or social media skills; and so on.

Filler Words (Fluff):

Avoid generic, filler words that can be found on many resumes and don't suggest meaningful skills. Filler words include: "team player," "results-oriented," "duties include," "fast-paced," and "self-motivated." If you MUST use these phrases, find concrete examples to back them up. For example, instead of using "team player," include a time you collaborated with peers to earn a good grade on a project, save your company money, or put on a successful work event.

Results:

In at least one place in your resume, preferably more, make mention of a positive impact (or result) of your skills/achievements. How did you create positive change for your employer, coworkers or customers? Did you resolve a customer complaint successfully? Did you make a change that saved your employer money? Did you build a website that increased traffic to your client? Did you follow procedures safely and reduce workplace injuries?

Building a Better Bullet (Two Skill Bullet Formulas):

Each skill bullet may need to go through a few revisions before it shines. Here are two formulas to help you strengthen your bullets:

Formula 1: Verb + Details = Results

Start your bullet with an action verb describing a skill or achievement. Follow it with the details of that skill or achievement, and then describe the positive impact of your achievement. For example:

Formula 2: Accomplished [X] as measured by [Y] by doing [Z]

Develop your bullets by going into detail about how you accomplished what you have accomplished and why it matters to your potential employer. Compare the following three versions of the same skill bullet:

Note how the third version is not only the most specific, but it is the one that most demonstrates the "so what" factor, conveying how the applicant's skills will benefit the potential employer.

Key Terms:

Remember, use key terms you gathered in your pre-writing, preparation phase (from the job description, research into your field, and the "action verb" list presented earlier in this chapter). If your potential employer is using a résumé - scanning program, these key terms may make the difference between getting an interview or a rejection.

Length:

Résumé length is a much-debated question, and guidelines change as the genre changes with time. In general, the length of a résumé should be no longer than one or (at most) two pages (and each page should be full — no 1.5 page résumés). Some fields, however, may have different length conventions (academic resumes, for example, which include publications and conference attendance, tend to be longer). If your résumé is on the longer side, your work history should justify the length. Some experts recommend one page per ten years of work history; while that may be extreme, it is better to cut weaker material than to add filler.

Design:

Résumé design should enhance the content, making it easy for the reader to quickly find the most significant and relevant information. See the chapters on Document Design for overall design tips.

Here are a few general guidelines:

Field-Specific Conventions:

You may find that there are certain conventions in your field or industry that affect your choices in writing your résumé. Length, formality, design, delivery method, and key terms are just some of the factors that may vary across disciplines. Ask faculty or professional contacts in your field about employers' expectations, visit your school's career center, or conduct web research to make informed field-specific choices.

- Developed (VERB) new paper flow procedure (DETAILS), resulting in reduced staff errors and customer wait times (RESULT)
- Provided (VERB) friendly customer-focused service (DETAILS) leading to customer satisfaction and loyalty (RESULT)
- Organized (VERB) fundraising event (DETAILS) generating $xxx dollars for nonprofit (RESULT)
- Provided (VERB) phone and in person support for patients with various chronic and acute health issues (DETAILS & RESULT COMBINED)
- Supported (VERB) 8-10 staff with calendaring, files and reception (DETAILS), increasing efficiency in workflow (RESULT)
- **First Draft:** Participated in a leadership program
- **Second Draft:** Selected as one of 125 for year-long professional development program for high-achieving business students
- **Final Draft:** Selected as one of 125 participants nationwide for year-long professional development program for high-achieving business students based on leadership potential and academic success
- Templates are handy, but bear in mind that if you use a common

template, your résumé will look identical to a number of others.
  - Use tables to align sections, then hide the borders to create a neat presentation.
  - Use ten-twelve point font.
  - Don't use too many design features — be strategic and consistent in your use of capitalization, bold, italics, and underline.
  - To create visual groupings of information, always use more space between sections than within a section. This way your reader will be able to easily distinguish between the key sections of your résumé, and between the items in each section.
  - Use the same font in your résumé and your cover letter to create coherence.

Example of the Chronological Résumé Format

TINA SPARKLES

123 Address | City, State 01234

10.1234.5678 | me@gmail.com

E D U C A T I O N

AAS: Portland Community College 2010 | Sign Language Interpreting

BA: University of Colorado, Boulder 2007 | Psychology

Certifications: Certificate of Interpretation, Registry of Interpreters for the Deaf | Certificate of Transliteration, Registry of Interpreters for the Deaf

E X P E R I E N C E

Staff Sign Language Interpreter | St. Joseph's, Boulder CO | September 2014 – present

Provide Sign Language Interpreting to approximately 15 Deaf adults with pervasive mental illnesses in a Partial Hospitalization setting. Provide interpreting for staff meetings, therapeutic groups, psychiatry sessions, and medication monitoring.

Educational Sign Language Interpreter | Boulder High, Boulder CO | August 2011 – June 2014

Provided Sign Language Interpreting for Deaf and Hard of Hearing High School students in day-to-day activities including academic classes, assemblies, after-school clubs, varsity sports, class trips, and more.

Interpreter Intern | Portland Community College, Portland OR | January 2010 – June 2010

Provided Sign Language Interpreting services for one deaf college student for all of her day-to-day activities including academic classes, after-school clubs, advising sessions, and more.

Customer Service | Kaiser-Permanente Medical Center, Clackamas OR | 2008 – 2010

Provided members with information pertaining to benefits, enrollment, and coverage. Assisted members with benefits-related questions and concerns, resolving problems and supporting members with special needs.

ACTIVITIES

Volunteer | Denver Homeless Family Solutions | January 2016 – present

Prepare and serve meals, collect and sort donations, overnight host.

PROFESSIONAL MEMBERSHIPS

National Registry of Interpreters for the Deaf

National Association of the Deaf

Note that the Chronological Résumé:

- Lists both work and education in reverse chronological order (starting with the most recent positions/schools and working backward)
- Lists job achievements and skills under each position
- Presents experience under headings by job title, company, location, and dates of employment
- Allows employers to easily determine work performed at each company

Example of the Functional (Skills) Résumé Format

Downtown, Portland, Oregon 97035	**Anonymous** Personal Résumé
M 971.123.4567 anonymous@pcc.edu	Graphic Design major with about 10 years full-service agency experience, from creative marketing material design to print management and

www.linkedin.com/in/anonymous

coordination with a wide range of clients. A passionate and dedicated designer, capable of handling a large workload and tight deadlines. Working toward B.A degree in Graphic Design.

EXPERIENCE

Print Management

Managed 5000 copies MTT company calendar printing process, from finalizing artwork to output file check, paper stock selection, color proofing, print finishing, and delivery deadline coordination.

Event Management

Designed and organized a company anniversary cocktail event for a new client – INSTINET Hong Kong, receiving positive feedback from client's guest and resulting in 3years event management contract with Pink Tiger Media.

Editorial Design with Collaborative

Designed and collaborated with Prince of Wales Island International School on production of 16pp program book, received positive feedback from every division of the school and resulted in more business to Priority Resources design team.

EDUCATION

Portland State University	B.A Degree Graphic Design – Expected enrollment 2018
Portland Community College	Associate Transfer Degree – 2016-present
Equator Academy of Art	Diploma in Graphic and Multimedia Design – 2004-2006

EMPLOYMENT

Senior Graphic Designer	Priority Resources – Penang, Malaysia
2013 – 2015	*Editorial design, Web interface design, vendor coordination*
Jr. Art Director	Pink Tiger Media – Penang, Malaysia
2012-2013	*Team management, Event management, Marketing campaign, Visual communication, vendor coordination*
Graphic Designer	Moonlight Media & Design – Penang, Malaysia
2006-2011	*Exhibition design, Branding & Identity design, Print design, Product branding, Typography, Event management*

Trainee Graphic Designer	Dolphin Printing – Penang, Malaysia
2006	*Print production, Packaging, Customer service*
	ADDITIONAL
Honors	Awarded $3,000 tuition scholarships from Portland State University (2017-2018)
Languages	English, Bahasa Malay, Chinese: Mandarin, Cantonese, Hokkian, Hakka

Note that the Functional (Skills) Résumé :

- Focuses on skills and experience, rather than on chronological work history
- Groups functions or skills under categories
- Describes responsibilities, accomplishments, and quantifiable achievements under categories in the skills section
- Typically opens with a *brief* summary/profile detailing strengths (one-three sentences)
- Demonstrates how you match the requirements of your potential job by including *relevant* achievements and accomplishments

Example of the Hybrid Résumé Format

Anthony Swift

1234 Happy Lane, Hillsboro, Oregon 97006 · anthony.swift@gmail.com · 971-555-1212

Summary

Electrical engineering major with experience in testing, analyzing and developing digital systems. Strong written communication skills and experience working with diverse cultural backgrounds.

Skills and Abilities

Technical Skills

- Designed and built a pulse and breathing monitor which required over 40 hours of troubleshooting. Involved circuit design and building, and circuit analysis. Required a good knowledge of reading electrical component schematics and basic programming with an Arduino.
- Proficient in Windows, Mac, Office Suite: Word, Excel, PowerPoint, Access.

Organization and Professional Development Skills

- Coordinated finals study sessions with staff of ten math instructors and more than 100 students in attendance.
- Organized and planned community clean-up events while delegating tasks to a team of 15 students.
- Planned S.T.E.M. (science, technology, engineering and mathematics) panel consisting of six professionals from various industries, providing students the opportunity to learn about different career paths.

Instruction Skills

- Managed foreign teacher organization, communications, and hiring. Introduced innovative teaching methods to staff and created exciting classroom environments for Chinese students.

Maintained communications between management and foreign staff using Mandarin Chinese while ensuring high teaching standards were maintained. Trained new foreign teachers as well as overseeing three education centers to verify quality of teaching.

Education

Bachelor of Science in Electrical Engineering, Oregon Tech, (2016 – 2019)

Associates of Science Degree, Portland Community College, GPA: 3.8 President's list – 7 quarters (2013-2016)

Chinese Language, Beijing Language University, Beijing, China (2009-2010)

Work Experience

Math Tutor, *Portland Community College*, Portland, Oregon (2014 – 2016)

Gave special instruction to students to help simplify difficult math concepts and walk students through critical thinking process to solve difficult problems. Instructed students working on advanced mathematics courses.

Math Club President, *Portland Community College*, Portland, Oregon (2014 – 2016)

Organized finals study sessions for the college with over 100 students attending each session. Facilitated events with panels of working professionals giving students access to vital information about pursuing specific majors. Hosted weekly study sessions to help struggling students successfully pass math exams.

Data Entry Specialist, *Seamless Systems*, Portland, Oregon (2013 – 2014)

Maintained national database of legal documentation with extensive use of

Microsoft Access.

Head Foreign Teacher and Trainer, *KidsCan!*, Beijing, China (2010 – 2012)

Worked with Chinese investors and management to create a training curriculum for the Hubei Province region. Instructed foreign teachers and developed fun team-building activities that created strong bonds between the staff. Mediated between foreign and Chinese staff when language barriers were present.

Anthony Swift Resume is licensed under CC BY-NC 4.0.

There are many reasons to choose one format over another; the chronological résumé is a strong choice for candidates with a work history in a field closely related to the job posting. On the other hand, the functional résumé serves candidates who are transitioning between fields, candidates shifting from a military to a civilian career, or candidates who have gained skills in a variety of different settings (workplace, academic, volunteer). The hybrid résumé offers the best of both worlds.

Because functional (skills) and hybrid résumé formats are the easiest to customize for a number of different potential employers, the following section of this chapter (Key Sections of a Résumé) will emphasize those formats.

References

Résumé Formats from *Technical Writing*. Authored by Allison Gross, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva and licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License, except where otherwise noted.

Cover Letters

The cover letter serves a few critical functions. If the resume is characterized by breadth (giving a broad overview of your qualifications), the cover letter is characterized by depth (choosing a few most significant qualifications to cover in detail). Written in paragraphs rather than bullet points, the cover letter is the first writing sample your employer will see from you. In paragraphed prose, it is easier to market your unique qualifications and how you will fit in with the culture of the company. An effective cover letter will create a picture of you as a potential employee, and inspire a potential employer to learn more about you.

https://www.youtube.com/embed/jHg0b7Nai6c?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

How To Write A Cover Letter (Example Included)

Keep the following tips in mind as you write your cover letter:

- Your cover letter is essentially an argument for why you should be granted an interview. Make sure to support the claim that you are qualified for the position with evidence. Demonstrate your authority by speaking in detail

about your qualifications, and SHOW the reader that you have the skills and abilities necessary to do the job at hand. The more detail you offer and the more precise your language is, the more the reader will be able to picture you doing the job. See the sample cover letter below for examples of "showing." Your goal is to explain how your abilities can help the company achieve their goal or mission.
- Use your audience analysis research to help you connect with the company and to choose the appropriate tone, level of formality, and level of technicality.
- Follow the format for professional letters described above.
- Do not duplicated information in the cover letter and the résumé. These are two different documents with different purposes.

In the era of social media, the idea of writing a cover letter to introduce your résumé may seem outdated.

Outline

A general outline for cover letters:

1. **Salutation:** Make your best attempt to find a specific name (or at least the job title) of the person to whom you should address this letter. If you cannot find the name, you may address the letter "Dear Hiring Manager."
2. **Opening Paragraph:** State why you are writing, specifically naming the position to which you are applying. Indicate how you learned about the position (networking if you can). In one sentence, use your audience analysis research to establish a connection with the company. Finally, in one sentence, summarize your strongest qualification/s for the job.
3. **Body Paragraph(s):** Build each paragraph around a key qualification or professional strength that relates to the job for which you are applying. Open the paragraph with a claim about this qualification/strength, and then provide a developed illustration of a time in your work or academic history when you used/excelled at this skill, or used it to benefit others. For example, if the job requires excellent customer service skills, you might

discuss a time in which you used your customer service skills to diffuse a conflict or increase your company's profits. Try to make a clear connection to the job position you are applying for; how can this skill enhance the company you are applying to work for? It can be effective to conclude your middle paragraphs with sentences that express how these past experiences prepare you for the potential job.

Closing Paragraph: Thank the reader for his or her time and consideration. Gesture towards an interview. You may explicitly request an interview, or you may wish to include a phrase like "I look forward to discussing my qualifications with you in person, soon." If there is any information the reader should know about getting in touch with you, include it; if your phone number and email address do not appear elsewhere in the cover letter, include them here. You may refer the reader to your enclosed resume.

https://www.youtube.com/embed/I2txr6OY5dY?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

The Key Forms of Business Writing: Basic Letter

Sample Cover Letter

12248 SE Wilderness Dr.

Portland, OR 97214April 29, 2017Mr. Doug Jones

Director of Human Resources

EVZ

600 Minnow Lane

Seattle, WA 12345

Dear Mr. Jones:

At Portland State University's computer science job fair on April 9, 2017, I met with your representative, Ms. Karen Lincoln, regarding your entry-level Database Administrator opening. Not only am I a DBA and SQA certified CIS specialist, but I also have over a decade of experience in the steel and manufacturing industry EVZ specializes in. My strong manufacturing and technological background prepares me to help EVZ continue your impressive track record of safety improvements.

Introductory Paragraph

Your introduction should discuss the following:

– The title of the job for which you are applying

– Where you heard about the position

– A connection with the organization and its goals

– How your experience matches the position

– How you will help the organization achieve its goals

From my conversation with Ms. Lincoln and your online information, it's clear you are looking for someone who not only has technical skills, but who understands the steel industry. Within six months at United Steel Mill, I was promoted from Clerk to Machine Operator, largely as a result of my attention to detail and ability to collaborate. In three years, I had worked my way up to Plant Safety Coordinator, Quality Control Database Administrator, and Floor Trainer. While in those roles, I implemented a plant-wide safety program, saving my company roughly $15 million in recovered product, and reducing accidents by over 25%. In addition to demonstrating my understanding of the steel industry, this experience demonstrates the kinds of skills EVZ seeks: accuracy, integrity, and strong problem-solving skills.	**Body Paragraph 1** This paragraph should discuss the following: – More connection with company goals/mission – Support for your claim that you can help them achieve goals/mission – Specific example based on information in résumé – How you will help the organization
I have a BA degree in Computer Information Systems and an AAS in Network Administration; through my experiences, I have become very familiar with all aspects of Database Administration. In my position as Database Intern for Work Inc., I enrolled users, maintained system security, and monitored user access to the database, with 30-40 concurrent	**Body Paragraph 2** This paragraph should discuss the following: – More detail on position requirements – More detail supporting your claim that your experience fulfills these

users at any given time. At Portland State, I maintained a 4.0 GPA, was admitted to Phi Theta Kappa, and was placed on the President's List every term – a standard I will bring to EVZ.	requirements – Specific example based on information in résumé – How you will help the organization
EVZ has grown rapidly for twenty years, and I would like to speak with you to discuss how my experience can aid your commitment to improving safety, quality and processes as you continue to grow. Enclosed is my resume, and you can reach me at 503-555-6237 or johnice@email.com with questions. Thank you for your time and consideration. I look forward to meeting with you soon.	**Closing Paragraph** This paragraph should do the following: – State your main objective: an interview – Provide contact information – Close the letter in a professional manner, thanking the reader – Provide signature block – Provide enclosure information
Sincerely, John Ice	

Figure 5: Sample Cover Letter

Adapted from Cover Letters. Technical Writing. Authored by Allison Gross,

Chapter 7: Integrate Visuals and Apply Design Principles

Graphics

An important aspect of communication is imagery. Both technical writers and workplace communicators use graphs, diagrams, images, drawings, charts, and other visual elements to inform and engage their readers. During this chapter, you will learn how to integrate visual design elements in many different documents. There is an old saying that a picture is worth a thousand words. Sometimes, despite writing clearly and concisely, your audience will appreciate the presence of supporting graphics–whether that be tables, illustrations, maps, photos, charts, or some other type of other visual aid.

When creating graphics, it is important to keep your audience in mind. This relates not just to the content you share but also how that content appears on the page. Are you aware, for instance, that the same color has different meanings across various cultures? Take a look at the graphic below and notice how the color red means something extremely different across cultures. Similar differences exist across cultures with other colors, as well, so be aware that the choices you make in colors for your graphics may communicate ideas you do not actually intend.

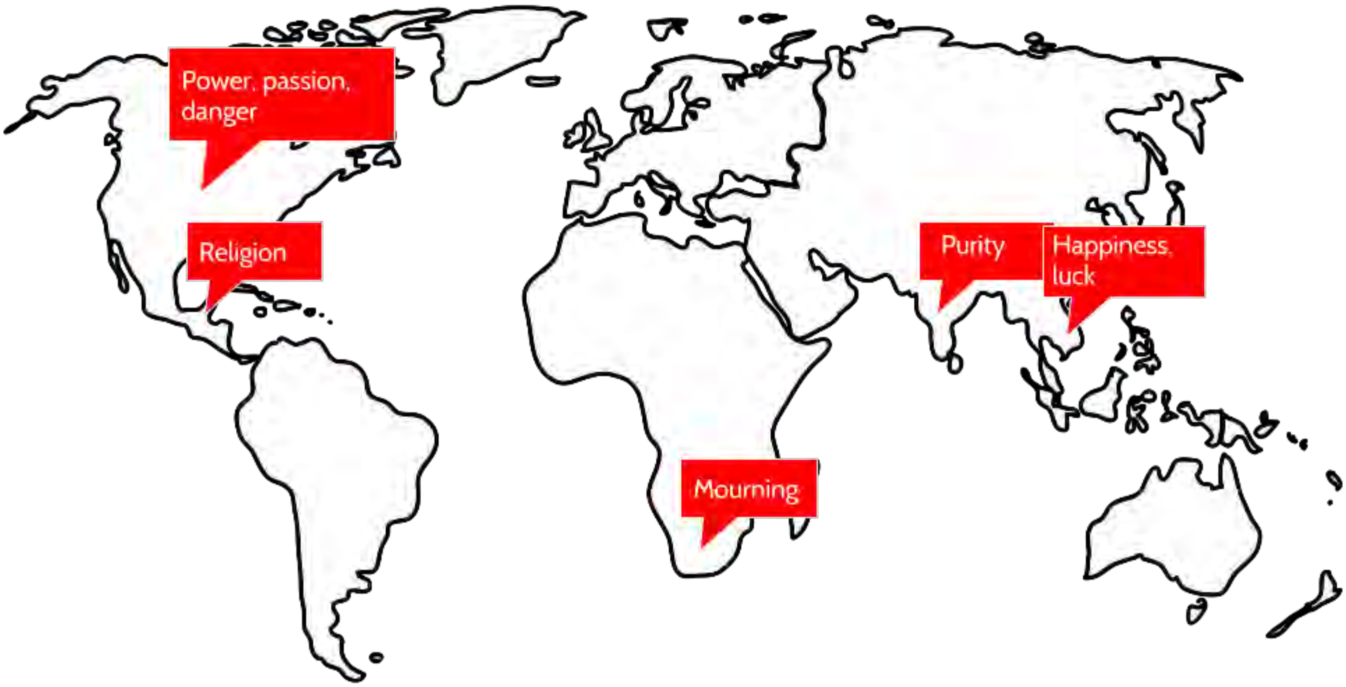


Figure 1: Meanings of the color red around the world

Before creating, formatting, and incorporating graphics, consider the types of imagery that might be most beneficial and their functions. You can use graphics to represent the following elements in your writing:

- **Objects** — If you're describing a fuel-injection system, you'll probably need a drawing or diagram of the system. If you are explaining how to graft a fruit tree, you'll need some illustrations of how that task is done. Photographs, drawings, diagrams, and schematics are the types of graphics that show objects.
- **Numbers —** If you're discussing the rising cost of housing in Vancouver, you could use a table with the columns being for five-year periods since 1970; the rows could be for different types of housing. You could show the same data in the form of bar charts, pie charts, or line graphs. Tables, bar charts, pie charts, and line graphs are some of the principal ways to show

numerical data.

- **Concepts** — If you want to show how your company is organized, such as the relationships of the different departments and officials, you could set up an organization chart, which is boxes and circles connected with lines showing how everything is hierarchically arranged and related. This would be an example of a graphic for a concept; this type depicts non-physical, conceptual ideas and their relationships.
- **Words** — Graphics can be used to depict words. You've probably noticed how some textbooks may put key definitions in a box, maybe with different color in the background. The same can be done with key points or extended examples.

Documenting Graphics

Just as you would cite and reference a paraphrase or a direct quote, you must also cite and reference any graphics that you use that were created by someone else or that were based on someone else's data. Indicate the source of any graphic or data you have borrowed. Whenever you borrow a graphic or data from some other source, document that fact in the figure title using an in-text citation. You should also include the reference information in the reference list.

Guidelines for Using Graphics

Use graphics *whenever* they would normally be necessary—don't be scared because it seems like they are too much trouble! Graphics can help keep your reader engaged and provide information in a new way that is easier to understand. Here are a few tips to keep in mind when adding graphics to a document:

- Like all writing and design choices, you'll want to make sure your graphics are appropriate to your audience, subject matter, and purpose — don't zap beginners with advanced, highly technical graphics they can't understand.
- Use both graphics and text on the same page. Place graphics as near to the point in the text where they are relevant as possible, and don't put them on

pages by themselves or attach them to the end of documents. However, if a graphic does not fit properly on one page, put it at the top of the next, and continue with regular text on the preceding page. Don't leave half a page blank just to keep a graphic near the text with which it is associated.

- Always introduce graphics in nearby text preceding the graphic. Don't just throw a graphic out there unexplained. Orient readers to the graphic and explain its basic meaning. Graphics are not there for decoration. They need to have a purpose and be introduced before the reader encounters them on the page. The first mention of a graphic is called a lead-in statement, and your graphics must always be introduced by a lead-in. Similarly, it is typically recommended to also use a lead-out statement after the graphic. This is a statement that connects the figure to the material that follows. Use titles and labels for graphics and include identifying detail such as illustration labels, axis labels, keys, and so on. Finally, make sure graphics fit within normal margins—if they don't, enlarge or reduce the copies. Leave at least two blank lines above and below graphics.

Drawings, Diagrams, and Photos

To depict objects, places, people, and relationships between these items, you can use photos, drawings, diagrams, and schematics.

Illustrations and photographs run from minimum to maximum detail. A line illustration of how to graft a fruit tree reduces the detail to simple lines representing the hands, the tools, the graft stock, and graft. Diagrams are a more abstract, schematic view of objects or ideas, such as a wiring diagram of a clock radio (which hardly resembles the actual physical item at all). And of course photographs provide the most detail of all. These graphics, supplying gradations of detail as they do, have their varying uses.

Formatting and Citing Requirements

When you use an illustration in a report, there are several requirements to keep in mind.

Just about any illustration should contain labels words and phrases with pointers to the parts of the items or ideas being depicted.

If the illustration has certain shadings, colors, line styles, or other such details that have a special meaning in the illustration, these should be indicated in a key or legend in an unused corner of the illustration.

Ideally, you want illustrations, diagrams, and photos to be between one-half to one-quarter of the vertical size of the page. You should fit them on the page with other text. What you do *not* want is to append the graphic to the back of the report!

Make sure that your illustrations, diagrams, and photos fit neatly and comfortably within standard margins. You don't want them spilling over into the right or left margins. You want to allow the equivalent of at least two blank lines above and below the graphic.

Illustrations, diagrams, and photos should have titles, and these titles should be numbered (Figure 1, Figure 2, and so on). The titles and figure labels should be placed below the graphic.

Illustrations, diagrams, and photos should be referred to from the relevant point in the discussion, and you should do more than just tossing in a "See

Figure 2." Discuss the illustration to focus the reader's attention on the key details of the graphic.

Just as you would cite and reference a paraphrase or a direct quote, so too must you cite and reference any illustrations, diagrams, and photos that you use that were created by someone else or that were based on someone else's data. Indicate the source of any graphic or data you have borrowed. Whenever you borrow a graphic or data from some other source, document that fact in the figure title using an in-text citation. You should also include the reference information in the reference list.

https://www.youtube.com/embed/epwdt2h1cDU?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

How to reference an image from the Internet

Photos and Illustrations

Photos are used in professional documents as tools for communicating a message that a writer feels can be strengthened through the use of proper imagery. Photographs can greatly enhance a message, some examples are discussed in the following checklists:

Illustration Checklist

Planning

- What kinds of illustrations are your audience familiar with?
- Do you have information that could be more easily or quickly communicated to your audience visually or in a combination of words and graphics?
- Do you have definitions that could be displayed visually in whole or in part?
- Do you have any processes or procedures that could be depicted in a flowchart?
- Do you have information on trends or relationships that could be displayed in tables and graphics?
- Do you have masses of statistics that could be summarized in tables?
- Do you need to depict objects? If so, what do you need to display about the objects? Do you need to focus attention on specific aspects of the objects? Do you require the realism of photographs?
- What are the design conventions of your illustrations?
- Are there suitable illustrations you could borrow or adapt? Or will you need to create them yourself?

Revising

- Are your illustrations suited to your purpose and audience?
- Do your illustrations communicate information ethically?
- Are your illustrations effectively located and easy to find?
- Are your illustrations numbered and labeled?
- Do your verbal and visual elements reinforce each other?
- Are your illustrations genuinely informative instead of simply decorative?
- When necessary, have you helped your readers to interpret your illustrations with commentary or annotations?
- Have you acknowledged the sources for borrowed or adapted tables and figures?

How To Use Pictures to Enhance Text

Pictures are an effective tool for giving visual representation of how to complete a task. They can stand alone or work in conjunction with the given text, and they can enhance a message if used properly.

If you are using pictures in conjunction with text: As in a set of instructions, the imagery increases the readers understanding of the task, in addition to decreasing confusion that may arise from text that stands alone. When using a picture to help portray how to perform a task, it is your responsibility to make sure the picture matches up with the text. You must explain the picture using text, and vice versa, explain the text using a picture. Also, the viewer will accomplish the task more often when the picture looks how it would if they were watching the task, not necessarily if they were experiencing it, an example is located in Figure 2, which depicts a hot air balloon being inflated.

Figure 2: Crew Using Burner to Fill Balloon with Hot Air. Authored by: mnchilemom

Another example on using pictures to instruct: if your task was doing a cartwheel, you wouldn't want the pictures at an angle where the person is looking through the eyes of the one doing the cartwheel. You would want the pictures to be from someone watching the event, so that the viewer isn't confused by what they can't see (such as where their feet are when they're looking at their hands). It's the simple choices that make or break a document when using pictures. Think and re-think the pictures you are using and how someone seeing them for the first time will react to them.

Figure 3: Image of a girl performing a cartwheel in front of Independence Hall in Philadelphia, PA. Authored by: Aaron Fulkerson. https://commons.wikimedia.org/wiki/File:Cartwheel.jpg. License: Creative Commons Attribution-Share Alike 2.0 Generic.

How a Finished Product Should Look

When textual information does not capture the essence of what you are trying to describe, try putting an actual photo of what you are trying to describe in the document. This type of picture enables you to more closely depict reality. Make sure your pictures are color and high quality. Black and white photos tend to blur easily on paper and lack the detail needed to fully understand a photo. Images help you cut down on excessive use of describing words. "A picture is worth a thousand words" relates to this situation.

Be sure to use the text wrap abilities of most word processors. A well-placed picture with clean text wrapping can make an otherwise overwhelming block of text seem reasonably approachable. Looking at twenty-five pages of block, justified alignment, plain black text is one of the most boring ways to see a report. A picture can liven up a report, make it more memorable, and help clarify the report all in one motion.

Map Out an Object, Place, or Process

An example of these types of pictures can be found in an automotive manual or a science textbook.

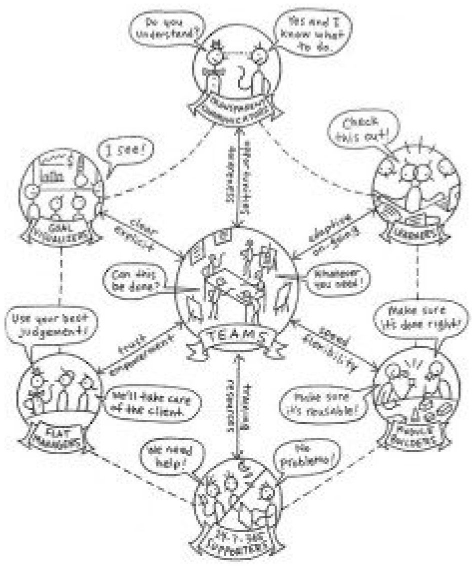


Figure 4: Image of Team Diagram. Authored by: Dave Gray. Located at: https://flic.kr/p/xntUr . License: CC BY-ND: Attribution-NoDerivatives

This can be anything from a picture of a machine to an example of how photosynthesis works. Arrows and labels can be used in order to show individual parts and how the process takes place. The picture should include a big enough background so that the reader can locate the area in relation to items around it.

Photographs can also play a major role in connecting with the audience. They are useful in multi-cultural situations when a shared written language may not exist. Pictures can speak louder than words, and usually portray the message quicker. It is important to keep the first initial reaction in mind when choosing the image you will place within your document. Be sure to avoid photos that may have several meanings, or the true meaning may be unclear. In order to avoid this type of situation, put yourself in the audience that you are writing for and try to be unbiased when you view the image. Better yet, test the image on someone who does not know much about your photo's topic and ask them what message the photo sends to them. Clarity is essential in conveying your message.

Do not rely too heavily on pictures though. Pictures and text should be used simultaneously in order to give the audience the most accurate direction. Pictures can make a great break in words, but are not always as useful to get a point across as words are.

Using Software to Enhance Photos

There are a great deal of photo editing programs for computers that can be utilized to bring out the right angle, zoom, view, and color of a photo. Some of the most popular photo editing software includes Photoshop, Corel, and Image Smart. Many computers now come with basic image editing software, which allows one to adjust color, brightness, crop, and other basic edits.

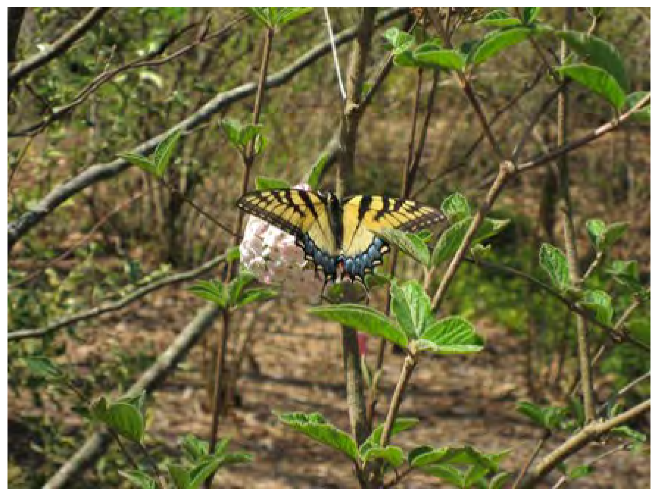
Cropping is an essential key feature that allows you to enlarge the area of the photo you want the reader to see, while omitting the background and obsolete area of the background. Cropping is equivalent to looking at an image under a microscope where you can focus on the areas you want the readers to see the clearest. However, this can decrease image quality and make the image hard to see. When possible, it is best to use images that need little to no editing.

When using imagery make sure it is of high image resolution (300 dpi for print, 72 dpi for screen) and the proper format to be inserting into your document. Typically, sticking with images from original sources, such as a camera or other .jpg or .tif file are best.

If you find your photograph is not using the right coloring, computer programs such as Photoshop, Corel, etc. will allow you to adjust the color balance and light in many different variations. This is an important feature, especially when the photograph was not professionally taken or lacks the appropriate lighting for the setting. Be careful not to over or under expose the photography.

Labeling is also another feature you can do in a computer program. You can insert boxes with text and arrows into a photograph in order to label key details. Labeling your photographs keeps the information you are trying to convey to the reader clear.

These computer programs may take some time to become familiar with how they work, so it might be necessary to take a course or tutorial on how to use them to their full advantages, but it’s worth it for all the features these programs have. There are some free tutorials available on the internet or through the actual program.



Using Graphics From the Artists, Internet, and Other Misc. Sources

Graphics can be found for just about any topic relatively easily if you know how to search for them and cite the artist properly. Like any written material, pictures are also property of the original artist in many cases, so it is important to use good ethics and cite artists when necessary.

The following video by Open Networked Learning describes how students can search the internet for Creative Commons licensed images:

https://www.youtube.com/embed/c0SCeiKTwZk?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Finding and Using Creative Commons images

mages and videos that are openly shared with a Creative Commons license on the internet can be used for educational use, as long as you cite the original creators. To be clear on the difference licenses and what they allow, check out this Creative Commons site on the different types of licenses.

In addition to openly licensed items, the internet and your computer's clip art file have countless pictures and graphics as well. Knowing how to use these techniques and tools will make finding and using images easier.

Citing Images

In order to use or manipulate an image or graphic not your own, from either the Internet or any other source, you must obtain permission from whoever created or has rights to that image. Usually some type of arrangement between you and this person or organization will have to be negotiated. This could be anything from paying for the rights to use the image or citing the image in the way that is expressed by the owner. Sometimes graphics will be considered public domain. Studying the copyright information of an image is one way to determine whether or not it is public domain. Images belonging to a government agency or even to your employer would typically be considered public domain. Even so, these images should still be cited.

Finding Images on the Internet

If you are looking for a high resolution image from the internet, you can select in the Google header bar that you want it only to search for “large images, or extra large images”. If you are not finding what you are looking for, there are many stock photography sites out there that allow you to have the image, royalty free for very little of your own money. Some sites to consider would be: Stock.XCHNG (this is a free site, with some restrictions), Stock Xpert, Corbis, Getty, or others, just type in stock photography in the search bar.

Clip Art/Illustrations

Clip art and other types of illustrations are a great way to convey information easily and effectively to an audience of all ages. However, when using illustrations, which can include sketches, pictures, drawings, or clipart, be sure that there is relevance from the illustration to the topic your discussing. Illustrations can serve as tangents if they have no relevance to the topic being discussed, so take the time to select an appropriate illustration that will highlight the topic you are discussing and not distract readers from it.

The following clip art of a polar bear is an example of a graphic that resides in the public domain. The graphic was located in a Wikibook which contains a CC BY-SA 3.0 license, but the picture itself actually needs no attribution. Attribution is provided to enable you the student to check out the graphic’s license to understand what an open license looks like. Why include this? Because it is not only fascinating, but also because knowing how to integrate images into your work ethically makes you a stronger student and writer.dfd

Adapted from "Graphics" in the Online Technical Writing Textbook by D. McMurray and is used under a CC-BY 4.0 International License.

Graphics are often used to introduce more complex ideas, and they can often portray these ideas more easily than a picture. They often provide a visual representation of information within a document.

Selecting the appropriate type of image can be time consuming, but it is an important task. Think about your audience and their expectations for the document or presentation. If you are presenting complex ideas to well-educated and technologically savvy professionals, clip art may not present the information efficiently. Illustrations that have a low image resolution can take away from the details you are trying to portray to your audience. So a graphic that introduces a visual presentation of complex information may be the best option.

Headline Text

Headline text is used to introduce or even explain graphics. It is expected that you label all of your graphics in one way or another so that when you reference them in you document the reader knows which graphic you are talking about. Headline text can be as simple as a title for a graph or as complex as a short paragraph below a photo explaining the origin and context of the image. Your images and text may seem to go together logically without headlines to you, but your readers will not have your same familiarity.

Tables, Charts, and Graphs

When Do I Use a Table?

Tables are rows and columns of numbers and words (though mostly numbers). They permit rapid access to and relatively easy comparison of information. If the data is arranged chronologically (for example, sales figures over a ten-year period), the table can show trends—patterns of rising or falling activity. However, tables are not necessarily the most vivid or dramatic means of showing such trends or relationships between data—for that, you'd want to use a line graph, which is discussed in the next section.

The biggest use of tables is for numerical data. Imagine that you are comparing different models of laser printers in terms of physical characteristics such as height, depth, length, weight, and so on. This type of data is perfect for a table.

A special type of table is called a matrix. This is where instead of comparing numerical values in the rows and columns, you are comparing qualitative data (words). For example, imagine that you were comparing several models of a laser printer and you want to represent various information, such as cost, print speed, supply costs, and warranty terms, for each printer being considered. This is ideal information for a matrix, and it would be mostly words rather than numbers.

Formatting Requirements

In its simplest form, a table is a group of rows and columns of data. At the top of each column is a column heading, which defines or identifies the contents of that column (and often it indicates the unit of measurement). On the left edge of the table are row headings, which define or identify the contents of that row. Things can get tricky when rows or columns must be grouped or subdivided. In such cases, you have to create row or column subheadings, as shown in Figure 5.

Table 3. Energy production by major source from 1960 to 1980[1]

Year	Total production (quad Btu)	Percent production			
		Coal	Petroleum	Natural gas	Other[2]
1960	41.5	26.1	36.0	34.0	3.9
1970	62.1	23.5	32.9	38.9	4.7
1980	64.8	28.7	28.2	34.2	8.9

[1] *Source:* U.S. Energy Information Administration, *Annual Energy Review*
[2] Includes hydropower, nuclear power, geothermal power, and others.

As you can see, the title and number for the table goes above the table. This is in contrast to other types of graphics where the title and number go below the graphic.

Guidelines for Using Tables

As with other types of graphics, you should refer to the table in the text just preceding the table. You should also explain the general significance of the data in the table; don't expect readers to figure it out entirely for themselves.

Don't overwhelm readers with monster 11-column, 30-row tables! Simplify the table data down to just that amount of data that illustrates your point—without of course distorting that data.

Don't put the word or abbreviation for the unit of measurement in every cell of a column. For example, in a column of measurements all in millimeters, don't put "mm" after every number. Put the abbreviation in parentheses in the column or row heading.

Right- or decimal-align numbers in the columns. If the 123 and 4 were in a column, the 4 would be right below the 3, not the 1.

Normally, words in columns are left-justified (although you will occasionally see columns of words all centered).

Column headings are centered over the columns of numerical data (forming a T-shape). When the table contains text rather than numbers, the column headings are left-aligned.

Just as you would cite and reference a paraphrase or a direct quote, so too must you cite and reference any tables that you use that were created by someone else or that were based on someone else's data. Indicate the source of any graphic or data you have borrowed. Whenever you borrow a graphic or data from some other source, document that fact in the figure title using an in-text citation. You should also include the reference information in the reference list.

https://www.youtube.com/embed/XNBrCEgzddw?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Word 2016: Tables

Charts and Graphs

Charts and graphs are just another way of presenting the same data presented in tables. At the same time, however, you get less detail or less precision in a chart or graph than you do in the table. Imagine the difference between a table of sales figures for a ten-year period and a line graph for that same data. You get a better sense of the overall trend in the graph but not the precise dollar amount. Other types of charts and graphs are horizontal bar charts, vertical bar charts, and pie charts.

Formatting Requirements

In bar charts and line graphs, don’t forget to indicate what the x and y axes represent. One axis might indicate millions of dollars; the other, five-year segments from 1960 to the present.

Bar charts, line graphs, and pie charts often use special colour, shading, or line style (solid or dashed). Be sure to indicate what these mean; translate them in a key (a legend) in some unused place in the chart or graph.

Include a title and numbered label for your charts and graphs. Include the title and label below the graphic, as shown in Figure 6 below.

As you can see, there is text above and below the chart that calls attention to the graphic and briefly indicates its significance. To learn more about creating a chart in Microsoft Word, you can watch this video

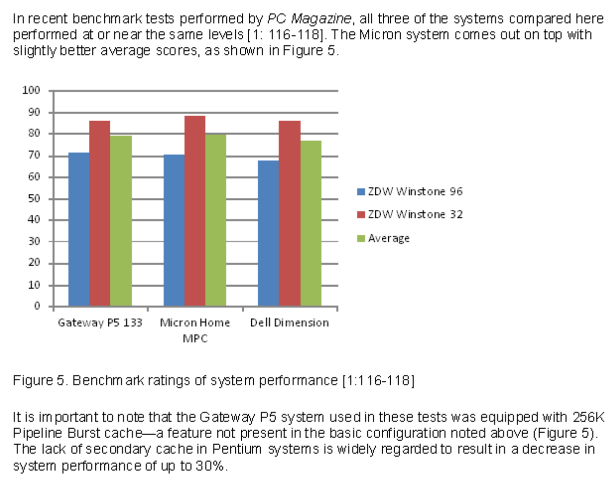

In recent benchmark tests performed by *PC Magazine*, all three of the systems compared here performed at or near the same levels [1: 116-118]. The Micron system comes out on top with slightly better average scores, as shown in Figure 5.

Figure 5. Benchmark ratings of system performance [1:116-118]

It is important to note that the Gateway P5 system used in these tests was equipped with 256K Pipeline Burst cache—a feature not present in the basic configuration noted above (Figure 5). The lack of secondary cache in Pentium systems is widely regarded to result in a decrease in system performance of up to 30%.

Figure 6: Example of a chart

https://www.youtube.com/embed/kiy81vkZQww?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Word 2016: Charts

Just as you would cite and reference a paraphrase or a direct quote, so too must you cite and reference any charts or graphs that you use that were created by someone else or that were based on someone else's data. Indicate the source of any graphic or data you have borrowed. Whenever you borrow a graphic or data from some other source, document that fact in the figure title using an in-text citation. You should also include the reference information in the reference list.

Sample Text Integrated with Graphics

Let's take a look at some samples. The first example below is a pie chart created with information the writer obtained from an interview. Notice that the writer provides a name for the visual, includes introductory sentences to provide context for the graphic, lists source information at the bottom of the chart, and finally, includes some closing remarks to tie it all together.

Not all gardeners will experience success with growing vegetables in Central Oregon, and the town of Sisters is especially challenging because of the varied temperatures all year long and the chance of frost or even freezing temperatures during any month of the year. Central Oregon and Sisters resident, Jane Doe, had the greatest success with the following vegetables in the year 2015 as noted in the pie chart below.

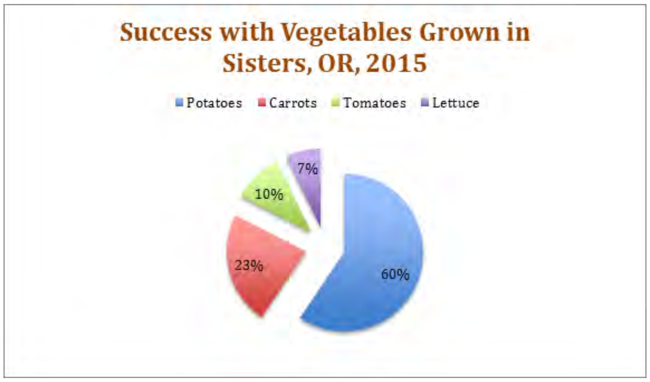


Table 1: Vegetables grown in 2015

Source: Interview with Master Gardener, Jane Doe, 2 May 2016.

It is important to note that depending on the hardiness zone of the city, some vegetables may do better than others. Doe also commented that she protected her tomatoes either inside a greenhouse or under a hoop house.

Below you will find another visual of the same information from the pie chart. It is provided to give you another way of visualizing the same information.

Finally, here is a simple table conveying information about plant hardiness zones for growers in Central Oregon. Notice again that the table isn't simply inserted and left on its own for readers to interpret; the writer introduces the table with prefatory remarks and also provides follow-up commentary after the table.

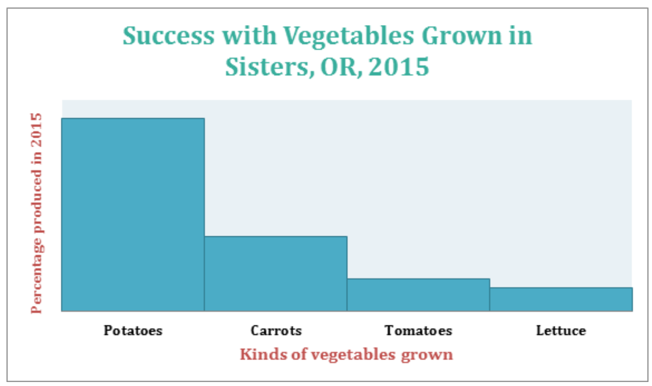


Table 2: Vegetables grown in 2015

The U.S. Department of Agriculture publishes a Plant Hardiness Zone Map which growers and gardeners use to help determine which plants, including vegetables and trees, will be most successful at a particular location. The table below shows the hardiness zone for four cities in Central Oregon and includes the annual minimum winter temperature—important information to keep in mind when determining not only which vegetables to plant but how long the growing season may be.

HARDINESS ZONE FOR FOUR CITIES IN CENTRAL OREGON

Central Oregon City	Hardiness Zone	Winter Temperature Range
Sisters	6a	-10 to -5 (Fahrenheit)

Bend	6b	-5 to 0 (Fahrenheit)
Redmond	6b	-5 to 0 (Fahrenheit)
Tumalo	6b	-5 to 0 (Fahrenheit)

Table 3: Hardiness Zones in Central Oregon. Source information: "United States Department of Agriculture." USDA Plant Hardiness Zone Map. 2012. Web. 05 May 2016.

Before purchasing any plants or vegetables for your own garden, make sure you look at the hardiness number on the label to be sure that item will grow successfully in your climate zone.

Guidelines for Graphics

Keep the following in mind as you consider possible visual enhancements to technical writing:

- Use graphics to supplement or clarify information provided within the body of a text.
- Make sure your graphics are appropriate to your audience, subject matter, and purpose.
- Discuss graphics in nearby text preceding the graphic. Don't just insert a graphic in your report unexplained. Orient readers to the graphic; explain its basic meaning, easily done in introductory and follow-up sentences before and after your graphic.

- Intersperse graphics and text on the same page. Don't put graphics on pages by themselves; ideally, no visual should take up more than one-third of any page in your report.
- Use figure numbers and titles for graphics. Additionally, include identifying detail within the graphics such as illustration labels, axis labels, keys, and so on.
- Make sure graphics fit within normal margins. Leave at least one blank line above and below graphics.
- Place graphics as near to the point in the text where they are relevant as is reasonable. However, if a graphic does not fit properly on one page, indicate that it appears on the next page and put it at the top of the next, continuing with regular text on the preceding page. Don't leave half a page blank just to keep a graphic near the text it is associated with.
- Cite all images that you create from any source material. You should do this in your introductory sentences before the visual as well as include a citation, if relevant, at the bottom of the visual. See samples above.
- Cite any images you use created by another writer which you include in your report. While it is perfectly legal to borrow graphics—to trace, photocopy, scan, or extract subsets of data from them, you are obligated to accurately cite your sources for graphics just as you are for the words you borrow.

Chapter 8: Basic Principles of Readability

Basic Design and Readability in Publications

The way a text looks matters to a reader, so it should matter to a writer. Letters, reports, and blogs are more than just words on a page or a screen. How ideas are arranged and delivered in physical form, whether electronically or on paper, can make reading seem intimidating, confusing, or downright unfriendly, even if the content itself is perfect. Your text is like a room for your ideas. Sometimes you want readers to get in and out quickly, but often, you want them to sit down and make themselves comfortable, to put their feet up and stay awhile. Whatever the case, you should be in control of the reader's experience.

And most readers are a lot like TV viewers with remote controls. In a moment, their attention is diverted to another channel if something about your content puts them off. It's important to garner their attention and hold it. Good content is a key part of this, of course, but the visual presentation of your content matters, too. Reading is a difficult, cognitively demanding task, so if your design helps make your readers' journey through the text easier, you will hold their attention longer. Give readers reasons to linger, and they will.

Figure 1: Where do you want to spend the next two hours? Image Credit: Wikimedia Commons, CC: BY-NC-SA 3.0 US

Good document design is both science and art. The particular design of a document—what it contains, what color scheme it follows, what alignment strategy it reflects, and so on—is the result of a series of choices made by the designer. It takes a long time to master the finer points of design, and this chapter won't turn you into a designer, but it will offer some simple ways of thinking tol help you strategize about how to make your document intuitive and reader friendly—easy to scan, search, and read.

This is not a section on design *per se*; rather, it will familiarize you with a few basic truths and a way of thinking that all designers know well. Whether you're typing up a memo on new safety policies at work, producing a newsletter for your community group, or putting together a booklet describing the new app you just finished and wish to market, you need to think about a few basic elements of document design.

Spend a few seconds reviewing Figure 2; just looking at the front page is overwhelming. The design principles we are discussing are clearly missing from this image. While these design practices


The Times.
PRINTED LOGOGRAPHICALLY.
Price 3d.] THURSDAY, DECEMBER 4, 1788. No. 1188

Figure 2: "Times 1788.12.04" by London Times is in the Public Domain. https://commons.wikimedia.org/wiki/File:Times_1788.12.04.jpg

are broad, it's worth mentioning that you already engage in some basic document design practices. For instance, when you format an academic essay, you center your title and regularly break to a new paragraph, which signals to the reader that it's time for a breather, the content is shifting slightly, or you are moving on to a completely new topic. You illustrate blogs, Web pages, and PowerPoint slides with photos and graphics, animations, or videos. Even small elements of your writing help to guide readers: indentation, changes in type style (bold, italics, underline), or the punctuation at the end of a sentence.

Professional writers, especially those who work for well-funded web sites and mass-market print publications (like newspapers and magazines) are lucky enough to have the services of artists, graphic designers, skilled photographers, and layout experts. But most of us just want to have a cooler-looking blog, a more professional-looking report, or an eBay listing that doesn't make buyers suspect our credibility.

This section briefly summarizes some fundamental concepts that you should consider as you revise and shape your text, whether it is in print or electronic form. Next, you will read and see examples of basic design principles that allow writers to combine graphic elements and text to convey a message to an audience.

Basic Principles of Readability

Make Your Publication More Inviting Using Basic Principles of Readability: CRAP

Despite the unfortunate acronym, CRAP is familiar to any graphic designer, and it should be familiar to writers as well. It originated with the influential designer and writer Robin Williams; she now regrets the acronym but not the ideas behind it.

I. C Is for Contrast: Use Difference to Draw Your Readers' Eyes to and Through Your Text or Publication

You can see evidence of the most basic aspects of contrast in any Web page or magazine. The headline text is always different from the body text. It's often bigger and bolder; it can also be in a different typeface. Headlines make it easy to skip from one story to the next and get a cursory understanding of the news; news writers make it easy for people to read *only* the headlines in a newspaper or Web site.

Applying strong contrasting elements to your text is important because the human eye is drawn to *difference*, not necessarily size. When everything looks the same, it's difficult to focus on anything. When things are different, they are more noticeable.

Figure 3: What stands out here? Don't make your reader play a tough game just to get something out of your document. "Where's Wally World Record (where you there?)" by William Murphy is licensed under CC BY-SA 2.0

Figure 4: Not as hard as Where's Waldo?, but that's the point. "Cadets" by skeeze is in the Public Domain, CC0

When a document has few or no contrasting elements, nothing stands out. The document isn't easy to scan, and it doesn't invite the reader to jump in and read. It's harder to parse, and therefore it's difficult for readers to glean information from the text easily and quickly, if that is their aim.

Some documents, like business letters or academic papers, have fewer contrasting elements, but even line spacing and paragraph breaks help indicate where a related chunk of information begins and ends.

Contrast helps draw the reader's eyes to certain elements in your text, and it also helps the reader follow the flow of the information and assess which items are most important and require immediate attention. Contrast creates readability, so you must pay attention to contrast in your documents. The following elements of a text can help you create a friendly, appealing sense of contrast:

Contrast Element 1: Size

Your eye moves toward things because they're *different*, not because they're large or small. Your eye is impressed by novelty more than sheer size or color or any other visual characteristic.

There are all sorts of scientific theories about why this is so, but in short, it's not so much that making something bigger makes it more noticeable. A person's height, for example, isn't so noticeable until the principle of contrast comes into effect.

Figure 5: The Fierce Five, the US gold medalists in team artistic gymnastics at the 2012 London Olympics, meet President Obama at the White House.

Figure 6: “Barack Obama with artistic gymnastic McKayla Maroney 2” by Pete Souza is in the Public Domain

Both are fierce, but one is dramatically smaller. The contrast in size provides the visual drama, and pictures like these are favorite memes online.

There is such a thing as too much size contrast: think of those websites with huge type or an overly enthusiastic use of the CAPS LOCK key. Less is more, but some size contrast is essential to draw the reader’s eye.

Contrast II: Font/Size/Style/Weight

A *typeface* is a collection of fonts. The distinction between the terms *typeface* and *font* stretches back to the days of typesetting: hand-placing individual letters made of wood or metal, inking them, and rolling paper over them. In the digital age, most people use the words *typeface* and *font* interchangeably, though the distinction still matters to experts like designers and typographers.

What's important to most people is that we all have a huge variety of *typefaces,* or *font families,* to choose from: Times New Roman, Arial, Bookman, Georgia, and Garamond are familiar to many of us. It's important to choose a font (a particular size, style, and weight within a typeface) that fits our purpose. Some, like script and handwriting typefaces, are too hard to read and so aren't appropriate for body text, for example. Some typefaces work well as headlines: Franklin Gothic Condensed and Caslon are two typefaces often used for newspaper headlines. The "font" chosen (size, weight, style—italic, bold, etc.) will be the designer's choice.

It's also important to distinguish between serif and sans-serif fonts. Sans serif fonts, like Helvetica or Futura, are simple and smooth; the letters don't display the "feet" and ornamentation (serifs) that serif fonts do. Sans serif fonts are often used for headlines, but serif fonts are more likely to be used for body text. Many typographers think serif fonts (also called Roman fonts) make large blocks of body text easier to read. Some of the preference is really just about tradition.

Figure 7: Three common sans serif typefaces (font families)Image Credit: Roger Koslowski, Typefaces-sansserif, CC BY-SA 3.0

Figure 8: Baskerville, a nice serif typeface. (Public Domain image)

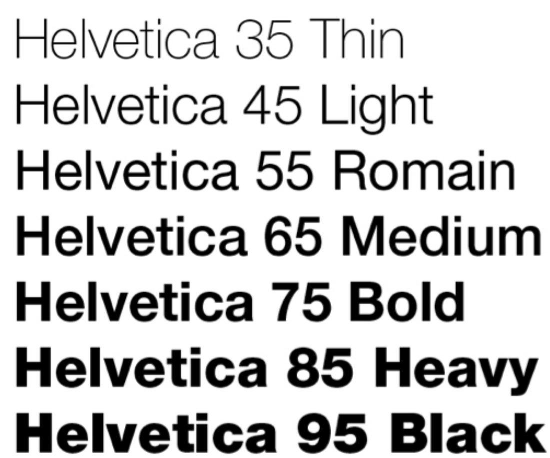
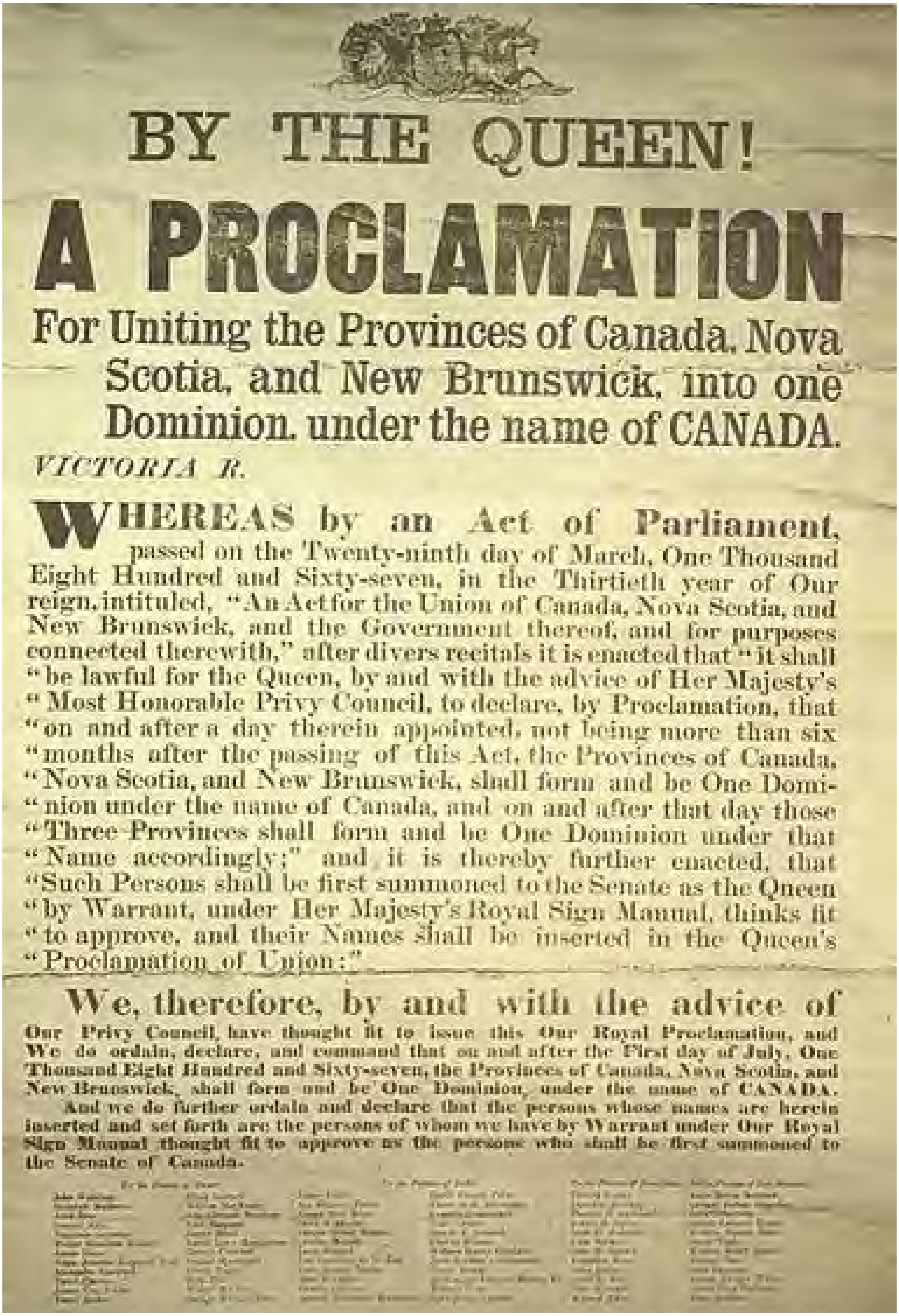


Figure 9: Each typeface family (like Helvetica) contains many sizes and many styles—light, regular, bold, italic, condensed, lower case letters, upper case letters, small caps, schoolbook, old style, and so on. (Public Domain image)



BY THE QUEEN!

A PROCLAMATION

For Uniting the Provinces of Canada, Nova Scotia, and New Brunswick, into one Dominion, under the name of CANADA.

VICTORIA R.

WHEREAS by an Act of Parliament, passed on the Twenty-ninth day of March, One Thousand Eight Hundred and Sixty-seven, in the Thirtieth year of Our reign, intituled, "An Act for the Union of Canada, Nova Scotia, and New Brunswick, and the Government thereof, and for purposes connected therewith," after divers recitals it is enacted that "it shall "be lawful for the Queen, by and with the advice of Her Majesty's "Most Honorable Privy Council, to declare, by Proclamation, that "on and after a day therein appointed, not being more than six "months after the passing of this Act, the Provinces of Canada, "Nova Scotia, and New Brunswick, shall form and be One Domi-"nion under the name of Canada, and on and after that day those "Three Provinces shall form and be One Dominion under that "Name accordingly;" and it is thereby further enacted, that "Such Persons shall be first summoned to the Senate as the Queen "by Warrant, under Her Majesty's Royal Sign Manual, thinks fit "to approve, and their Names shall be inserted in the Queen's "Proclamation of Union:"

We, therefore, by and with the advice of Our Privy Council, have thought fit to issue this Our Royal Proclamation, and We do ordain, declare, and command that on and after the First day of July, One Thousand Eight Hundred and Sixty-seven, the Provinces of Canada, Nova Scotia, and New Brunswick, shall form and be One Dominion, under the name of CANADA.

And we do further ordain and declare that the persons whose names are herein inserted and set forth are the persons of whom we have by Warrant under Our Royal Sign Manual thought fit to approve as the persons who shall be first summoned to the Senate of Canada.

Figure 10: Canada is born! Note the large sans serif headlines and smaller serif fonts used as body text. “Proclamation of Canadian Confederation” is in the Public Domain

Contrast III: Direction (Vertical, Horizontal, Circular, etc.) or Position (Top, Bottom, Side)

Changing the direction or orientation of text, graphic elements like lines, banners, or screens (smaller transparent or opaque boxes, often in a color that contrasts with the background)

Figure 11: Use interesting orientations to attract your readers’ attention. “Advertisement from 1891 for the first “Witch Spoon”” is in the Public Domain

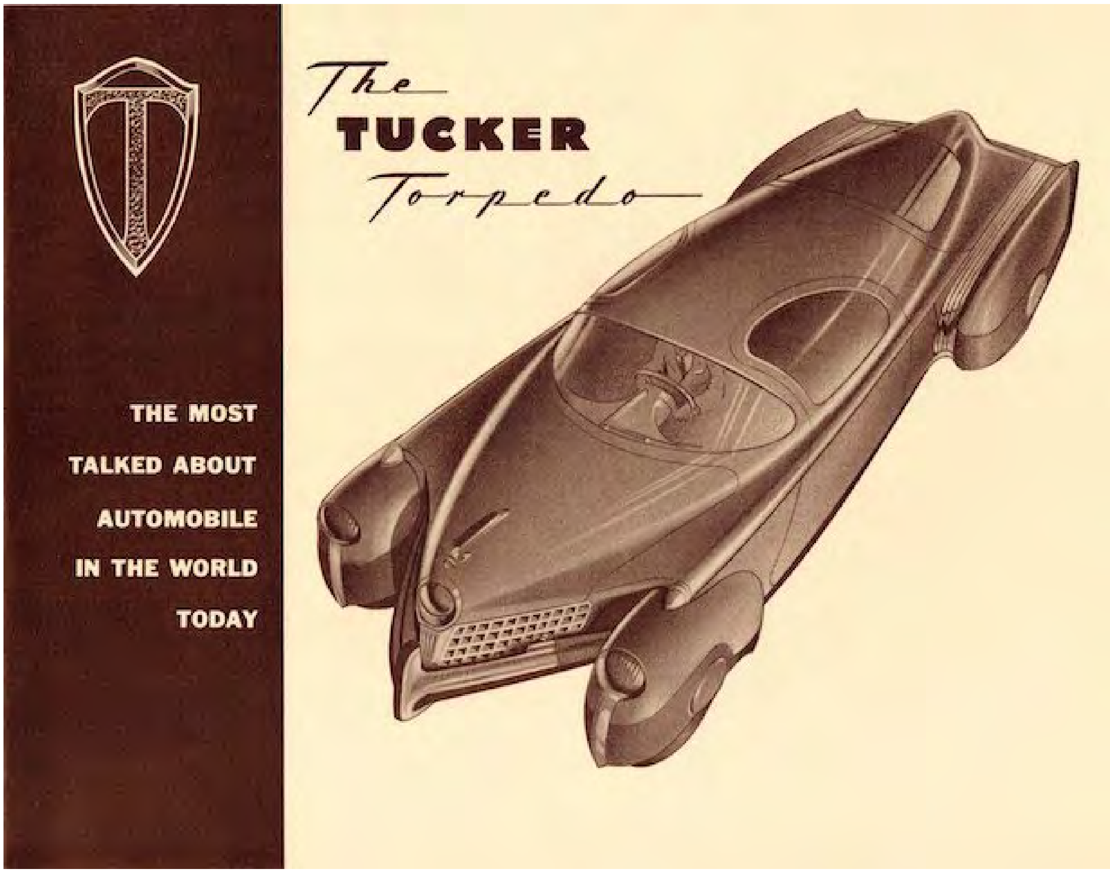


Figure 12: Note the image oriented on the diagonal and the opaque screen against which the text and logo are set. Sharp! "Tucker Torpedo Brochure" by Alden Jewell is licensed under CC BY-SA 2.0

Figure 13: Templates for flyers, newsletters, web pages, and PowerPoint slides can help you provide visual interest if you're short on ideas. Image Credit: Fluxfire01, GCD Newsletter — wiki, CC BY-SA 3.0

Contrast IV: Alignment (Center, Left, Right, Justified)

Most students are familiar with how to align type. MLA and APA style, for example, mandate left-aligned body text and a centered headline. MLA Works Cited pages call for a hanging indent of ½ inch. A change in alignment can create visual interest. For example, headlines are often centered to make them noticeable.

Images are often placed in a particular location on a page (or slide) to draw readers' attention in one direction or another. Consistent alignment with slight variations to provide interest is particularly important in PowerPoint presentations. You will be flipping from one slide to another, and if the text blocks and headlines are not aligned identically, your text and headlines will appear to "jump around" the screen in a distracting way.

Figure 14: Templates for Publisher, PowerPoint, or other software packages help you keep track of every element of your publication. (Public Domain image)

Contrast V: Graphic Elements Like Photos, Banners/Bands, Pull Quotes, or Logos

Remember, we're trying to create contrast, or difference—breaking up huge blocks of text with a variety of graphic elements can really add visual appeal and interest. Just remember—as with the examples below, less is more. Think of all the publications and web sites you've seen whose designers thought it was awesome to make text bold AND underlined AND multicolored AND flashing. With a bright yellow background. And too many animated GIFs. It repels readers rather than attracting them. I know you know what I mean.

Figure 15: Striking images and pull quotes contrast with less-distinctive elements, like text and background. “Fashion Magazine Layout” by Aamir Raza is licensed under CC BY 2.0

Figure 16: This poster uses contrasting alignment, contrast in text, and simple color contrast to create a dramatic effect. Less really can be more. “One-Third of a Nation, a Living Newspaper play by the Federal Theatre Project” by https://commons.wikimedia.org/wiki/File:One-Third-of-a-Nation-Poster-2.jpg is in the Public Domain

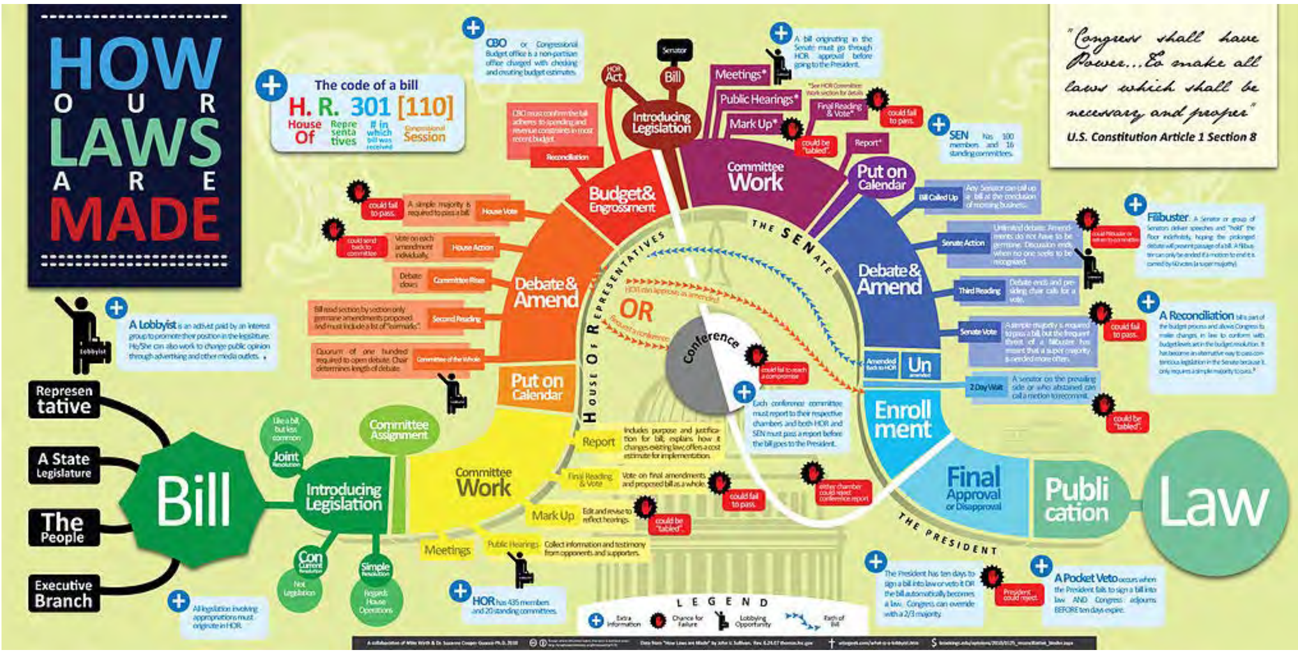


Figure 17: Complicated issues are sometimes hard to express visually. "How Our Laws Are Made" by Mike Wirth and Dr. Suzanne Cooper-Guasco is licensed under CC BY 3.0

Contrast VI: Color (Background, Text, Graphic Elements, etc.)

Use color to make certain elements stand out. Create a sense of drama when you contrast one color with another. Make sure you don't use too many colors and your color combinations are easy to read.

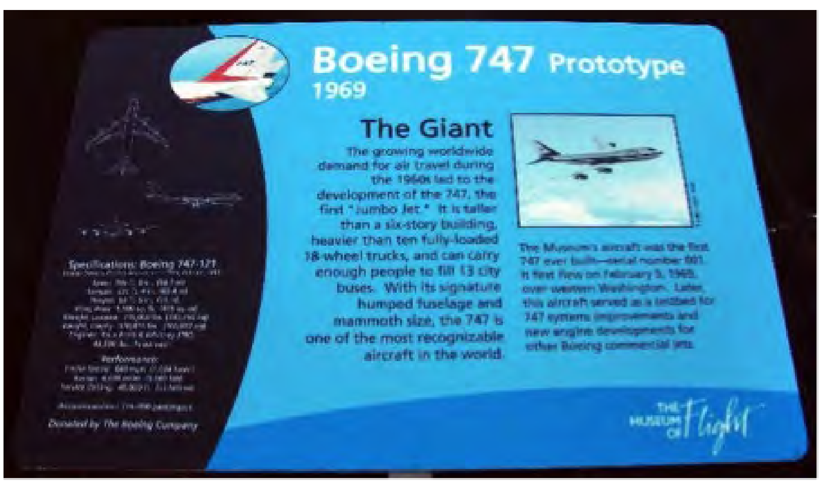


Figure 18: Contrasting color in text, images, and design elements. Image Credit: No machine-readable author provided. Danleo~commonswiki assumed (based on copyright claims)., City of Everett Information, CC BY-SA 3.0

Contract VII: Use of Negative or "White" Space

Sometimes, the best way to attract a reader's attention to a contrast is to "go negative." The absence of content provides air and space and draws the reader's attention to the content itself. Negative space, or white space, is the space around text, images, and other elements in a document. It makes documents of all kinds (digital and print) more readable, more restful-looking, more inviting to the reader, simpler, and more elegant. It is associated with that "high-end" restaurant or salon menu look.

THE FRENCH LAUNDRY

TASTING OF VEGETABLES

DECEMBER 4, 2005

"GRATIN" OF JACOBSEN'S FARM CARDOONS,
AND PÉRIGORD TRUFFLES WITH PARMIGIANO REGGIANO "MOUSSE"

SALAD OF CITRUS GLAZED HAAS AVOCADOS,
BLOOD ORANGE "SUPRÊMES", HEARTS OF PALM "RIBBONS"
AND SICILIAN PISTACHIO "VINAIGRETTE"

GLOBE ARTICHOKES "À LA BARIGOULE",
SWEET CARROT "BUTTONS", MARINATED PEARL ONIONS,
TAGGIASCHE OLIVE "RAVIOLINI" AND "CONSOMMÉ DE BARIGOULE"

OVEN BAKED BABY HEIRLOOM BEETS,
CARAMELIZED BELGIAN ENDIVE, SIERRA BEAUTY APPLES,
CANDIED WALNUTS AND FRISÉE

BUTTER BRAISED PRINCESS LA RATTE POTATOES,
ROASTED ROMAINE LETTUCE, GARDEN RADISHES
AND "VINAIGRETTE AUX TRUFFES NOIRES"

"POT PIE"
"RAGOÛT" OF CELERY ROOT, GLAZED CHESTNUTS
AND GOLDEN CHANTERELLE MUSHROOMS "EN CROÛTE DE PÂTE FEUILLETÉE"

"ANDANTE DAIRY ACAPELLA"
FENNEL BULB "RELISH", FENNEL POLLEN "LAVOSH"
AND BANYULS VINEGAR REDUCTION

SPICED "PRUNEAUX D'AGEN" SORBET
WITH PUMPKIN SEED "GRANOLA", PUMPKIN "ROYALE"
AND CRANBERRY "COULIS"

OVEN BAKED MANJARI CHOCOLATE "MOUSSE",
RED WINE POACHED MICHIGAN SOUR CHERRIES,
"CRÈME FRAÎCHE ET RÉDUCTION DE CUISSON DES CERISES"

"MIGNARDISES"

PRIX FIXE 175.00

A 19% SERVICE CHARGE IS ADDED TO EACH CHECK

6640 WASHINGTON STREET, YOUNTVILLE CA 94599 707.944.2380

Figure 19: Case in point. High-end. "French laundry carte" by EncMstr is in the Public Domain

Figure 20: Not so high-end, but probably still delicious. Image Credit: Laika ac, Laika ac Pizza Restaurant Menu (7953649854), CC BY-SA 2.0

II. R Is for Repetition: Repeat Design Strategies Throughout Your Document to Provide a Sense of Connection

The basic rule of repetition means that in any text, visual or textual elements that have similar functions should be formatted similarly in order to create continuity and show close relationships between the elements.

For example, newspapers have consistent ways of labeling different sections, like Sports, but there is also design consistency throughout the entire paper so you can tell that the section you just picked up belongs to a particular newspaper. *USA Today* in particular is notorious for its consistent repeated color coding and design.

Figure 21: USA Today's mastery of repetition has made it instantly recognizable. Image Credit: truetrue, WSTM Mossmen0051, CC BY-SA 3.0

On a smaller scale, in a resume, most applicants use bullet-pointed sections to list their job duties. "Repetition" in this context means that all these bullet points should be formatted identically: the same font, size, line spacing, and indentation. Each group of bullet-pointed items should be the same distance from the text above and below. The bullet points themselves should be exactly the same shape and size. These guidelines are a lot keep track of, but they are all important to your reader and the success of the document!

Repetition also applies to styles like MLA or APA. All titles are centered. All page numbers are in the upper right-hand corner, after your last name and a single blank character space. The same typeface is used throughout the paper. All paragraphs have exactly one empty line space between them. And so on.

Repetition means that every line classified as a "headline" should look like a headline, and headlines formatted to look alike can be identified as headlines with a similar function in the text. The same principle applies to body text. Fonts should not change without a reason. Lines, logos, and other graphic/visual elements should be formatted consistently. This repetition provides a sense of order and continuity that makes your document more readable and professional looking.

Since managing the formatting of multiple elements by hand can be difficult, many software programs provide templates—ready-made layouts into which you can plug your text and photos and thereby produce a variety of documents with a consistent look and feel. Microsoft Word, for example, also allows you to set Styles that will keep formatting choices like size, font, and style (bold, italic, etc.) the same for blocks of text with the same functions (body text, headlines, bullet points, subheadings).

Figure 22: The Microsoft Word "Styles" menu.

Templates for newsletters, resumes, and PowerPoint presentations ensure that basic design elements like font size/style, color, image size and alignment are consistent from page to page. Templates provide a quick, easy way to solve repetition issues. Look at the difference repetition makes in even the most basic of resumes, for example. Contrast the two below.

III. A Is for Alignment: There Should Be a Clear, Deliberate Arrangement of Items on a Page

Alignment can refer to text, as in the left-aligned body text required in MLA style. But in document design, it means much more; it refers to how the entire document is arranged. Most designers align all their content to some sort of a grid or pattern, creating a distinct, intentional arrangement of items on a page or screen. They use plenty of white space to cushion the items, which makes higher-contrast items "pop."

Imagine you're hanging 20 pictures on a wall. You probably should not just throw them up there randomly. You might measure and equalize distances between items, put unusual items in certain places (like in the center), or put similarly shaped or sized items together. This will provide a sense of order to your arrangement of the items.

Figure 23: Even though the arrangement of these items could seem random, there is some regularity, and there is an overall shape or grid governing the position of each picture. Image Credit: https://www.personalcreations.com/, CC by 2.0.

Software packages often allow you to draw lines or use an existing invisible grid to which you can “snap” items like images, blocks of text, or graphics. Templates do the hard work of arranging items on a page (or screen) for you. That’s why so many people use tools like WordPress, Illustrator, Publisher, Word, and PowerPoint—they allow you to arrange items easily, without the hard work of lining everything up by hand.

Newspaper and magazine layout artists once used various kinds of tape, contact cement (rubber cement), or wax adhesives to stick cut-out headlines, text blocks, photos, and ads to a page, just to produce a daily or weekly newspaper. To line up text and image blocks, they used wooden or metal rulers, graph paper, and T-squares. It was slow, tedious work. And rubber cement smells. The digital publishing revolution did away with all that. Most people who’ve spent half the night squinting over a yearbook layout that just won’t line up are glad about the changes.

Figure 24: Thank heaven for desktop publishing and digital layout tools. (Public Domain image)

Figure 25: Much easier to put together, but some would argue that it lacks soul. But it’s readable, simple,

clear, and accessible to anyone. Image Credit: GNU GPLv3.

Still, alignment problems have not all been solved in the digital era. See for yourself some of the results of less deliberate alignment vs. controlled, arranged items on a screen.

Figure 26: A previous version of King County (WA) transit home page. Compare with the figure below. Note:

King County redesigned its site long ago. Image Credit:, King County Metro, CC BY-SA 2.0

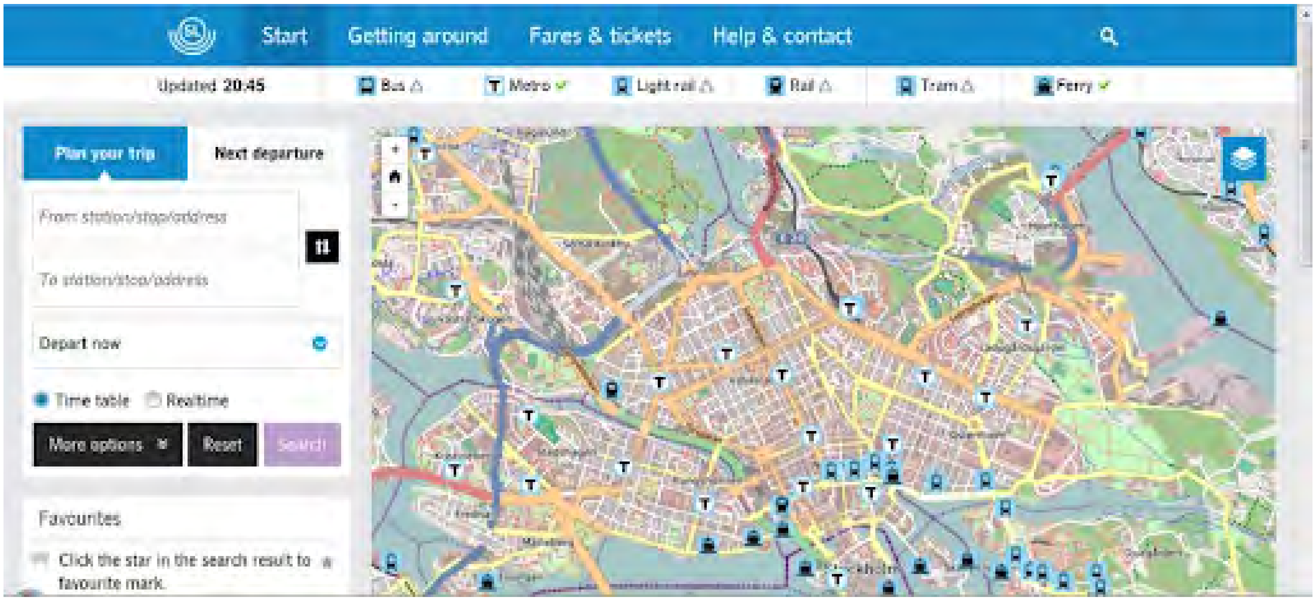


Figure 27: The Stockholm (Sweden) transit home page. Compare with the site above. Where does it seem easier to take public transport? Image Credit: Author screenshot (https://sl.se/en/)

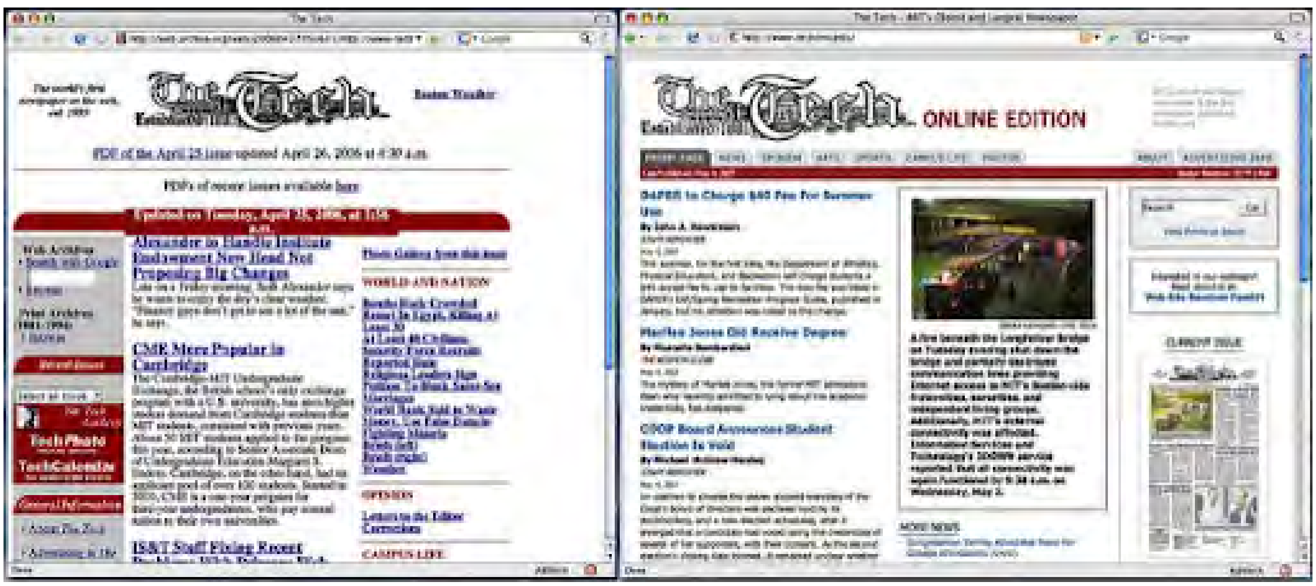


Figure 28: The folks at MIT also figured out how much design matters. Observe how they redesigned their online newspaper. Left: Before; Right: After. Image Credit: Author screenshot.

Learning how to arrange text and images artfully on a page takes tons of time, not to mention a whole email inbox full of user feedback, collaboration, thought, and hard work. This chapter will only acquaint you with some of the most basic elements of design. Perhaps after reading this chapter, you'll start seeing CRAP wherever you look.

Adapted from *Technical Writing* 11.4 "[Make Your Publication More Inviting Using Basic Principles of Readability: CRAP](#)" by Allison Gross, Annemarie Hamlin, Billy

Chapter 9: Website Design-Composing for the Web and Effectively Utilizing Social Media

Technical writing and workplace communication requires writers to communicate information in different modes. These modes can include websites, brochures, instructions, fliers, and many others. Daniel Riordan, in *Technical Report Writing Today*, reports that "[t]he web is one of the primary means of communication today (2005, p. 322). Riordan adds that "[m]illions of people use it everyday to find information, to purchase items, and to entertain themselves (2005, p. 322). A single website can be information that is organized on one page or a single website can be information that is organized over several pages (Riordan, 2005). Regardless of the amount information on a website, the web design needs to give the reader clear and easy access to information. As Riordan emphasizes, unlike traditional documents in which a reader progresses through following a structured path from the beginning to the end, a website can be viewed in many different patterns. After reaching a Website's home page, a reader can navigate the site in many different directions (2005). Therefore, special attention needs to be given to layout since each web mode does not have the traditional sub categories (Riordan, 2005):

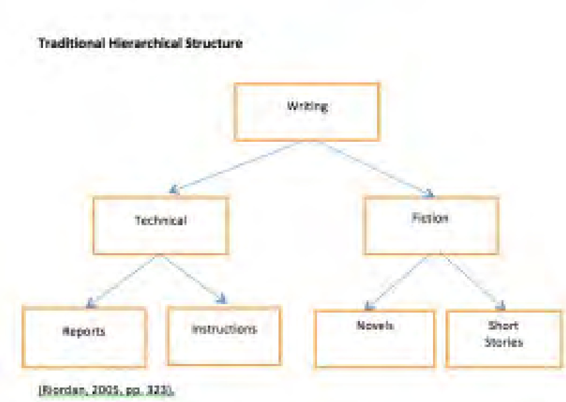


Figure 1: Traditional Hierarchical Structure, by Daniel Riordan

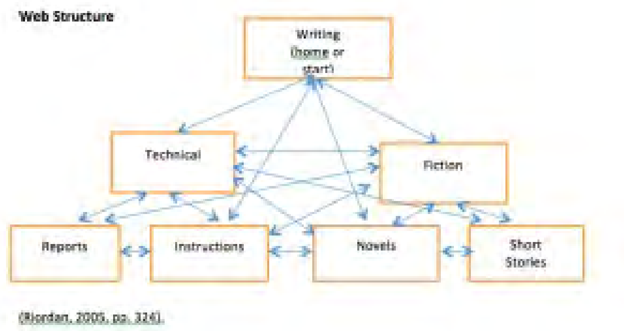


Figure 2: Traditional Web Structure, by Daniel Riordan

In addition, more than the design of any other document, a web design needs to pay careful attention to addressing a cross-cultural audience since a website is not limited to specific space. Therefore, make sure to avoid using informal word choice and vague pronouns.

Goals

Before designing a website, it is important for the developers to set goals. The website's visitors will evaluate the website's design based on the company's ability to achieve these goals; so, the visitors should be able to easily discern the websites purpose. Not all sites serve the same purpose. For example, a retail site will have significantly different goals than a nonprofit site.

Some common website goals are:

- Sales
- Marketing
- Updated Information
- Generate Leads
- Distribute Information

Goals, in any setting, are important to business success. By setting goals for one aspect of the business, in this case, the website, it will help in accomplishing other goals of the business, such as:

- Expanding the audience
- Increasing sales
- Connecting other businesses or other parts of the company
- General communication

Design Message

The design message is the image the organization wants to portray to the reader. This can also be called the brand. Website creators must consider logos, colors, fonts, and images. These must all support the personality of the organization.

Communicating the brand is something that is becoming more prevalent in the workplace.

Consistency is needed everywhere within a business so that the company can portray a unified front–and believe in it. Giving web pages a consistent look will help define it as a cohesive website and will make it easier to navigate. Since companies are building their workplaces around the "theme" or the "brand", there is no reason that the website should not be done in the same manner. In fact, it is necessary for brand identification, therefore helping the company advance and succeed. A consistent brand and image also build trust and value for a company.

Some important items to consider when communicating the brand are:

- The brand, whether communicated through the website or the customer service, must be consistent
- The brand should be found everywhere–there are no limits to exposure of brands
- The content should be short and simple is always the best route
- The brand represents your. You are the brand and the brand is you. If your brand does not reflect the values and beliefs of the company, it most certainly should not be on your website.

Examining the Site's Purpose

Figuring out how the site will be used in another important step in website design. Those who use the internet usually fall into two categories:

- those who seek information
- those who search the internet for entertainment

For the informational sites, the creators may want to consider the technology of the client or use more general approach in design. For the sites of those seeking entertainment, more cutting-edge technology can be used to better the experience of the user when they are accessing your site.

Website Design Considerations

Writing for the web is a unique experience that requires you to think about many aspects of the rhetorical situation. You must ask: What is your purpose? Who is your primary audience(s)? What do they expect from the document? Understanding the creation process for a website will help you understand website design and help you evaluate websites, which we will do this semester. This chapter from *Technical Writing* will outline the key aspects for web design.

Usability

Usability is defined as the ease of using the website. This could be for the intended audience of the website, or it could be determined by the industry or business standards needed for websites. Usability of websites has gone through different definition changes with the evolution of the internet. In its early years, many people did not know how to navigate through websites or read the information provided. This made the website unusable. Now, people look for the easiest possible access to whatever information is needed.

Usability Means Communication

Websites are a form of visual communication, serving multiple purposes. Websites can be informative, persuasive, long-term, advertising, or entertaining. Usability is determined based on the goals of the website.

If the website accomplishes its goals and communicates the necessary messages, it can, therefore, be considered usable.

Appearance

Appearance should be aesthetically pleasing while also being easy to navigate. Tasks (what the user has come to this page looking for, such as an email address or information about an event) that are most important and or most commonly sought should be the main focal points of a web page. Whether it be certain colors driving that importance, or size, or placement on the page, even directional line guiding the user to that point, the important tasks must not become secondary. *In other words*, the focal point(s) should stand out more, not become secondary to an image or a background. Everything on your site should have a purpose, a reason for being where it is and looking the way it does.

Pictures and colors are important and interesting, but far less important than the content. This is true for any web page. The user must not get confused upon entrance to a site. They should know where they need to click (and understand what will come from that click) and not be distracted by images. Unless it's intended, images should be minimal and only help PUSH the contents importance, not overwhelm the page. As such, it is the web designers job to make sure that doesn't happen. The content should be seen first, images second or third.

Visibility

Visibility could be considered the most important aspect of website design. People must first find the website before they can view it. Most often people find websites through search engines.

Here are some tips to increase visibility:

- Add text to pictures
- Check the html code for errors
- Use relevant title tags
- Use navigation that all internet users are able to view
- Get rid of duplicate content
- Do not use hidden text

Layout

The layout of a website should be as simple as possible. Extra fluff will only distract the user and cause confusion. You want your site to be visually pleasing, but first and foremost, understandable. The user is at your site for a reason, if the layout isn't successful, the user will most likely leave the page and look for their information elsewhere.

Page Design

You can enhance readability by giving some thought to the design of your documents. By using headers, lists, bullets, and other design elements, you can reveal your organization to the reader and emphasize key points. Below are page design guidelines you should consider when writing print or online documents. Your design can underscore your message. Be sure to consider these guidelines in the context of design principles.

Design Pages to Facilitate Scanning

According to usability research conducted by Sun Microsystems, “Seventy-nine percent of Web users scan pages; they do not read word-by-word.” This finding suggests that you should design documents so they can be scanned by your readers.

You can create more scannable documents by:

1. Following a deductive organization (i.e., putting purpose, significance, and results in your introduction).
2. Using page-design principles to emphasize the message and organization (e.g., using bullets, lists, and illustrations to highlight key points).

Use Design Elements to Highlight Your Message

In the example below, notice how your eye is drawn to the blue header and the boxed elements. In these spaces, you can highlight the important part of your message.

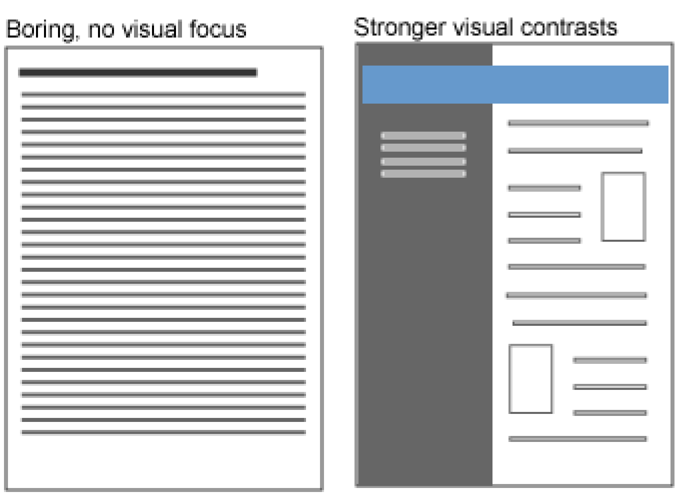


Figure 3: Visual Example of How to Use Design Elements to Highlight Your Message

Headings

For some genres of documents, headings would be considered too impersonal or too technical. For example, you certainly don't want to see headings and bullets used in a suspense novel. Increasingly, however, headings are used to help readers scan documents. Even vague headings like Introduction, Results, and Discussion can be useful: They give readers a sense of what is covered within the section. Better yet, descriptive titles cue your readers about your stance on the content of sections. For example, rather than Introduction, Results, and Discussion, you could write "Why Are Headings Important."

As previously discussed, highly skilled readers tend to scan through documents on first reading, noting the content of your headings. This gives them a sense of your overall message. An additional advantage of headings is that they create additional white space.

Results from readability research indicate that readers have difficulties with more than three levels of headings. When you use more than three levels of headings, readers become confused. Also ensure that all of your headings are equal grammatically. For example, headings can all be questions, verb phrases, or noun phrases, yet you cannot mix together questions, verb phrases and noun phrases.

Level 1 Heading

Level 2 Heading

Level 3 Heading

- **Bullets**

Many readers and writers love bullets. Some people even claim they think in bullets. Bullets create emphasis. They focus the reader's eye on the bulleted material and they break up textual space.

Below is a humorous translation from *Moby Dick* to illustrate the “get to the point” technical style of the Web to literary discourse:

“Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and methodically knocking people’s hats off — then, I account it high time to get to sea as soon as I can.”	I go to sea when I: • Feel depressed or melancholy • Stop in front of coffin warehouses • Follow funerals • Have a powerful urge to knock people’s hats off

Source: Moby Dick by Herman Melville Source: This example is adapted from Kathy Henning’s Writing for Readers Who Scan

Table 1: Example of How to Summarize for the Web Using *Moby Dick*

Lists

Lists share all of the positive attributes of bullets: They create the white space readers love, placing emphasis by drawing the reader’s eye to what you want to highlight. Yet lists are appropriate when a series of steps is being presented. Unlike bullets, lists imply you complete item 1 before moving on to item 2.

Using lists and numbering sections of documents is common in legal and technical genres where more than one person is writing the document or where litigation may follow.

Adapted from two chapters: "Module 6: Websites" from *Technical Writing* and "Website Design" provided by WikiBooks located at http://en.wikibooks.org/wiki/Professional_and_Technical_Writing/Business_Communications/Website#Goals. Project: Professional and Technical Writing.

Social Media and Website Design

What Are Social Media?

Social media are online communications platforms that allow people to share content. These platforms live on the internet and follow many of the website design principles introduced earlier. The phrase social media typically brings to mind sites such as Facebook or LinkedIn; however, there are many other forms of social media where people share photos, text, videos, podcasts, music, discussions, and ideas. Social media also includes a range of professional communication forums, online review sites (for example, Yelp and Rotten Tomatoes), and microblogging (for example, Twitter).

Social media have increasingly become everyday communication tools that follow their own website design principles. Many brands use social media to leverage their marketing and public relations efforts. Specifically, organizations can use social media to enhance brand awareness, roll out promotions, and build website traffic. Social media also provides opportunities to develop relationships with audiences through engagement and key messaging. Valentini and Kruckeberg (2012) note that "social media provide a relatively inexpensive means to communicate with, and, more importantly, to enter into a dialogue with strategic publics" (p. 11).

Social Media Characteristics

Several characteristics make social media a unique communication tool. First, social media users are content creators. People can create their own blogs, write a Facebook or Twitter post expressing their thoughts on an issue, or post a video blog ("vlog") about their latest travel adventures on YouTube. This enables users to be active participants in the communication process. Audiences are often more engaged with brand messages on these platforms because they can provide feedback to companies, creating a two-way conversation.

Another characteristic of social media is instant communication. Audiences do not have to wait until scheduled news broadcasts to receive information because reporters and media outlets can bring the news directly to social media platforms. Furthermore, people can easily share and post news content on their networks. Social media also fosters a sense of interconnectedness and community by bringing people across the globe together online. Those living in the United States can easily interact with those living in Australia. Valentini and Kruckeberg (2012) write that social media could not exist without their users, given that the interactivity characteristics create a community feeling. As noted by Green (2012): "Social media [provide] the means by which clusters of like-minded individuals can easily swap ideas and scrutinize data on public matters" (para. 4).

The Impact of Social Media

Marketers use social media to enhance traditional efforts such as direct mail fliers and television advertisements. Social media also enable marketers to create interactive content for audiences. In the public relations field, social media gives professionals easier access to journalists and news media outlets. For example, it is becoming common for public relations professionals to reach out to reporters via Twitter.

In many ways, social media have made it easier for consumers to hold organizations, public figures, and large institutions accountable (Green, 2012). Users can easily find and reveal information about a previous event involving an organization, whether it was advantageous or damaging to the brand. Users can also provide instant public feedback by voicing their opinions via social media networks. Furthermore, social media have made it challenging for many organizations to control their brand and present a consistent message across platforms because different audiences can generate information that can be damaging to a brand's reputation. Take a look at this video from Sherry Lloyd, social media and marketing manager for Vineyard Columbus, who discusses brand management and the challenges of controlling a company's identity in the social media age.

https://www.youtube.com/embed/nFLAN708cak?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

In-Depth Look at a Career in Brand Management with Sherry Lloyd

Many campaigns effectively use social media to produce beneficial effects. In

2011, KFC created a public relations campaign aimed at strengthening its relationship with young consumers and enhancing its brand reputation. The campaign launched a contest that awarded a $20,000 scholarship to an individual with the best tweet using the hashtag #KFCScholar. The contest generated more than 1,000 media placements, 2,800 applications, and a 20 percent increase in KFC's following on Twitter (Black, 2011). This example demonstrates the utility of using social media to create reputation and relationship management campaigns.

Figure 4: Winning tweet from KFC scholarship contest in 2011.

Factors to Consider Before Posting

Identify the message's goal

Like creating a website message, creating a social media message requires that you begin with a goal. A social media message that does not have a specific goal is counterproductive because it draws attention without a clear purpose. Furthermore, social media message goals should reflect the organization's overall mission. Message goals can include increasing brand awareness, creating a favorable perception of an organization, and convincing the audience to buy a product. The goal should be clearly articulated in the content. Also, select the social media platform that would be the most effective in accomplishing the message goal. Each social media tool has specific characteristics and audiences, which will affect whether the message goals are achieved.

Identify the target audience

Similar to public relations writing, social media messages need to be targeted.

After identifying the key audience, examine what they're focusing on: their interests, attitudes, and beliefs. Social media content should reflect audience analysis research findings. As you tailor the content of the message to this audience, do not exaggerate attempts to be interesting or relevant. Because social media messages are audience centered, they're not necessarily grounded in what you personally think is appealing.

The lack of attention to audience analysis can have serious consequences. One example is IHOP's Twitter controversy in 2015. In an attempt to reach a young audience and produce attention-grabbing content, IHOP tweeted about its pancakes, making a provocative comment that compared them to a woman with small breasts: "Flat but has a GREAT personality." Audiences quickly reacted with outrage, causing the company to issue an apology.

A more recent example can be found in the case of social media influencer, Logan Paul, who was the center of a public outcry in response to a video he posted while on a trip to Japan. Paul specifically filmed his visit to Aokigahara, a forest and location known for its high suicide rates. The video appeared to show the body of a deceased individual. He posted the video on his YouTube channel and clips of it later surfaced on Twitter, gaining more than 100,000 retweets and a swift negative response from the public. Although Paul apologized for the insensitive nature of the video and temporarily suspended his vlog, the negative impact of this crisis on his reputation largely remained. Some companies even pulled their advertisements from his YouTube Channel.

These mishaps demonstrate the need for careful message and audience analysis. They also reinforce the point that although you may react favorably to a message, your target audience may not. Curating information you share on social media requires many of the same thoughtful design principles addressed in the Website Design chapter.

Identify the organization's social media approach

Communication choices should reflect organizational strategies. Wilson et al. (2011) identified four general ways in which companies use social media. They are determined by the "company's tolerance for uncertain outcomes and the level of results sought" (para. 2).

The "predictive practitioner" approach uses caution when sending out social media messages. Instead of launching a social media strategy that involves all departments in a company, only a specific department (example: marketing or human resources) uses its social media platforms. This allows more control of social media messaging and guarantees some level of certainty in accomplishing the stated objectives.

The "creative experimenter" approach accepts uncertainty and deploys small social media "experiments" to learn and improve overall business functions. Sometimes, businesses will take to Facebook or Twitter to receive feedback on products or business practices from internal (example: employees) or external (example: customers) audiences. The overall goal is to listen and learn from interactions; therefore, unpredictable results are accepted.

The "social media champion" approach takes strategies to a more advanced level. A designated team is in charge of the organization's overall social media presence. The team also creates an official social media policy and guidelines for the organization. Larger social media projects typically use this strategy. Unlike the predictive practitioner strategy, this approach does not confine social media use to a particular department and considers social media messages across various functions.

The "social media transformer" strategy targets both internal and external audiences by launching large-scale projects that involve multiple departments. As with the social media champion approach, a team is devoted to planning, creating, and launching the organization's social media projects. However, these projects are usually larger and more advanced than those using the social media champion approach. This strategy specifically considers how social media can influence business strategy, brand, and culture.

Organizations can use multiple approaches when designing a social media message. What is important is that they carefully consider their approach before posting any content to social media platforms.

The goal of creating social media messages is not only to reach your audience, but also to achieve an intended effect. Proper grammar and punctuation are important in social media writing, as is accuracy. A careless error could undermine the credibility of your brand. Here are a few other factors to consider when creating social media messages.

Engagement, engagement, engagement

More than many forms of communication, social media messages need to motivate the audience to engage with the content. Several strategies can encourage engagement, such as responding quickly to feedback from audience members, creating contests, and inviting the audience to respond to a question. Including photos and videos in social media posts substantially increases engagement, as does integrating trending topics (Redsicker, 2014). This requires careful consideration and research that will pay off if the trending hashtags are chosen wisely. Hai Poke, a startup restaurant in Columbus, did this by tapping into the Pokemon Go craze in the summer of 2016. The restaurant launched a social media contest and created a fun, timely, interactive message.

Figure 5: "Poké" social media campaign image from Hai Poké's Facebook page.

Consistency

The core message needs to be articulated across all social media platforms in a consistent way that conveys a unified voice. The message also needs to reflect the brand image; in other words, it should reinforce the brand "feel" or personality. Referring back to the IHOP Twitter controversy, one reason audiences disliked the message was because its suggestive tone was inconsistent with the company's family-friendly brand personality.

Concise writing

Similar to news writing, social media writing is straightforward. Because you're competing against countless other messages in the social media sphere, you do not have much time and space to capture the audience's attention. This is especially the case with Twitter, with its current 280-character limit. You have to think carefully not only about what the message will say but how to say it in a concise manner that has the intended effect.

For more information on effective social media writing, take a look at this video with Nicholas Love, social media director at The Ohio State University.

https://www.youtube.com/embed/Fdgod6dLTC0?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Social Media Writing Recommendations with Nicholas Love

Adapted from Chapters "The Impact of Social Media in Strategic

Communication Industries“, “Factors to Consider Before Posting“, and “Creating Social Media Messages” from *Writing for Strategic Communication Industries*. All written by Jasmine Roberts and licensed under a Creative Commons Attribution 4.0 International License, except where otherwise noted.

Chapter 10: Writing Instructions

As you know, instructions are those step-by-step explanations of how to do something: how to build, operate, repair, or maintain different items. When you finish this section you will be able to:

- Analyze and evaluate a set of technical instructions
- Write clear and accurate instructions with an introduction and conclusion
- Develop and design an instruction manual for a specific audience

For something seemingly so easy and intuitive, instructions are some of the worst-written documents. Like me, you've probably had many infuriating experiences with badly written instructions. What follows in this chapter may not be a fool-proof, goof-proof guide to writing instructions, but it will show you what professionals consider the best techniques.

Ultimately, good instruction writing requires:

- Clear, concise writing
- A thorough understanding of the procedure in all its technical detail
- Your ability to put yourself in the place of the reader, the person trying to use your instructions
- Your ability to visualize the procedure in great detail and to capture that awareness on paper
- Your willingness to go that extra distance and test your instructions on the kind of person you wrote them for.

By now, you've studied headings, lists, and special notices—so writing a set of instructions with these tools probably seems obvious. Just break the discussion out into numbered vertical lists and throw in some special notices at the obvious points and you're done! Well, not quite, but that's a great start. This chapter explores some of the features of instructions that can make them more complex and effective, so you can use these considerations to plan your own instructions.

Some Preliminaries

At the beginning of a project to write instructions, it's important to determine the structure or characteristics of the particular procedure you are going to write about. In technical instructions, your understanding of the procedure could make the difference between success and failure, or at more complex levels, life and death.

Early in the process, define the audience and situation of your instructions. Remember that defining an audience means defining its level of familiarity with the topic as well as other details, including age and ability level. Writing instructions for a child will require a different focus on details and images than instructions for an adult.

If you are in a writing course, you may need to write a description of your audience and attach that to your instructions. This will enable your instructor to assess your instructions in terms of their appropriateness for the intended audience. And remember that in a technical-writing course, it is preferable to write for non-specialist audiences, which is more challenging to you as a writer.

Next, examine the procedure you are describing to determine the number of tasks. How many tasks are there in the procedure you are writing about? Let's use the term procedure to refer to the whole set of activities your instructions are intended to discuss. A task is a semi-independent group of actions within the procedure: for example, setting the clock on a microwave oven is one task in the big overall procedure of operating a microwave oven.

A simple procedure like changing the oil in a car contains only one task; there are no semi-independent groupings of activities. Within that task are a number of steps, such as removing the plug, draining the old oil, replacing the filter, and adding the new oil. If you were writing instructions on maintaining your car yourself to save money, you would have several tasks, some which are independent, such as rotating the tires, checking the fluids, or replacing the windshield wiper blades.

A complex procedure like using a microwave oven is another example of a procedure that contains plenty of such semi-independent tasks: setting the clock; setting the power level; using the timer; and cleaning and maintaining the microwave.

There may be more to your instructions than just tasks. Some instructions have only a single task, but have many steps within that single task. For example, imagine a set of instructions for assembling a kids' swing set. In my own experience, there were more than 130 steps! That can be a bit daunting. A good approach is to group similar and related steps into phases, and start renumbering the steps at each new phase. A phase then is a group of similar steps within a single-task procedure. In the swing-set example, setting up the frame would be a phase; anchoring the frame in the ground would be another; assembling the box swing would be still another.

Another consideration, which you may be unable to determine early on, is how to focus your instructions. For most instructions, you can focus on tasks, or you can focus on tools (or features of tools). Your approach will depend on your overall objective in writing the instructions, and you will find that the task approach is one you will probably use most often, with the discussion of the tools included in notes or supplementary sections like a glossary.

In a task approach (also known as task orientation) to instructions on using a phone-answering service, you'd have these sections:

- recording your greeting
- playing back your messages
- saving your messages
- forwarding your messages

deleting your messages, and so on

These are tasks—the typical actions we'd want to do with the machine. On the other hand, in a tools approach to instructions on using a photocopier, there would be these unlikely sections:

- copy button
- cancel button
- enlarge/reduce button
- collate/staple button
- copy-size button, and so on

If you designed a set of instructions on this plan, you'd write steps for using each button or feature of the photocopier. Instructions using this approach are hard to make work. Sometimes, the name of the button doesn't quite match the task it is associated with; sometimes you have to use more than just the one button to accomplish the task. Still, there can be times when the tools/feature approach may be preferable.

Finally, you have to decide how your are going to group tasks if there are more than one. Simply listing tasks may not be all that you need to do. There may be so many tasks that you must group them so that readers can find individual ones more easily. For example, the following are common task groupings in instructions:

1. unpacking and setup tasks
2. installing and customizing tasks
3. completing basic operating tasks
4. handling routine maintenance tasks
5. troubleshooting tasks; and so on

Writing Style

The way you actually write instructions, sentence by sentence, may seem contradictory to what previous writing classes have taught you. However, notice how "real-world" instructions are written—they use imperative (command, or direct-address) kinds of writing; they use a lot of "you," and that is entirely appropriate. You want to attain your reader's full attention. For that reason, instruction-style sentences sound like these: " Press the Pause button on the front panel to stop the display temporarily" and a clarifying note might read "You should be careful not to …"

If your instructions have to be more formal, ask your teacher about preferences for using "you." You may find that the direct address isn't appropriate for certain contexts.

For the most effective instructions, begin each step with an action verb!

Never use the passive voice in instructions. For some weird reason, some instructions sound like this: "The Pause button should be depressed in order to stop the display temporarily." Not only are we worried about the Pause button's mental health, but we wonder who's supposed to depress the thing (are you talkin' to me?). Or consider this example: "The Timer button is then set to 3:00." Again, as the person following these instructions, you might miss this; you might think it is simply a reference to some existing state, or you might wonder, "Are they talking to me?" Almost as bad is using the third person: "The user should then press the Pause button." Again, it's the old double-take: you look around the room and wonder, "Who me?"

"Another of the typical problems with writing style in instructions is that people seem to want to leave out articles: "Press Pause button on front panel to stop display of information temporarily" or "Earthperson, please provide address of nearest pizza restaurant." Why do we do this? Do we all secretly want to be robots? Anyway, be sure to include all articles (a, an, the) and other such words that we'd normally use in instructions.

Conclusion. Generally, you don't want to end your instructions with the last step. A conclusion ties the process up neatly, offers trouble-shooting information (i.e. what to do if something went wrong) and if you are writing the instructions as part of your work responsibility, they should include contact information.

Other Back Matter. Your set of instructions may include a list of references, a glossary or appendix, an index, or technical specifications. Items placed here are important to the overall instructions because they provide additional information that certain audiences may need, but that are not critical to understanding how to complete the procedure.

Adapted from McMurray, David and Arnett, Jonathan, "7. Writing Instructions" (2016). *Sexy Technical Communications*. 7. https://digitalcommons.kennesaw.edu/oertechcomm/7

Common Components of Instructions

Instructions are used frequently in day to day life. You may use written instructions provided at work to follow a procedure or you may watch a YouTube video that provides instructions on how to increase your computer's speed. In this course, you will be asked to complete an assignment that requires you to write instructions for your peers to perform a particular task, so understanding the guidelines for writing clear, accurate, and informational instructions is the first step. The textbook *Technical Writing* introduces the most common components of instructions.

Title

Keep it simple but clearly identify the task that will be performed. Use a "how to" or gerund (ing verb) when crafting it. Make sure the title adequately reflects the product and process users will be working on. It should be simple and clear.

Introduction

The goal of the introduction is to give general information about the process. What is it? Why should it be done? The introduction is an overview of the process and why it is important. Oftentimes, the writer lists the benefits of completing the process so that the reader feels good about the task he or she is about to complete.

Tools & Materials

List the items necessary to complete the task so that the reader can gather and organize them before starting the process. Consider using a bulleted list or some other formatting tool so that it is easy for the reader to skim through.

Visuals

Your reader will need visuals to refer to and act as a guide through the process. Remember to label the visuals as Figure 1, Figure 2, and so on, and then title each visual so the reader knows what they are looking at. Generally, the visual is referred to within the step-by-step part of the instructions.

Step-By-Step Instructions

Use a numbered list of step-by-step instructions for completing the process. Consider transitional words to keep the reader on track. Examples of transitions include: first, next, then, and finally. Also, write in clear and complete sentences throughout this section. In addition, refer to the visuals in this section. For example, a writer might include a phrase such as: “See Figure 3.” This will help the reader see the relationship between the steps and the visual.

Another reminder is to be consistent with how you create instructions. If it is appropriate to use the word “you” as you write, use it consistently. Avoid shifting back and forth between second person and an imperative tone. For example, some audiences may prefer imperative statements, so instead of writing “You then push the blue button” write “Next, push the blue button.”

One last reminder is to explain to the reader why to do or not do something that may have negative consequences. This will help the reader have a positive experience completing the process.

Troubleshooting

A troubleshooting section helps the reader solve common problems. It is when someone tells the user to do something and adds, "If that doesn't work, try this..." Sometimes, telling the reader what not to do is just as important as stating what to do. If you have several troubleshooting tips, organize this section so the reader can easily find the particular difficulty he or she needs solving at the moment. Therefore, make this section reader friendly and skimmable.

Conclusion

End the instructions with positive comments about the product and/or the process the user just completed. Sometimes there is a phone number for a Help Line if further assistance is needed. The benefits can also be restated but in different words; however, make sure not to use the exact words from the introduction. Readers don't like to read the same exact words/phrases/sentences in the conclusion as they did in the introduction because it feels like the writer was too lazy to actually work on the document.

Other Back Matter

Your set of instructions may include a list of references, a glossary or appendix, an index, or technical specifications. Items placed here are important to the overall instructions because they provide additional information that certain audiences may need, but are not critical to understanding how to complete the procedure.

Warnings

Just because this is listed last in this section does not mean it is any less important than the other parts of the document or that it must be placed last in the document. In fact, the writer has to decide where in the document to put the warnings; most often, warnings should be dispersed throughout the document. Also, consider the legal and ethical obligations you have to the reader. It is the writer's job to protect the reader from harm or damage, so any set of instructions needs a careful balance of warnings strategically placed throughout the document. If the writer overuses them, there is a risk of scaring the user or making it so that the reader doesn't want to carry out the process being described in the instructions. If the writer under-uses warnings, there is a risk of someone getting injured.

In addition, you don't want create instructions where the user has already completed the process and injured him/herself before the warning comes. Ultimately, it is the responsibility of the technical writer or technical writing team to keep the reader safe. In fact, there are standard precautionary statements that are color-coded and used for danger, warnings, cautions, and notes or notices.

Writing Steps

Discussion of the steps. When you begin the actual writing of the steps, there are several concepts to keep in mind: (1) the structure and format of those steps, (2) supplementary information that might be needed, and (3) the point of view and general writing style.

Structure and format. Normally, we imagine a set of instructions as being formatted as vertical numbered lists. And most are in fact. Normally, you format your actual step-by-step instructions this way. There are some variations, however, as well as some other considerations:

- **Fixed-order steps** are steps that must be performed in the order presented. For example, if you are changing the oil in a car, draining the oil is a step that must come before introducing new oil. These are numbered lists (usually, vertical and numbered lists). When in doubt, structure your instructions in this format. You may then use notes to indicate if there is any leeway to perform the steps in another sequence.

- **Variable-order steps** are steps that can be performed in practically any order. Good examples are those troubleshooting guides that tell you to check this or that where you are trying to fix something. You can do these kinds of steps in practically any order. With this type, the bulleted list is the appropriate format.
- **Alternate steps** are those in which two or more ways to accomplish the same goal are presented. Alternate steps are also used when various conditions might exist. Use bulleted lists with this type, with OR inserted between the alternatives, or the lead-in indicating that alternatives are about to be presented.
- **Nested steps.** In some cases, individual steps within a procedure can be rather complex in their own right and need to be broken down into substeps. In this case, you indent further and sequence the substeps as a, b, c, and so on.
- **"Stepless" instructions.** And finally some instructions really cannot use numbered and vertical lists because they do little, if any, straightforward instructional-style directing of the reader. Some situations must be so generalized or variable that steps cannot be stated.

Supplementary discussion

- Often, it is not enough simply to tell readers to do this or that. They need additional explanatory information such as how the task should look before and after the step; why they should care about doing this step; what mechanical principle is behind what they are doing; even more micro-level explanation of the step—discussion of the specific actions that make up the step.
- The problem with supplementary discussion, however, is that it can hide the actual step. You want the actual step—the specific actions the reader is to take—to stand out. You don't want it all buried in a heap of words.
- There are at least two techniques to avoid this problem: you can split the instruction from the supplement into separate paragraphs; or you can bold

the instruction. The example below shows you a possible technique for including supplementary discussion so that it doesn't obscure the instructions.

Bolding actual user steps in instructions. Bold text helps distinguish the actual action from the supplementary information.

The Value of Graphics and Visual Instructions

Graphics and Images in Instructions

Probably more so than in any other form of writing (except maybe for comic books), graphics are crucial to instructions. Sometimes words simply cannot explain the step. Illustrations are often critical to readers' ability to visualize what they are supposed to do. Consider the example of car repair manuals which actually use photographs to illustrate procedures, or screen shots that demonstrate the process of using software.

In a technical writing course, an instruction assignment may require you to include illustrations or other kinds of graphics—whatever choice would normally be used in an instruction manual. You want to be sure that the graphics you choose are appropriate and are placed in close proximity to the steps they illustrate. Don't make your audience flip pages to see the accompanying graphic.

If you find graphics or images in other sources, be sure that you cite the source, preferably right below the graphic. Here are some of the options for using graphics and other strategies to enhance the readability and success of your instructions.

Headings. In your instructions, make good use of headings. Normally, you'd want headings for any background section you might have, the equipment and supplies section, a general heading for the actual instructions section, and subheadings for the individual tasks or phases within that section. Headings are an easy and effective way to help your reader navigate the document.

Lists. Similarly, instructions typically make heavy use of lists, particularly numbered vertical lists for the actual step-by-step explanations. Simple vertical lists or two-column lists are usually good for the equipment and supplies section. In-sentence lists are good whenever you give an overview of ideas to come.

Special notices. In instructions, you must alert readers to possible actions that could result in damage to their equipment, wasted supplies, failed procedures, or injury to themselves or others—even seriously or fatally. Companies have been sued for lack of these special notices, for poorly written special notices, or for special notices that were out of place. See special notices for a complete discussion of the proper use of these special notices as well as their format and placement within instructions.

Replace the Guitar Neck

If you've followed the previous steps, your fretboard is now scalloped. The only thing left to do is put your guitar back together. To put it back together, follow these steps:

1. Remove the tape from the frets.
2. Insert the neck back into the body.
3. Put the metal panel back in its place and put in the screws.

   Note: Make sure that you put each screw firmly back in place. The screws keep the neck secure inside the body. If the screws are not installed correctly, the guitar could develop intonation problems.
4. Restring the guitar.

Mounting the NID. Follow these instructions to mount the network interface device (NID) on the wall:

Warning: Always wear safety glasses when using hand tools. Misuse of the tool or ricochet from power tools can result in eye injury.

1. Select the location for the NID. This should be close to an electrical ground and located in a place where the ISP's wire will reach the NID. The electrical ground can be identified as a copper wire coming from the electric company's equipment on the exterior of your home.
2. Drill the NID into place using the screws. You will need to drill screws into the slots on the top and bottom of the NID.

Figure 1: Instructions

Indentation of notices in instructions. In the first example, notice how the notice is indented to the text of the preceding step. In the second example, notice that the severe notice is placed at the beginning before any of the steps.

Number, abbreviations, and symbols. Instructions also use plenty of numbers, abbreviations, and symbols. Be sure you are using them correctly. Remember if your instructions pertain to a brand name product to use trademark symbols appropriately.

Visual Instructions

Visual instructions may or may not include text. Generally, it is good to have both being that there are different learning styles. However, it can often vary depending on the intended use of the instructions. Visual instructions serve to clarify a concept that is difficult to explain using only words. Graphics may be used to show how something looks, how something should look once the step has been completed, how something is done or constructed, show trends or relationships, add liveliness to the project or simply organize information. Graphics are useful since almost everyone (including children and others of a different language) can understand visual instructions. It also eliminates the cost of having to translate and print text instructions in multiple languages. Graphics are useful in instructions because people can see exactly what they need to complete.

Figure 2: Visual Instructions for Tie-Dying a T-Shirt

Benefits of Visual Instructions in Business and Marketing:

- Minimize language barriers.
- Speeds up the learning curves.
- Minimize human variability.
- Increase instruction use rate and comprehension
- Reduce product returns.
- Decrease assembly time- increase customer satisfaction
- Ease technical support.
- Visualize and generalize data into understandable trends

- Increase integrity of reports and memos
- Promote professionalism
- Ensure universal understanding

Benefits of Visual Instructions in Academia:

- Make abstract ideas visible and concrete.
- Connect prior knowledge and new concepts.
- Provide structure for thinking, writing, discussing, analyzing, planning, and reporting.
- Focus thoughts and ideas, leading to understanding and interpretation.
- Help students to clarify thoughts, organize and analyze information, integrate new knowledge, and think critically.

Common Problems with Visual Instructions

While there are benefits of using purely visual instructions, there are also some drawbacks. When there are no words included people may interpret graphics differently. Some graphics can be unclear, and this can confuse the intended audience if the process is very detailed and requires pieces that look identical. When the pictures include many different piece it is also necessary to zoom in on difficult parts in order to see them better. Also, if each piece is not drawn to scale, then a circle could represent the top of a table or a washer. There are also certain graphics that not everyone understands. If you work in a field that employs specialized graphics, use these graphics only when communicating with readers in your field who will understand and expect them. If you are using the graphics for a wide audience (such as a board game that may be used for young children to senior citizens), make sure that the graphics you choose can be understood by all.

Instruction Revising Checklist

As you reread and revise your instructions, watch out for problems such as the following:

- Make sure you provide real instructions—explanations of how to build, operate, or repair something.
- Identify where the instructions will be used.
- Write a good introduction—in it, indicate the exact procedure to be explained, indicate audience requirements, and provide an overview of contents.
- Make sure that you use the various types of lists wherever appropriate. In particular, use numbered vertical lists for sequential steps.
- Use headings to mark off all the main sections and subheadings for subsections. (Remember that no heading "Introduction" is needed between the title and the first paragraph. Remember not to use first-level headings in this assignment; start with the second level.)
- Use special notices as appropriate.
- Make sure you use the style and format for all headings, lists, special notices, and graphics as specified by your teacher for instruction writing assignments.
- Use graphics to illustrate any key actions or objects, and make certain they are located right beside or beneath the step they illustrate and properly labeled.
- Provide additional supplementary explanation of the steps as necessary.
- Remember to create a section listing equipment and supplies, if necessary.

Some final thoughts about writing instructions...

As a technical or workplace writer, your ability to write good instructions carries a number of ethical implications. Keep in mind that poorly or carelessly designed instructions leave your or your company liable for damages. They also destroy your credibility and authority. Before you submit any instructions for final review, be sure you get other eyes on them. For small or routine procedures, it may be enough to have a coworker look them over, but more complex instructions should always be tested for usability. Make sure that you have read the chapter on Usability and carried out the necessary testing before your instructions go to publication and distribution.

Adapted from the following sources:

- "Module 5: Visuals" from Lumen Learning's *Technical Writing* textbook.
- The Value of Visual Instructions. **Provided by**: WikiBooks. **Located at**: http://en.wikibooks.org/wiki/Professional_and_Technical_Writing/Instructions/Visuals#The_Value_of_Visual_Instructions **Project**: Professional and Technical Writing. **License**:CC BY-SA 3.0: Attribution-ShareAlike
- Image of Tye-Dye Instructions. **Authored by**: kelly. **Located at**: https://flic.kr/p/8C72Dm **License**: CC BY-SA 2.0: Attribution-ShareAlike
- "Revision Checklist" by McMurray, David and Arnett, Jonathan, "7. Writing Instructions" from *Sexy Technical Communications*. *Sexy Technical Communications,* 2016, written by David McMurray and Jonathan Arnett can be found at https://digitalcommons.kennesaw.edu/oertechcomm/7 and is used according to Creative Commons licensing CC-BY-4.0

Chapter 11: Strategies for Peer Reviewing and Team Writing

Peer reviewing (also called peer-editing) means people getting together to read, comment on, and recommend improvements on each other's work. Peer-reviewing is a good way to become a better writer because it provides experience in looking critically at writing. Peer reviewing is also important in team writing: it's how individual team members review each other's drafts of the writing project.

Team writing, as its name indicates, means people getting together to plan, write, and revise writing projects as a group, or team. Another name for this practice is collaborative writing—collaborative writing that is out in the open rather than under cover (where it is known as plagiarism).

Strategies for Peer Reviewing

When you peer-review another writer's work, you evaluate it, criticize it, suggest improvements, and then communicate all of that to the writer. As a first-time peer-reviewer, you might be a bit uneasy about criticizing someone else's work. For example, how do you tell somebody his essay is boring? Read the following discussion; you'll find advice and guidelines on doing peer reviews and communicating peer-review comments.

Figure 3 : Revision Practices

Initial meeting. At the beginning of a peer review, the writer should provide peer reviewers with notes on the writing assignment and on goals and concerns about the writing project (topic, audience, purpose, situation, type), and alert them to any problems or concerns. As the writer, you want to alert reviewers to these problems; make it clear what goals you are trying to accomplish within the document. Similarly, peer reviewers should ask writers whose work they are peer-reviewing to supply information on their objectives and concerns. The peer-review questions should be specific like the following:

- Does my explanation of a virtual machine make sense to you? Would it make sense to our least technical customers?
- In general, is my writing style too technical? (I may have mimicked too much of the engineers' specifications.)
- Are the chapter titles and headings indicative enough of the following content? (I had trouble phrasing some of these.)
- Are the screenshots clear enough? (I may have been trying to include too much detail in some of them.)

Peer-reviewing strategies. If you are new to peer-reviewing, you want to make sure that your review is comprehensive. Consider all aspects of the draft you're reviewing, not just the grammar, punctuation, and spelling.

Read the draft several times, looking for a complete range of potential problem areas:

- Interest level, adaptation to audience
- Persuasiveness, purpose
- Content, organization
- Clarity of discussion
- Coherence, clear transitions
- Title, introduction, and conclusion.
- Sentence style and clarity
- Handling of graphics
- Be careful about making comments or criticisms that are based on your own personal style. Base your criticisms and suggestions for improvements on

generally accepted guidelines, concepts, and rules. If you do make a comment that is your own preference, explain it.

- Explain the problems you find fully. Don't just say a paper "seems disorganized." Explain what is disorganized about the document. Use specific details from the draft to demonstrate your case.
- Whenever you criticize something in the writer's draft, try to suggest some way to correct the problem. It's not enough to tell the writer that her paper seems disorganized, for example. Explain how that problem could be solved; provide the writer with possible revisions.
- Base your comments and criticisms on accepted guidelines, concepts, principles, and rules. It's not enough to tell a writer that two paragraphs ought to be switched, for example. State the reason why: "I suggest moving this general, introductory information so it appears first."
- Avoid rewriting the draft that you are reviewing. In your efforts to suggest improvements and corrections, don't go overboard and rewrite the draft yourself. Doing so takes away ownership of the document from the writer and steals from the writer the opportunity to learn and improve as a writer.
- Provide positive, encouraging comments about the draft you're reviewing. Compliments, even small ones, are usually wildly appreciated. Read through the draft at least once looking for aspects that were done well, and then let the writer know about them.

How to Offer Your Peer Advice

Students often worry about the peer review process, especially if they have never been asked to peer review before in a classroom setting. The textbook *English for Business Success* explains that the best way to address this fear is to accept that you will be unable to locate every error or weakness. Once you understand that the process is not perfect, it is easier to feel comfortable with your role as the reviewer. Here are a few tips that will help you during the peer review process:

1. Begin by reading the assignment instructions. Your instructor will likely have clear goals for the peer review process, and following the instructions

will help you provide significant and meaningful revision ideas for your peer.

2. Read your peer's writing from the beginning to the end without adding any comments. This first read allows you to grasp your peer's intentions and focus.
3. Complete a second reading of your peer's draft and start looking for strengths and weaknesses. Make comments on the margins of your peer's writing. Later, you can further expand on these comments when you complete the peer review.
4. When you feel stuck, stop and ask yourself "If this was my writing, how would I revise?"
5. Set aside time to review the organization of your peer's writing.
6. Be honest. Your peers want to earn the best grade they can and your advice during peer review will help them achieve this goal. Think of every piece of advice as constructive criticism. Your advice will help them to create a stronger, more focused writing sample.

The peer review process has the potential to help you create a much stronger and more focused essay. Try to be open to the process and give honest and thoughtful critiques.

Peer-review summary. Once you've finished a peer review, it's a good idea to write a summary of your thoughts, observations, impressions, criticisms, or feelings about the rough draft. See the peer-reviewer note below, which summarizes observations on a rough draft. Notice in the note some of the following details:

- The comments are categorized according to type of problem or error—grammar and usage comments in one group; higher level comments on content, organization, and interest-level can be placed in another group.

Relative importance of the groups of comments is indicated. The peer-reviewer indicates which suggestions would be "nice" to incorporate, and which ones are critical to the success of the writing project.

- Most of the comments include some brief statement of guidelines, rules, examples, or common sense. The reviewer doesn't simply say "This is wrong; fix it." He also explains the basis for the comment.
- Questions are addressed to the writer. The reviewer is double-checking to see if the writer actually meant to state or imply certain ideas.
- The reviewer includes positive comments to make about the rough draft, and finds non-antagonistic, sympathetic ways to state criticisms.

From hcexres36:05 1999 -0600
Date: Sun, 5 Dec 1999 15:36:04 -0600 (EST)
From: "David A. McMurrey" <hcexres@io.com>
To: julie@colltech.com
cc: xgraphic_team
Subject: Review of your section of Xgraphics HTML project
Content-Type: TEXT/PLAIN; charset=US-ASCII

Julie, your section of the guide is super! You've done several things the rest of the team ought to incorporate in their sections.

1. But I do find places where it feels like there is too much text -- for example, in "Using Gravity and Snap." It's not a major problem but I'd be looking to see if I could cut a few lines from the longer paragraphs without sacrificing detail.

2. Your labels for the screen captures are really nice. You'll have to show the rest of the team how you do it.

3. You leave out generic buttons on several pages -- I think the group was in agreement that *all* pages would have them at the bottom.

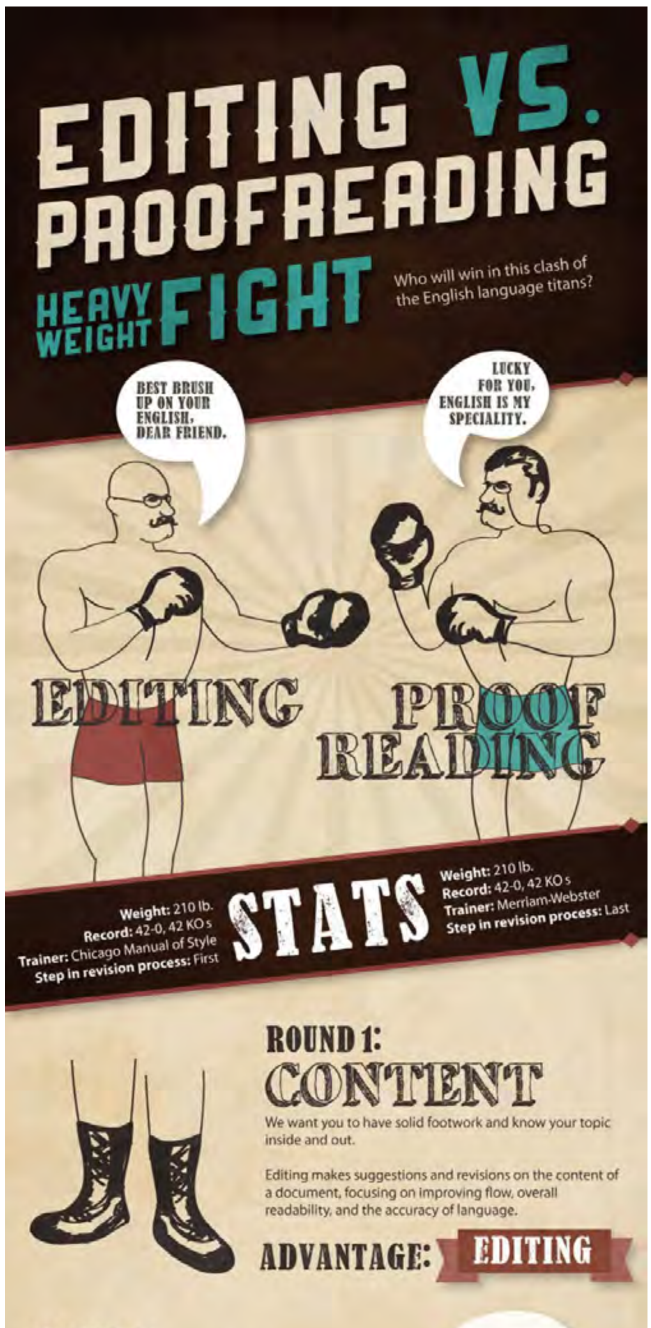
4. I notice in some areas you use italics for some interface elements, bold for others. Our style guide states that we wanted bold for any screen button or similar element that makes something happen when you click it. Maybe we need to discuss the distinction you are thinking about here at our next meeting.

Figure 1: Excerpt from a note summarizing the results of a peer review.

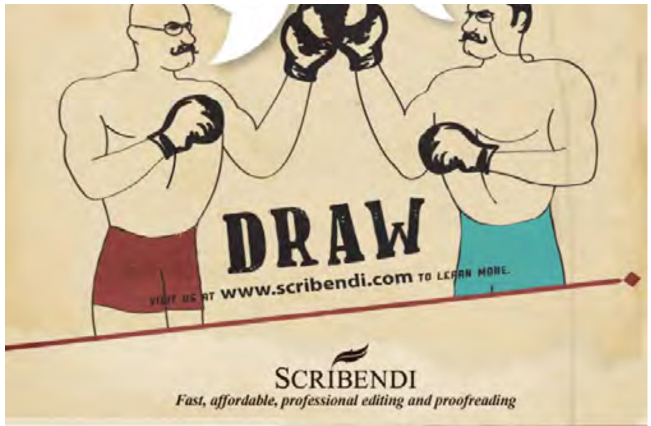
Spend some time summarizing your peer-review comments in a brief note to the writer. Be as diplomatic and sympathetic as you can!

Higher and Lower Order Concerns

After you have written a draft of your document, you will need to make changes. While you may feel that you write best "under pressure" the night before your assignment is due or in the minutes before sending an email at work, writing a single draft at the last minute rarely results in anyone's best work. You may feel that you've put a lot of effort into your first draft, so it can be challenging to think about changing your work or even eliminating words that you toiled over. However, it's well worth the pain of revising, editing, and proofreading so you produce a polished piece of writing that others can easily understand. To revise a piece of writing, it may help you to consider three approaches: look at the big picture, check your organization, and proofread your final draft.




ROUND 2:
CLARITY
THESE GLASSES AREN'T JUST FOR LOOKS.
It's easy to get knocked down with details and lose focus. Editing keeps your head in the game to ensure that your content is presented in a logical order, transitions are clear, and every paragraph is relevant to the argument.
ADVANTAGE: EDITING
ROUND 3:
TONE
Ding Ding Ding
Editing not only has a background in English language skills but also has a good dose of intuition—knowing what looks right or wrong on the page—letting him gain a "feel" for your project's meaning and intention.
Editing will ensure that your document is written in a tone appropriate to your audience, that gendered language is used properly, and that your use of the passive voice is limited.
ADVANTAGE: EDITING
ROUND 4:
GRAMMATICAL ERRORS
Grammar checkers, like the spellcheck tool, will often offer suggestions that substantially change the meaning of your words.
Only a human proofreader can understand nuance and context. Proofreading will protect your paper from grammatical jeopardy.
VERB TENSES
SUBJECT-VERB AGREEMENT
PRONOUN REFERENCES
MISSING WORDS
ADVANTAGE: PROOFREADING
MISTAKES DO LIKE TO LURK HEAR AND THEIR.
ROUND 5:
MECHANICAL MISTAKES
Has a spelling error or two slipped by you before? Proofreading knocks out many common mechanical mistakes, including misspelled words, incorrect or missing punctuation, and incorrect capitalization.
ADVANTAGE: PROOFREADING
ROUND 6:
SENTENCE STRUCTURE
Proofreading counterpunches common sentence structure problems like comma splices, run-on sentences, and sentence fragments.
ADVANTAGE: PROOFREADING
AND THE WINNER IS...
WELL, CHAP, LOOKS LIKE WE'RE EQUALLY IMPORTANT.
INDEED.



Editing vs. Proofreading – Scribendi.com – Infographic

Higher Order Concerns

Revising for higher order concerns means working on the organization of your ideas. You might insert sentences, words, or paragraphs; you might move them elsewhere in your document; or you might remove them entirely (Meyer, 2017).

When you revise at the "big picture" stage, you are looking at the most important aspects of the writing tasks, and the ones that require the most thought. Here's a set of questions to help you revise for these higher order concerns:

- Have I met the purpose and requirements?
- Does my draft say what I mean?
- Have I changed my thinking through writing or researching?
- Are there parts that do not belong here?
- Are there pieces missing?
- Are there places where the writing does not make sense?
- Is the tone right for my reader?
- Are my sources the right kind for my purpose and reader?
- Are all the pieces in the right place?
- Are sources documented?

Another way to edit for higher order concerns is to prepare a reverse outline using your draft.

Lower Order Concerns

Lower order concerns focus on editing and proofreading. When you edit, you work from your revised draft to systematically correct issues or errors in punctuation, grammar, spelling, and other issues related to writing mechanics (Meyer, 2017). Proofreading is the last stage where you work from your almost-finished document to fix any issues or errors in formatting or typos you missed (Meyer, 2017). Here's another way of distinguishing these two tasks. Editing is the act of making changes or indicating what to change; proofreading means checking to make sure those changes were made.

Perhaps you are the person who proofreads and edits as you write a draft, so when you are done drafting and revising for content and structure, you may not have that much editing or proofreading to do. Or maybe you are the person who pays no attention to grammar and spelling as you draft, saving all of the editing until you are finished writing. Either way, plan to carefully edit and proofread your work. For most people, proofreading on a printed copy is more effective than working entirely on screen.

Here are some additional strategies for editing and proofreading your work:

- Take a break between writing and editing. Even a 15 minute break can help you look at your document anew.
- Read your work aloud.
- Work through your document slowly, moving word by word.
- Start at the end of your document and work towards the beginning.
- Focus on one issue at a time. Trying to look for spelling errors, punctuation issues, awkward phrasing, and more all at once can make it easier to miss items needing correction.
- Don't rely exclusively on spelling- or grammar-checking software. (This poem was run through such a program and no problems were detected!)
- Review through your document several times.

Strategies for Team Writing

As mentioned earlier in this chapter, team writing is one of the common ways people in the worlds of business, government, science, and technology handle large writing projects.

Assembling the team. When you begin picking team members for a writing project in a technical writing course, choose people with different backgrounds and interests. Just as a diverse, well-rounded background for an individual writer is an advantage, a group of diverse individuals makes for a well-rounded writing team.

If you are the team leader, you might even ask prospective team members for their background, interests, majors, talents, and aptitudes. These following writing teams combine individuals with diverse backgrounds and interests:

Writing Team 1	
Project:	A report on current cloaking technologies
Team members	*Backgrounds, skills, interests*
Shawn S.	Electrical engineering major, currently doing basic office-management chores at a law firm

Tracey K.	Senior English major, hoping this course helps with employment prospects
Sanjiv Gupta	Computer science major, currently doing computer graphics at a software development shop
Jeon Chang Yeon	Soon-to-be electrical engineering major, still developing English language skills
Alice B.	Undeclared major with a nontechnical focus, possibly in the wrong course, no stated skills

Table 1: Visual illustration of example team members

Planning the project. Once you've assembled your writing team, most of the work is the same as it would be if you were writing by yourself—except that each phase is a team effort. Specifically, meet with your team to decide or plan the following:

Planning Stages

- Analyze the writing assignment.
- Pick a topic.
- Define the audience, purpose, and writing situation.
- Brainstorm and narrow the the topic.
- Create an outline.
- Plan the information search (for books, articles, etc., in the library).

- Plan a system for taking notes from information sources.
- Plan any graphics you'd like to see in your writing project.
- Agree on style and format questions (see the following discussion).
- Develop a work schedule for the project and divide the responsibilities (see the following).

Table 2: Planning stages for team writing

Capture your team's profiles and decisions in a simple *team-planning document*. It can contain the key dates in the team schedule, a tentative outline of the document to be team-produced, formatting agreements, individual writer assignments, word-choice preferences, and so on. Mention is made below of a by-laws document. That can be incorporated in the team plan as well.

Much of the work in a team-writing project must be done by individual team members on their own. However if your team decides to divide up the work for the writing project, try for at least these minimum guidelines:

- Have each team member responsible for the writing of one major section of the paper.
- Have each team member responsible for locating, reading, and taking notes on an equal part of the information sources.

Some of the work for the project that could be done as a team you may want to do first independently. For example, brainstorming, narrowing, and especially outlining should be done first by each team member on his own; then get together and compare notes. Keep in mind how group dynamics can unknowingly suppress certain ideas and how less assertive team members might be reluctant to contribute their valuable ideas in the group context.

After you've divided up the work for the project, write a formal chart and distribute it to all the members.

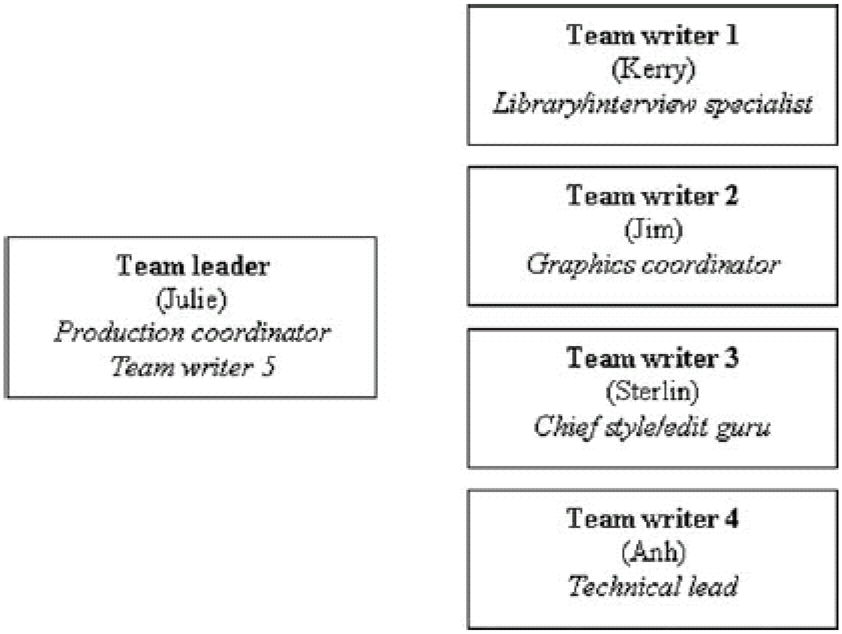


Figure 2: Chart listing writing team members' responsibilities for the project

Scheduling the project and balancing the workload. Early in your team writing project, set up a schedule of key dates. This schedule will enable you and your team members to make steady, organized progress and complete the project on time. As shown in the example schedule below, include not only completion dates for key phases of the project but also meeting dates and the subject and purpose of those meetings. Notice these details about that schedule:

- Several meetings are scheduled in which members discuss the information they are finding or are not finding. (One team member may have information another member is looking everywhere for.)
- Several meetings are scheduled to review the project details, specifically, the topic, audience, purpose, situation, and outline. As you learn more about the topic and become more settled in the project, your team may want to change some of these details or make them more specific.
- Several rough drafts are scheduled. Team members peer-review each other's drafts of individual sections at least twice, the second time to see if the recommended changes have worked. Once the complete draft is put together, it too is reviewed twice.

Individual prototypes due	October 1
Team meeting: finalize the prototype	October 1
Rough-draft style guide due	October 5
Team meeting: finalize style guide	October 5
Twice-weekly team meetings: progress & problems	October 5–26
Graphics sketches due to Jim	October 14
Rough drafts of individual sections due	October 26
Review of rough drafts due	October 28
Team meeting: discuss rough drafts, reviews	October 28
Update of style guide due from Sterlin	October 31
Revisions of rough drafts due to reviewers	November 3
Final graphics due from Jim	November 5
Completed drafts to Sterlin: final edit/proof	November 7
Team meeting: review completed draft with final graphics and editing	November 12
Completed drafts due to Julie for final production	November 15
Team meeting: inspection of completed project	November 15
Project upload due to McMurrey	November 16
Party at Julie's	November 19

Figure 3: Schedule for a team writing project

Anticipating problems and creating team by-laws. In a workplace setting, you can think ahead to resolve typical problems that can arise in a team project and document your team's agreements about these matters in a *by-laws document*:

- ***Workload imbalance.*** When you work as a team, there is always the chance that one of the team members, for whatever reason, may have more or less than a fair share of the workload. Therefore, it's important to find a way to keep track of what each team member is doing. A good way to do that is to have individual team members keep a journal or log of what kind of work they do and how much time they spend doing it.
- Both during and at the end of the project, if there are any problems, the journal should make the issue very clear and enable a more equitable balancing of the workload. At the end of the project, team members can add up their hours spent on the project; if anyone has spent a little more than her share of time working, the other members can make up for it by buying

her dinner or another similar reward. Similarly, as you reach the end of the project, if it's clear from the journals that one team member's work responsibilities turned out, through no fault of his own, to be smaller than those of the others, he can make up for it by doing more of the finish-up work such as typing, proofing, or copying.

- ***Team members without relevant skills.*** As you can see in the example description of team members' skills above, one member has no relevant skills with which to contribute to the project. Sometimes, that's just an indication of that person's anxiety or lack of interest in engaging in a group project. Of course, each team member in a writing course should contribute a fair share of the writing for a project. However, there are plenty of tasks that do not require technical knowledge, formatting skills, or a sharp editorial eye, for example: typing up and distributing the team plan, the by-laws, minutes of team meetings; reminding team members of due dates and scheduled meetings. In fact, except for the anxiety or lack of interest, the self-professed unskilled team member might make the best team leader!
- ***Disappearing team members.*** If your team is so unfortunate as to have an irresponsible member who simply vanishes, have a plan for what to do about that, and document it in your team by-laws. One obvious solution is to kick the team member off the team and inform the instructor if it's a writing course or the next level of management if it's a nonacademic organization.
- ***Seemingly entrenched team-member disagreements.*** It is amazing how vehemently team members can disagree on aspects of a team-writing project. In order to prepare for this possibility, have a plan, written in your team by-laws, that addresses how team members can resolve these matters. Should they be put to a vote? Should you "escalate" the matter to a neutral or higher-level party?
- ***Radically inconsistent writing styles and format.*** Because the individual sections will be written by different writers who are apt to have different writing styles, set up a style guide in which your team members list their agreements on how things are to be handled in the paper as a whole. These agreements can range from the high level, such as whether to have a background section, all the way down to picky details such as when to use italics or bold and whether it is "click" or "click on." See the excerpt from a

project style sheet in the following. For discussion of these items, see stylesheets and style guides.

- Before you and your team members write the first rough drafts, you can't expect to anticipate every possible difference in style and format. Therefore, plan to update this style sheet when you review the rough drafts of the individual sections and, especially, when review the complete draft.

Highlighting

1. Use bold for interface elements that function like commands (for example, the **Exit** button).
2. Use bold for menu options that get you to commands (for example, **File→Open**).
3. Use the → symbol to abbreviate menu traversal.
4. Use Courier New for example text that users type in (for example, `myfile.doc`).
5. Use italics for variables—placeholder text for which users substitute their own information (for example, *filename*.doc).

Hyphenation

1. *Individual words*. Turn automatic hyphenation off. Do not hyphenate words except in tight places like tables or graphics.
2. *Compounds*. Mr. Hyphen (Sterlin) will keep the hyphenated-compounds list. Use only those in his list, and submit new ones to him for approval and inclusion on the list. (Hyphenate compounds only when they modify [for example, "back-up copy"], not when they act as nouns or verbs (for example, "to back up your files").

Terminology

1. Use only the words in **graph_project.dic**. Sterlin approves all new words for that database.
2. Use the same word for the same object, same process, or same action. No elegant variation, please!

Figure 4: Excerpt from a style guide for a writing project.

The items listed in Figure 4 represent agreements team writers have made in order to give their paper as much consistency as possible.

Reviewing drafts and finishing. Try to schedule as many reviews of your team's written work as possible. You can meet to discuss each other's rough drafts of individual sections as well as rough drafts of the complete paper. When you do meet, follow the suggestions for peer-editing.

A critical stage in team-writing a paper comes when you put together into one complete draft those individual sections written by different team members. It's then that you'll probably see how different the tone, treatment, and style each section is. You must as a group find a way to revise and edit the complete rough draft to make it read consistently so that it won't be so obviously written by three or four different people.

When you've finished with reviewing and revising, it's time for the finish-up work to get the draft ready to hand in. That work is the same as it would be if you were writing the paper on your own, only in this case the workloads can be divided up.

Chapter 12: Engaging with Research: Finding and Using Valid Sources

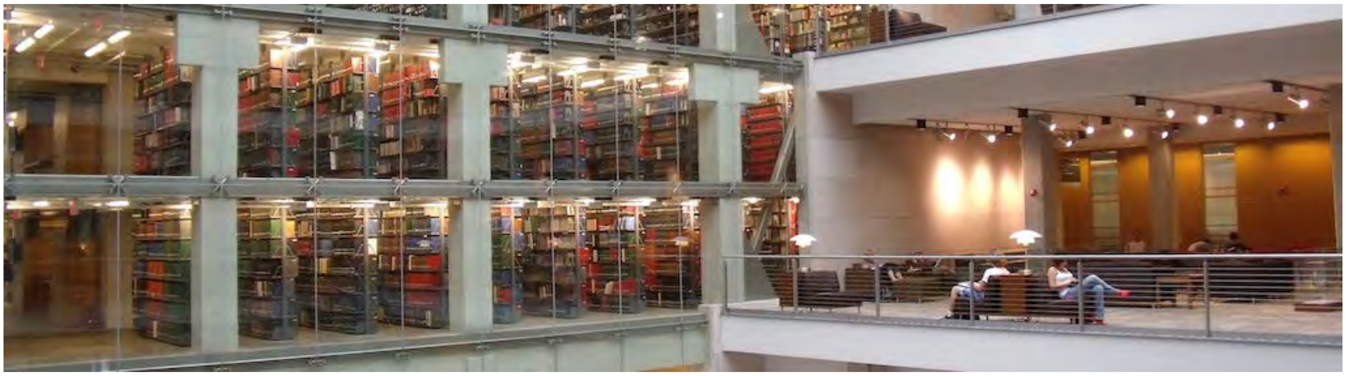


Figure 1: "William Oxley Thompson Memorial Library East Atrium" by Ibagli / Public Domain

Engaging with Research

Carrying out and communicating research is an integral part of professional communication. This chapter explores many of the considerations of sound, ethical research, including:

- Creating Common Types of Research Reports & Documents
- Conducting Research
- Evaluating Sources
- Documenting Sources
- Writing About Research

Learning about technical writing and workplace communication is the overall goal for this course. Technical writing, in either the workplace or in academia, requires a writer to be persuasive and accurate. Persuasion and accuracy are often developed by implementing research and data into your writing. In this course, you are required to create a proposal and persuade your audience that your idea is a strong option, and, in order to support your ideas, you will need to complete research, so this chapter will focus on how, as a student, you can investigate and solve a problem by researching the problem, reporting the data, and offering solutions.

A proposal begins with a problem that you're interested in solving; here is an overview of the proposal writing process in this course:

1. First, you will identify a problem in a workplace (either where you currently work or in a hypothetical workplace).
2. Second, you will brainstorm possible solutions to the problem.
3. Third, you will gather external research that explains why the change or suggestion you are making supports the proposal.
4. Fourth, you will compile the findings from your investigation into a Feasibility Report or Proposal on solving the problem.
5. Fifth and last, you will create a presentation that outlines your research solutions.

Remember that this is not a typical research paper where you research an issue and simply report the research. Therefore, do not choose issues like changing laws, fighting wars, drug usage, or global warming, among others. While these are important issues and you can certainly offer solutions, they are too broad for you to have a personal effect on their changing. These topics would fit the definition of writing a typical research paper where you research an issue and write a paper that reports your findings.

Your problem for this course needs to be a practical problem, one in which you will have a personal effect on changing. You can create a scenario and work from that. We will develop and narrow our problems together as the course progresses.

Researching Effectively

Being a good technical writer also means being an effective researcher. This includes finding accurate information from trustworthy sources, seamlessly incorporating the information into a document, and knowing how to cite, or give credit, to the original source. You will begin applying these research skills as you begin the research process for your final proposal assignment.

The following video is a great overview of the most common college level research strategies. This video is short and provides the necessary information about how to start your research.

https://www.youtube.com/embed/Mdp0ePQlDbQ?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

The Basics of College Level Research

Required Citation

Learning how to cite your research is an important part of the research process. The required citation for your proposal is the American Psychological Association (APA). Whenever you are asked to research and then present your research in technical documents, it is imperative that you give credit to others when you use or reference their ideas. We do this by documenting sources.

There are different ways to format when documenting research. Most students have completed research papers using Modern Language Association (MLA) since this is what is most often used by English teachers. However, in this course, we use APA because it applies to business writing. This being said, MLA and APA are simply ways to format research, so don't let the task of research be daunting. When documenting sources for this class, you don't have to memorize how to cite a book vs. an online article; you simply have to know how to use our class textbook or an online resource to cite your information.

What to Document

There are different ways to decide whether information should be cited in the body of your paper or on the references page. Researchers document anything that is quoted, paraphrased, or summarized; this includes a phrase, sentence, paragraph, or longer section taken from a source. Make sure to place quotation marks around the material borrowed verbatim to show that it is the exact phrasing used from a source.

Paraphrased or summarized information also needs to be documented. These are ideas taken from someone else that you put into your own words. The language used needs to be original and fresh. The writer cannot simply switch a sentence around and change a few words. The writer must completely put the source's ideas into the writer's own words. Quotation marks are not used when you paraphrase, but the writer does need to include a textual citation to give credit to the original source.

Any visuals, graphics, and pictures taken from anywhere need to be cited. Often, individuals think they can snag an image from Google and copy and paste it into a paper or presentation without citing it; this is plagiarism. Anything that was not created in whole by the writer needs to be cited. In short, always give credit to another person's ideas or work; never pass them off as your own.

How Citation Works

We will cover the process of creating citations in more depth in Chapter 13, but as you begin researching it is important to remember that when you take information from another source, you must give credit by:

1. **Using textual citations.** Cite the source within the text of the document to show which section of your document was taken from the source. This is called a “textual citation,” and it is placed after the information the writer borrowed and consists of a few pieces of information in parentheses that allows the reader to locate the full source in the list of references at the end of the document. Textual citations in APA usually consist of the author’s last name, a comma, the year it was published, another comma, and a page number (if there is one). These are put within parentheses.
   Examples of Textual Citations:

   - This issue was identified and revealed more than 50 years ago (Abramson, 2000).

   or

   - Abramson (2000) identified and revealed this issue more than 50 years ago.

   or
   - The greenhouse effect is a controversial one that some people are not taking serious (Smith, 2014, p. 56).
2. **Linking every textual citation to the list of references at the end of the document.** Create a references page at the end of your paper. Textual citations correspond with the bibliographic information listed in the references section of the paper. The textual citations must match the list of references. You never have a textual citation that isn’t covered in the list of references, and you usually don’t have a source cited in the list of reference that doesn’t have a textual citation. They go together. Consider them a couple.

Example of a reference at end of document:

References

Abramson, M. (2000). Communication mythes. Baltimore, General Press.

We will go over citation and avoiding plagiarism in future sections, but this is a good starting point as you begin researching for your final proposal assignment. The following video provides a quick overview of how textual citations work with reference pages:

https://www.youtube.com/embed/7ogI6uJ-4bA?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Additional Resources

Purdue Owl Website

For additional tips and samples of APA textual citations, visit the Purdue OWL writing center: Purdue OWL: APA Formatting. This website works well because it is reputable, and it can be accessed when this class ends. In fact, many colleges and universities regularly use it. Save this site on your computer, and use the links on the left side of it to create textual citations and a list of references at the end of a document.

American Psychological Association Website

This is another site that can help with APA: APA: American Psychological Association. It is the official APA website.

Adapted and synthesized from three texts:

- "Chapter 5 R" of *ENGL 145: Technical and Report Writing*, 2017, used according to creative commons CC-BY 4.0
- Engaging With Research by Lynn Hall and Leah Wahlin is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License, except where otherwise noted.
- Technical Writing. **Authored by**: Dr. Elizabeth Lohman. **Provided by**: Tidewater Community College. **Located at**: http://www.tcc.edu. **Project**: Z Degree Program. **License**: CC-BY 4.0

Strategies for Conducting Research

Now that you have a general understanding about the necessity of citing your research, it's time to start locating research. As a CNM student, you have access to many great resources including the CNM Library and CNM Librarians. These resources cannot be understated as you begin the research process. The following sections will introduce you to the different resources you can utilize as you begin your own research process.

Getting to Know Your Library

In the 21st century, we have more information and knowledge instantaneously at our fingertips than could have been imagined 100, 50, or even 30 years ago. Figuring out how to wade through all of that information can be daunting. Research is one way we can make sense of and discuss all the information available to us. Research is the basis for strong and persuasive communication because it helps us understand what others have said, done, and written about a particular topic or issue.

In the modern library, whose shelves could be wooden, metal, or electronic, we need to school ourselves in best practices to ensure we efficiently access the best material from these shelves. We do this by overcoming the attitude that the library is a foreign country, by rapidly understanding distinctions among resources, and by using search engines effectively.

Figure 2: The round reading room of Maughan

To research in the modern library, follow these basic practices:

- ***Take a tour.*** Whether self-guided, human-led, or virtual, a tour curbs the fundamental confusion about where you are within a library, which can make all the difference when you are chasing down a particular source in a hurry. A simple tour will also expose you to the different forms and locations of library resources, such as help desks, shelves for current periodicals, and reference shelves.
- ***Plan ahead.*** Especially when working on a sizeable project, it is unrealistic to expect that all the resources you need will be immediately available. You must give yourself time to physically track down resources, recall material that is checked out, research archived material, request interlibrary loans, or deal with the inevitable limitations of

resources that you find.

- ***Recognize how libraries work together.*** Especially at a large college, you can encounter multiple, specialized libraries within one system, and you have access to interlibrary loan (allowing you to borrow books from other libraries). No library is or even tries to be a "one-stop shop."
- ***View the library webpages as a time-saving device.*** Beyond their obvious aid as a research tool, library webpages are typically set up to save you time. You can usually reserve books online, renew books online, and even suggest books for purchase or e-mail specific questions to a librarian.
- ***When you find a hard copy of a resource, browse the nearby shelves.*** Frequently, while standing among the library shelves, I have discovered some of the best resources simply by looking through the related books near the one I was originally seeking. Such serendipitous, productive discovery is a lot more likely to happen at the library shelves than online.
- ***Do not fear the human.*** When in doubt, ask a real person who is paid and usually excited to help you.

Discerning Distinctions Among Resources

When choosing the best resources for a particular task, you improve and narrow your search by assessing source quality and establishing a good fit between the level of source information required and the circumstances for which you are writing. A good starting point is determining whether a resource is scholarly or popular, whether its material is more anecdotal or research-based, and whether the author's tone is subjective or factual. When discerning which sources best fit the task at hand, keep in mind these guidelines:

- You can rapidly determine the quality and usefulness of a source without fully reading it. Consider such issues as its level of language use, its context (whether published as a single work or as part of a collection), and the sources that it cites. Popular material is often short, not technically oriented, and topical. Scholarly work tends to be longer and more structured, more technical, and concerned with adding to a body of academic work rather than just standing alone.

- The best academic resources are usually journals that are “peer-reviewed” or “refereed” (the two terms are used almost interchangeably). This means that the journal editor has had other authorities critique and approve articles that the journal publishes. Practices vary about how this review takes place, but such review affords a level of quality that other resources might not possess. If the journal is online, you can try to determine if it is peer-reviewed by reading its root pages, but the surest way is to find a print version of the journal and look at its “Information for Authors” page, typically appearing in the back or front of the journal.
- When seeking print journal articles, narrow your search by using abstracts and indexes available on your library shelves. This helps you find resources across disciplines, and abstracts and indexes provide a form of quality control by listing established journals.

What is Research?

Research begins with questions. Before you begin to find sources, you must determine what your already know and what you hope to learn. Do you want first-person reflections and commentary? Statistics and facts? News reports? Scientific analyses? History?

For example, if you are interested in a recent piece of legislation then you would want to locate the full-text of the bill as well as commentary about the legislation from reliable news organizations such as *The Wall Street Journal* or *The New York Times*. If you are interested in statistics about the U.S. population, you might go to the U.S. Census Bureau or the Pew Research Center. Perhaps you are interested in the experiences of veterans returning from active duty. In this case you may turn to blogs or op-eds written by vets, official U.S. military records from agencies such as the Department of Defense, Department of Veterans’ Affairs, or organizations such as the RAND Corporation.

Primary vs Secondary Research

There are two basic kinds of research—primary and secondary. Often, primary and secondary research are used together.

Primary research is often first-person accounts and can be useful when you are researching a local issue that may not have been addressed previously and/or have little published research available. You may also use primary research to supplement, confirm, or challenge national or regional trends with local information. Primary research can include:

- nterviews
- Surveys
- Questionnaires
- Observations and analysis
- Ethnography (the study and description of people, cultures, and customs)

Secondary research is what many students are most familiar with as it generally requires searching libraries and other research institutions' holdings. Secondary research requires that you read others' published studies and research in order to learn more about your topic, determine what others have written and said, and then develop a conclusion about your ideas on the topic, in light of what others have done and said. Some examples of source types that might be used in secondary research include:

- Academic, scientific, and technical journal articles
- Governmental reports
- Raw data and statistics
- Trade and professional organization data

Primary and secondary research often work together to develop persuasive arguments. Let's say, for example, you are interested in using STEM knowledge to improve the quality of life for the homeless population in Columbus, Ohio. The most successful project would use both secondary and primary research.

First, the secondary research will help establish best or common practices, trends, statistics, and current research about homelessness both broadly in the U.S. and state, and more narrowly in the county and city.

Your brainstorming would likely lead to questions regarding the following:

- Issues facing homelessness and combating homelessness in the U.S.
- Issues concerning the homeless population and demographics for Columbus, Ohio
- Services currently available for the homeless in Columbus
- Services available in other cities and the state

The above information would likely be available through secondary research sources. Useful information would likely be available through city and state government agencies such as U.S. Department of Health and Human Services or the U.S. Department of Housing and Urban Development; local and national homeless advocacy groups such as the Coalition on Homelessness and Housing in Ohio, Columbus Coalition for the Homeless, National Alliance to End Homelessness, and the National Coalition for the Homeless. You would also need to search relevant research databases in subject areas such as engineering, sociology and social work, and government documents.

Additionally, primary research, such as interviews or surveys can provide more in-depth and local bent to the numbers and details provided in secondary sources. Some examples of groups to interview or survey include local homeless advocates; shelter and outreach employees and volunteers; people currently or previously experiencing homelessness, such as the vendors or writers for the street newspaper *Street Speech*; researchers or university-affiliated groups, such as OSU's STAR House, that conducts, compiles, and applies research on homelessness. Often, the strongest research blends primary and secondary research.

Where do I begin?

Research is about questions. In the beginning the questions are focused on helping you determine a topic and types of information and sources; later in the research process, the questions are focused on expanding and supporting your ideas and claims as well as helping you stay focused on the specific rhetorical situation of your project.

Questions to get started

- What is my timeline for the project? You will likely want to set personal deadlines in addition to your instructor's deadlines.
- What do I want to know or learn about? This helps you determine scope or the limits of your research. If you're writing a dissertation or thesis, then your scope will generally be larger because those types of projects are often 100+ pages. For a term paper, the scope will be more narrow. For example, if you're interested in NASA funding and research, you may limit yourself to the past 10-15 years because NASA because NASA has been around for nearly 60 years. Further, you may limit your focus to research that has transitioned into technologies or resources used outside of NASA and the space program.
- What do I already know about this topic?
- What biases might I have about this topic? How might I combat these biases?

Questions to determine methodology

- Where might I find useful, reliable information about this topic? For academic and workplace research, you can generally focus on library, technical, scientific, and governmental resources. It is fine if you are not quite sure exactly where you should look; your instructor or college librarian should be able to help you determine some places that would be appropriate.
- Will I need to perform primary research, secondary research, or both?

Next you will have to develop a **research question**. By this point you should have a general idea of your topic and some general ideas of where you might find this information.

Research Questions

Research questions generally form the basis for your project's main argument. Research questions are not about facts, but are about opinions, ideas, or concerns.

Which of these is a research question?

1. What is NASA's budget for 2016?
2. What is the impact of NASA's budget on scientific breakthroughs and contributions to non-space-related fields?

The former can be answered quickly and easily (NASA's 2016 budget was about $19.3 billion), but the latter requires detailed analysis of multiple sources and considerations of various opinions and facts. The second question requires critical thinking as well; therefore, response two is a research question.

Where do I look?

In the 21st century, we generally turn to the internet when we have a question. For technical, scientific, and academic research, we can still turn to the internet, but where we visit changes. We will discuss a few different places where you can perform research including Google, Google Scholar, and as a CNM student, you can reference the CNM library at https://www.cnm.edu/depts/libraries.

Google.com and Scholar.google.com

The default research site for most students tends to be Google. Google can be a great starting place for a variety of research. You can use Google to find news articles and other popular sources such as magazine articles and blog posts. You can use Google to discover keywords, alternative terms, and relevant professional, for-profit, and non-profit businesses and organizations. The most important idea to remember about using Google is that search results are organized by popularity, not by accuracy. Further, because Google customizes search results based on a user's search history, searches performed by different people or on different browsers may provide slightly different results.

For many technical, scientific, and scholarly topics, Google will not provide access to the appropriate and necessary types of sources and information. Google Scholar, however, searches only academic and scientific journals, books, patents, and governmental and legal documents. This means the results will be more technical and scholarly, and, therefore, more appropriate for much of the research you will be expected to perform as a student. Though Google Scholar will show academic and technical results, that does not mean that you will have access to the full-text documents. Many of the sources that appear on Google Scholar are from databases, publishers, or libraries, which means that they are often behind paywalls or password-protected. In many cases, this means you will have to turn to a college, university, or other library for access, and if CNM college does not have access to a specific journal, you can request an article or book through Interlibrary Loan or ILL. You have to activate your ILL account before requesting a text that the library does not own. Google Scholar can help streamline your searching, but you can turn to the expertise of CNM librarians to help you access those items for free.

College and University Libraries

Library resources such as databases, peer-reviewed journals, and books are generally the best bet for accurate and more technical information. A Google search might yield millions and millions of results and a Google Scholar search may yield tens or hundreds of thousands of results, but a library search will generally turn up only a couple thousands, hundreds, or even dozens of results. You may think, "Isn't fewer results a bad thing? Doesn't that mean limiting the possibilities for the project?" The quick answers are yes, fewer results means fewer options for your project, but no, this does not mean using the library limits the possibilities for a project.

Overall, library resources are more tightly controlled and vetted. Anyone can create a blog or website and post information, regardless of the accuracy or usefulness of the information. Library resources, in contrast, have generally gone through rigorous processes and revisions before publication. For example, academic and scientific journals have a review system in place—whether a peer-review process or an editorial board—both feature panels of people with expertise in the areas under consideration. Publishers for books also feature editorial boards who determine the usefulness and accuracy of information. Of course, this does not mean that every peer-reviewed journal article or book is 100% accurate and useful all of the time. Biases still exist, and many commonly accepted facts change over time with more research and analysis. Overall the process for these types of publications require that multiple people read and comment on the work, providing some checks and balances that are not present for general internet sources.

So what are common types of library sources?

- **Databases:** databases are specialized search service that provide access to sources such as academic and scientific journals, newspapers, and magazines. An example of a database would be Academic Search Complete.
- **Journals:** journals are specialized publications focused on an often narrow topic or field. For example, *Computers & Composition* is a peer-reviewed journal focused on the intersection of computers, technology, and composition (i.e. writing) classrooms. Another example is the *Journal of Bioengineering & Biomedical Science*.
- **Books:** also called monographs, books generally cover topics in more depth than can be done in a journal article. Sometimes books will contain contributions from multiple authors, with each chapter authored separately.
- **Various media:** depending on the library, you may have access to a range of media, including documentaries, videos, audio recordings, and more. Some libraries offer streaming media that you can watch directly on the library website without having to download any files.

Consulting a Reference Librarian

Sifting through library stacks and database search results to find the information you need can be like trying to find a needle in a haystack. If you are not sure how you should begin your search, or if it is yielding too many or too few results, you are not alone. Many students find this process challenging, although it does get easier with experience. One way to learn better search strategies is to consult a reference librarian.

Reference librarians are intimately familiar with the systems libraries use to organize and classify information and are skilled at assisting searchers find just what they are looking for, and helping you improve your research skills at the same time. The link to CNM's library home page can be found below.

CNM Library Home Page

Research Librarians at CNM can be found on six campuses. Table 1: "CNM Library Contact Information" lists contact information for each branch.

Campus	Contact
Main Campus	(505) 224-3274
Westside Campus	(505) 224-4953
South Valley Campus	(505) 224-5016
Montoya Campus	(505) 224-5721
ATC Learning Commons	(505) 224-5152

Rio Rancho Campus	(505) 224-4953

CNM's librarians can help you locate a particular book in the library stacks, steer you toward useful reference works, provide tips on how to search databases and electronic research tools, or help you break down a complex research question. Take the time to see what resources you can find on your own, but if you encounter difficulties or just want to learn more, ask a librarian. CNM's librarians can be accessed via an online chat function under "Get Help" on the library homepage or you can email reference librarians at reference@cnm.edu.

How do I perform a search?

Research is not a linear process. Research requires a back and forth between sources, your ideas and analysis, and the rhetorical situation for your research. The research process is a bit like an eye exam. The doctor makes a best guess for the most appropriate lens strength, and then adjusts the lenses from there. Sometimes the first option is the best and most appropriate; sometimes it takes a few tries with several different options before finding the best one for you and your situation.

Once you decide on a general topic, you will need to determine keywords that you can use to search different resources. The importance of this step cannot be underrated; having strong key terms will help you create a more successful research experience. Databases categorize information using specific terms, and the keywords you use will change the results you receive. For example, databases like Academic Search Complete or Academic OneFile categorize articles about the death penalty using the term capital punishment. If you have search for a topic that you believe has been written and published about, brainstorm synonyms for the keywords you use to yield more results.

Adapted and synthesized from three texts:

- "Chapter 5 Using Sources" of *Style for Students Online: Effective Technical Writing in the Information Age*, used according to creative common (CC BY-NC-SA 3.0 US)
- "Gathering Reliable Information" from *Introduction to College Writing* by Jennifer Schaller and Tammy Wolf, CC-BY 4.0
- "Strategies for Conducting Research" by Lynn Hall and Leah Wahlin is licensed under a CC-BY-NC 4.0 license, except where otherwise noted.

Evaluating Types of Sources

The different types of sources you will consult are written for distinct purposes and with different audiences in mind. This accounts for other differences, such as the following:

- How thoroughly the writers cover a given topic.
- How carefully the writers' research and document facts.
- How editors review the work.
- What biases or agendas affect the content.

A journal article written for an academic audience for the purpose of expanding scholarship in a given field will take an approach quite different from a magazine feature written to inform a general audience. Textbooks, hard news articles, and websites approach a subject from different angles as well. To some extent, the type of source provides clues about its overall depth and reliability. Table 2: "Source Rankings" ranks different source types.

High Quality Sources	
These sources provide the most in-depth information. They are researched and written by subject matter experts and are carefully reviewed.	• Scholarly books and articles in scholarly journals • Trade books and magazines geared toward an educated general audience, such as Smithsonian Magazine or Nature • Government documents, such as books, reports, and web pages • Documents posted online by reputable organizations, such as universities and research institutes • Textbooks and reference books, which are usually reliable but may not cover a topic in great depth
Varied-Quality Sources	
These sources are often useful. However, they do not cover subjects in as much depth as high-quality sources, and they are not always rigorously researched and reviewed. Some, such as popular magazine articles or company brochures, may be written to market a product or a cause. Use them with caution.	• News stories and feature articles (print or online) from reputable newspapers, magazines, or organizations, such as Newsweek or the Public Broadcasting Service • Popular magazine articles, which may or may not be carefully researched and fact checked • Documents published by businesses and nonprofit organizations
Questionable Sources	
These sources should be avoided. They are often written primarily to attract a large readership or present the author's opinions and are not subject to careful review.	• Loosely regulated or unregulated media content, such as Internet discussion boards, blogs, free online encyclopedias, talk radio shows, television news shows with obvious political biases, personal websites, and chat rooms

Table 2: Source Rankings

Tip

Free online encyclopedias and wikis may seem like a great source of information. They usually appear among the first few results of a web search, and they cover thousands of topics, and many articles use an informal, straightforward writing style. Unfortunately, these sites have no control system for researching, writing, and reviewing articles. Instead, they rely on a community of users to police themselves. At best, these sites can be a starting point for finding other, more trustworthy sources. Never use them as final sources..

Evaluating Credibility and Reputability

Even when you are using a type of source that is generally reliable, you will still need to evaluate the author's credibility and the publication itself on an individual basis. To examine the author's credibility or ethos—that is, how much you can believe of what the author has to say—review their credentials. What career experience or academic study shows that the author has the expertise to write about this topic?

https://www.youtube.com/embed/PLTOVoHbH5c?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Keep in mind that expertise in one field is no guarantee of expertise in another, unrelated area. For instance, an author may have an advanced degree in physiology, but this credential is not a valid qualification for writing about psychology. Check credentials carefully.

Just as important as the author's credibility is the publication's overall reputability. Reputability refers to a source's standing and reputation as a respectable, reliable source of information. An established and well-known newspaper, such as *The New York Times* or *The Wall Street Journal*, is more reputable than a college newspaper put out by comparatively inexperienced students. Furthermore, a website that is maintained by a well-known, respected organization and regularly updated is more reputable than one created by an unknown author or group.

If you are using articles from scholarly journals, you can check databases that keep count of how many times each article has been cited in other articles. This can be a rough indication of the article's quality or, at the very least, of its influence and reputation among other scholars.

Checking for Biases and Hidden Agendas

Whenever you consult a source, always think carefully about the author's or authors' purpose in presenting the information. Few sources present facts completely objectively. In some cases, the source's content and tone are significantly influenced by biases or hidden agendas.

Bias refers to favoritism or prejudice toward a particular person or group. For instance, an author may be biased against a certain political party and present information in a way that subtly—or not so subtly—makes that organization look bad. Bias can lead an author to present facts selectively, edit quotations to misrepresent someone's words, and distort information.

Hidden agendas are goals that are not immediately obvious but influence how an author presents the facts. For instance, an article about the role of beef in a healthy diet would be questionable if it were written by a representative of the beef industry—or by the president of an animal-rights organization. In both cases, the author would likely have a hidden agenda.

Using Current Sources

Be sure to seek out sources that are current or up to date. Depending on the topic, sources may become outdated relatively soon after publication, or they may remain useful for years. For instance, online social networking sites have evolved rapidly over the past few years. An article published in 2002 about this topic will not provide current information. On the other hand, a research paper on elementary education practices might refer to studies published decades ago by influential child psychologists and are still relevant.

When using websites for research, check to see when the site was last updated. Many sites publish this information on the homepage, and some, such as news sites, are updated daily or weekly. Many non-functioning links are a sign that a website is not regularly updated. Do not be afraid to ask your professor for suggestions if you find that many of your most relevant sources are not especially reliable—or that the most reliable sources are not relevant.

Evaluating Overall Quality by Asking Questions

When you evaluate a source, consider the criteria previously discussed as well as your overall impressions of its quality. Read carefully, and notice how well the author presents and supports his or her statements. Stay actively engaged—do not simply accept an author's words as truth. Ask questions to determine each source's value. See Table 3: Source Evaluation Checklist below for a list of evaluative criteria.

1. Is the type of source appropriate for my purpose? Is it a high-quality source

or one that needs to be looked at more critically?
2. Can I establish that the author is credible and the publication is reputable?
3. Does the author support ideas with specific facts and details that are carefully documented? Is the source of the author's information clear? (When you use secondary sources, look for sources that are not too removed from primary research.)
4. Does the source include any factual errors or instances of faulty logic?
5. Does the author leave out any information that I would expect to see in a discussion of this topic?
6. Do the author's conclusions logically follow from the evidence that is presented? Can I see how the author got from one point to another?
7. Is the writing clear and organized, and is it free from errors, clichés, and empty buzzwords? Is the tone objective, balanced, and reasonable? (Be on the lookout for extreme, emotionally charged language.)
8. Are there any obvious biases or agendas? Based on what I know about the author, are there likely to be any hidden agendas?
9. Are graphics informative, useful, and easy to understand? Are websites organized, easy to navigate, and free of clutter like flashing ads and unnecessary sound effects?
10. s the source contradicted by information found in other sources? (If so, it is possible that your sources are presenting similar information but taking different perspectives, which requires you to think carefully about which sources you find more convincing and why. Be suspicious, however, of any source that presents facts that you cannot confirm elsewhere.)
11. Is the source contradicted by information found in other sources? (If so, it is possible that your sources are presenting similar information but taking different perspectives, which requires you to think carefully about which sources you find more convincing and why. Be suspicious, however, of any source that presents facts that you cannot confirm elsewhere.)

Adapted and synthesized from two sources:

- "Chapter 5 Using Sources" of *Style for Students Online: Effective Technical*

Writing in the Information Age, used according to creative common (CC BY-NC-SA 3.0 US)
- "Chapter 11" of *Successful Writing*, 2012, used according to creative commons CC BY-NC-SA 3.0

Chapter 13: Avoiding Plagiarism and Integrating Sources

To discuss professionalism and writing, we should begin with the most obvious problem: plagiarism. Outright plagiarism, the use of another's ideas without attribution, is always a serious offense. However, many students plagiarize "accidentally"—that is, they fail to cite information they took from a source because they quickly, if tentatively, assess that the information they chose resides in a "gray area," and thus it might not need to be cited. They reason, "Why bother if I'm unsure?", or "Why risk doing it poorly?" Further, students frequently oversimplify this issue by rationalizing that the information appeared in an encyclopedia or in several books and therefore it need not be cited. In one case, a student argued, "If it's on the internet, by definition, it's common knowledge, and therefore I don't have to cite it." This is faulty logic because ideas, even those shared on the internet, belong to their creator. Such thinking causes instructors pain.

What such writers must realize is that one's use and citation of sources has to be both reflective and discerning. The quality and context of your sources matter just as much as their content, and you are obliged to assess that quality and consider whether and how best to establish that context. Your readers—especially your professors—will naturally be assessing quality and context in the act of reading, and they will expect you to have done the same. When using web-based sources, your responsibility to cite your material conscientiously remains, and in fact your responsibility to assess the credibility of the information increases simply because the material did in fact appear on the web.

Further, if you see in-text citation of sources as a final, merely trivial step to writing rather than as an integral part, you are bound to slip up somewhere in your citation practice or lose track of the relationship between your own ideas and those of your sources. I am always surprised at the number of students who sit down with me to review a "complete" paper draft, yet with no sources cited. "Oh, I do that last," they say, then during our tutorials we invariably encounter problems that can only be reconciled by a better handling of source material. Stated simply, using sources well in your paper is not a matter of mere mechanics; it is the art of blending source material within the context of a focused argument as you write. The following video talks about how to avoid plagiarizing:

https://www.youtube.com/embed/SrjoaaIxaJI?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

The Punishable Perils of Plagiarism "The Punishable Perils of Plagiarism" by Melissa Huseman D'Annunzio is located at the following address: https://youtu.be/SrjoaaIxaJI, and is licensed under a Youtube license.

Unfortunately, the norm for many students is that they spend hours unreflectively surfing the web with an overly broad research focus, or they quickly Xerox anything that looks relevant in the library, then, twenty-four or twelve hours before the deadline, they sit down and start tapping madly into the word processor, sometimes simply lifting whole paragraphs from their sources and hoping that it looks like their own work, loudly assuring themselves and their friends that they "work best under pressure." If this is your technique, you will find that it fails you miserably when it comes to writing a thesis or working on a lengthy writing project on the job. Writing a long research paper in a day is a bit like pulling an all-nighter on Christmas Eve to crochet a quilt—the end product looks hurried and flimsy, and you can be sure that you have left many loose ends and produced a lousy Christmas gift.

For additional information on the perils of plagiarism, check out CNM's Academic Integrity Policy.

How to Cite Your Sources

A colleague once told me a story that proves how small the academic world can be while underscoring the best reason to document sources: Doing so is likely to make you friends; failing to do so can only make you enemies. This colleague was asked to review a proposal submitted to the National Science Foundation, and was irate when he realized that an author of the proposal did not acknowledge my colleague's work when he clearly should have. An investigation confirmed my colleague's suspicions, which stung all the more because he had once actually nominated the author for an award. For my colleague, the author, and the National Science Foundation, this became an unpleasant situation all around, breeding distrust and embarrassment. A great deal of time was wasted since all of this could have been avoided if the author had merely put his research into the appropriate context by properly acknowledging his sources. Instead, the author—whether intentionally or not—plagiarized, thus hurting other members of his proposal team as well.

When you write papers, you might be tempted to plagiarize to try to cover up the fact that almost all of your paper came directly from sources or that you relied heavily on the internet for your research. Your well-read professors will not be fooled by this tactic, though, and part of your job as a researcher and writer is to organize, assimilate, and recast your information in your own form. If you find yourself using the same source for several paragraphs in a row or failing even to provide your own topic sentences for paragraphs, you are obviously not doing your job as a thinking writer. Do not fall back on the flimsy excuse that you might as well just copy it exactly as it appeared because you "like the way it was written." The context for your writing is different from the context of the original. The reason you use sources in the first place is to simplify and summarize information and weave it into the pattern of your own ideas, and your pattern of ideas will develop as you write and do your research.

Use the following list as a reminder of the information that must be cited—whether web-based or print-based:

- Quotations, opinions, and predictions, whether directly quoted or paraphrased.
- Statistics derived by the original author.
- Visuals in the original.
- Another author's theories.
- Case studies.
- Another author's direct experimental methods or results.
- Another author's specialized research procedures or findings.

If you use specific information of the type just mentioned, document it; otherwise you could be plagiarizing. Better safe than lazy, and if you make a mistake, err on the side of over-citing. By citing the source of your information, you point to an authority rather than ask your reader to trust your memory or what might appear to be your own idea. Even though you can recall a statistic or a description of a process, for example, citation of such information—if it came directly from a source—gives more credibility to your writing and underscores the accuracy, timeliness, and even the potential bias of your information. In short, be honest, smart, and safe.

How to Integrate Source Material

In technical writing, integrating source material is a process of selection, extraction, and re-contextualizing. Technical writing rarely relies on direct quotations because the author's exact wording is usually not as relevant as the data or information reported. Suppose you are writing a technical paper on mine safety, for example, and you encounter this material:

"Since 1870, 121,000 mining deaths have occurred; 1.7 million lost-time injuries have been recorded since 1930. Historically, all of this has contributed to the public's negative perception of mining safety and even helped to fuel the NIMBY mentality."

It is highly unlikely that you would quote these sentences directly, especially because some of the material is data and some is interpretation. The exact wording does not matter, but some of the material does, so your job is to extract only the relevant information, use it, and cite the source.

Similarly, there is no good reason to quote this sentence directly:

"Acid mine drainage has been and continues to be a major problem generated by the mining of coal in Pennsylvania and elsewhere in the world."

In this instance, the information is so general that it need not even be cited, but neither should the sentence itself just be plucked out and plopped into your paper. Ideally, the information from the above sentence would simply end up as part of a sentence of your own creation such as this one:

This paper explores the three chief reasons why acid mine drainage continues to be a major environmental problem in Pennsylvania.

In this example, note how the relevant information is extracted from the source, without the need for citation, and note how the writer creates new context for the information.

Blending Source Material with Your Own Work

When working with sources, many students worry they are simply regurgitating ideas that others formulated. That is why it is important for you to develop your own assertions, organize your findings so that your own ideas are still the thrust of the paper, and take care not to rely too much on any one source, or your paper's content might be controlled too heavily by that source.

In practical terms, some ways to develop and back up your assertions include:

- *Blend sources with your assertions*. Organize your sources before and as you write so that they blend (think of this as smoothly transitioning between your ideas and the content you are using), even within paragraphs. Your paper—both globally and at the paragraph level—should reveal relationships among your sources, and should also reveal the relationships between your own ideas and those of your sources.
- *Write an original introduction and conclusion*. As much as is practical, make the paper's introduction and conclusion your own ideas or your own synthesis of the ideas inherent in your research. Creating a unique and original introduction will help you maintain your assertions throughout the body of your writing. Use sources minimally in your introduction and conclusion.
- *Open and close paragraphs with originality*. In general, use the openings and closing of your paragraphs to reveal your work—"enclose" your sources among your assertions. At a minimum, create your own topic sentences and wrap-up sentences for paragraphs.
- *Use transparent rhetorical strategies*. When appropriate, outwardly practice such rhetorical strategies as analysis, synthesis, comparison, contrast, summary, description, definition, hierarchical structure, evaluation, hypothesis, generalization, classification, and even narration. Prove to your reader that you are *thinking* as you write.

Also, you must clarify where your own ideas end and the cited information begins. Part of your job is to help your reader draw the line between these two ideas or concepts, often by the way you create context for the cited information. A phrase such as "A 1979 study revealed that . . ." is an obvious announcement of citation to come. Another recommended technique is the insertion of the author's name into the text to announce the beginning of your cited information. You may worry that you are not allowed to give the actual names of sources you have studied in the paper's text, but just the opposite is true. In fact, the more respectable a source you cite, the more impressed your reader is likely to be with your material while reading. If you note that the source is the NASA Science website or an article by Stephen Jay Gould or a recent edition of *The Wall Street Journal* right in your text, you offer your readers immediate context without their having to guess or flip to the references page to look up the source.

What follows is an excerpt from a political science paper that clearly and admirably draws the line between writer and cited information:

The above political upheaval illuminates the reasons behind the growing Iranian hatred of foreign interference; as a result of this hatred, three enduring geopolitical patterns have evolved in Iran, as noted by John Limbert. First . . .

Note how the writer begins by redefining her previous paragraph's topic (political upheaval), then connects this to Iran's hatred of foreign interference, then suggests a causal relationship and ties her ideas into John Limbert's analysis—thereby announcing that a synthesis of Limbert's work is coming. This writer's work also becomes more credible and meaningful because, right in the text, she announces the name of a person who is a recognized authority in the field. Even in this short excerpt, it is obvious that this writer is using proper citation and backing up her own assertions with confidence and style.

Anatomy of a Well-Cited Paragraph

Writing a paragraph with the sources properly cited can seem a tricky task at first, but the process is straightforward enough, especially when we analyze an example. Writing a sound paragraph is actually just a matter of thinking clearly about a topic you have researched and transferring that thinking to the page. To illustrate, a tidy sample paragraph follows, with the sources properly documented in the author-year system. Next, the genesis of the paragraph is analyzed.

The millions of species of plants and animals on the earth have a phenomenal influence on the human species. Not only do they provide a substantial amount of our food, they are of great value in medicine and science. Over 60 percent of the purchases we make at the pharmacy contain substances that are derived from wild organisms (Myers 2008). Studies of plants and animals have led to discoveries in virtually all of the sciences, from biology and chemistry to psychology and astronomy (Wilson 2001). Furthermore, plants and animals are vital to the maintenance of our ecosystem. Their diversity and balance directly control food webs, nutrient diversity, supplies of fresh water, climate consistency, and waste disposal (Eberly 1988). Finally, many species act as barometers of our environment. The salmon, for example, is extremely sensitive to changes in the condition of the water in which it lives. Any abnormality in population or behavior of fish usually indicates some type of chemical imbalance in the water. The same is true of butterflies and their responses to the environment within prominent agricultural areas. Clearly, the millions of species of plants and animals in the world are vital to the continued thriving of the human population.

Now let’s walk through the paragraph and its use of sources:

1. The first two sentences assert the author’s personal view about the value of the world’s species (a view shaped by his research, no doubt), which he is about to back up by using three recent sources.
2. Next, the author cites a journal article (Myers) from which he extracted a statistic (“over 60 percent of the purchases we make at the pharmacy”). Without this source cited, the reader might believe that the author estimated loosely or simply relied on his memory for the statistic.
3. The next source (Wilson) is cited because the paper author borrowed a general claim from a textbook by Wilson. The author was at first not sure

whether to cite the source, but he wisely decided that he should because he realized that he had in fact had Wilson's book open to a particular page and referred to it as he wrote the sentence.

4. The next source (Eberly) is cited because the author had browsed through a whole chapter of Eberly's book in order to compose the list in the sentence, usually using Eberly's exact section headings from the chapter as the list members.
5. The final examples of the salmon and the butterfly were based directly on the author's personal experience of working at a fish hatchery for a summer, so documenting sources was not an issue. The fact that the author finds a way to tie this experiential knowledge in with his research is testimony to the fact that he is *thinking* as he writes the paragraph.

This breakdown of his source citations showcases how the writer blends/integrates his sources, but he does not allow them to do the thinking for him. More evidence of the author's control over his material resides in his transparent mid-paragraph transition sentence (beginning with "Furthermore"), his labeling of species as "barometers" of the environment a few sentences later, and his closing sentence, which wraps up the paragraph's ideas neatly by making an affirmative and confident statement that backs up his topic sentence and examples.

Not every paragraph should look exactly like this, of course, but every paragraph should be written with the same kind of conscientiousness about how, when, and why the sources are cited.

Ethics and Documentation

Documenting your sources includes showing exactly what information you borrowed in the body of your writing and in a Works Cited, Works, or References (the different terms reflect different documentation systems, not just random preference) list at the end.

Including an item only in the source list at the end suggests you have used the source in the report, but if you have not cited this source in the text as well, you could be seen as misleading the reader. Either you are saying it is a source when in fact you did not actually use anything from it, or you have simply failed to clarify in the text what are your ideas and what comes from other sources.

It is also unethical to document a source in a misleading way, where the source is hard to identify—that would include using just a URL or using an article title without identifying the journal in which it appears (in the Works Cited/References; you would not likely identify the journal name in the report's body). Unethical source use also includes falsifying the nature of the source, such as omitting the number of pages in the Works Cited entry to make a brief note seem to be a full article.

Unethical source use includes suppressing information about how you have used a source, such as not making clear that graphical information in your report was already a graph in your source, as opposed to a graph you created on the basis of information in the source.

Note that many problems in documenting sources occur because the writer is missing the point of source use:

- you must clearly distinguish between your ideas and borrowed material, and
- you must use borrowed material primarily as evidence for your own, directly stated ideas.

If you blend source material together with your ideas (including as "your ideas" your analysis or application of borrowed materials), you will indeed find that showing exactly what is borrowed versus what is yours is impossible. That is because you cannot ethically blend your ideas together with source material.

Any time you find you cannot apply documentation principles, consider whether you are using the source(s) unethically. Students often argue that they cannot separate their ideas from borrowed ideas because they would then have to document the whole paper—if that is true, the paper is most certainly not making “fair use” of the sources.

Ethics, Plagiarism, and Reliable Sources

Unlike personal or academic writing, technical, professional, and workplace writing can be used to evaluate your job performance and can have implications that a writer may or may not have considered. Whether you are writing for colleagues within your workplace or outside vendors or customers, you will want to build a solid, well-earned favorable reputation for yourself with your writing. Your goal is to maintain and enhance your credibility, and that of your organization, at all times.

Credibility can be established through many means: using appropriate professional language, citing highly respected sources, providing reliable evidence, and using sound logic. Make sure as you start your research that you always question the credibility of the information you find. Are the sources popular or scholarly? Are they peer reviewed by experts in the field? Are the methods and arguments used based on solid reasoning and sound evidence? Are the authors identifiable and do they have appropriate credentials? Be cautious about using sources that are not reviewed by peers or editor, or in which the information seems misleading, biased, or even false. Be a wise information consumer in your own reading and research in order to build your own reputation as an honest, ethical writer.

Quoting the work of others in your writing is fine, provided that you credit the source fully enough that your readers can find it on their own. If you fail to take careful notes, or the sentence is present in your writing but later fails to include accurate attribution, it can have a negative impact on you and your organization. That is why it is important that when you find an element you would like to incorporate in your document, in the same moment as you copy and paste or make a note of it in your research file, you need to note the source in a complete enough form to find it again. Creating and maintaining a document with the URLs, document titles, and authors' names is a great way to maintain your research source materials.

Giving credit where credit is due will build your credibility and enhance your document. Moreover, when your writing is authentically yours, your audience will catch your enthusiasm, and you will feel more confident in the material you produce. Just as you have a responsibility in business to be honest in selling your product of service and avoid cheating your customers, so you have a responsibility in business writing to be honest in presenting your idea, and the ideas of others, and to avoid cheating your readers with plagiarized material.

Professional Ethics

Many organizations and employers have a corporate code of ethics. If you are a technical writer and you join a professional associations such as the Society of Technical Communicators you will need to be aware their codes of ethics, published online (e.g. http://www.stc.org/about-stc/ethical-principles). If you are a technical writer researching and writing a report within a specific professional field, you will also need to be aware to that field's codes of ethics.

For example, let's say you are writing a report for a group of physical therapists on the latest techniques for rehabilitating knee surgery patients. You should be aware of the code of ethics for physical therapists so that you work within those principles as you research and write your report.

Look for the codes of ethics in your own discipline and begin to read and understand what will be expected of you as a professional in your field.

Chapter 14: Preparing Business Proposals

Now that we have gone over the basic information for research, it's time to start thinking about how to prepare a proposal. A business proposal is a statement that is meant to persuade the reader to consider a new work related concept or a change in a work procedure. Your final assignment for this competency will require you to create a proposal memo and a presentation of your proposal. Lumen's textbook *Technical Writing* introduces the key elements that are included in a proposal.

Objective

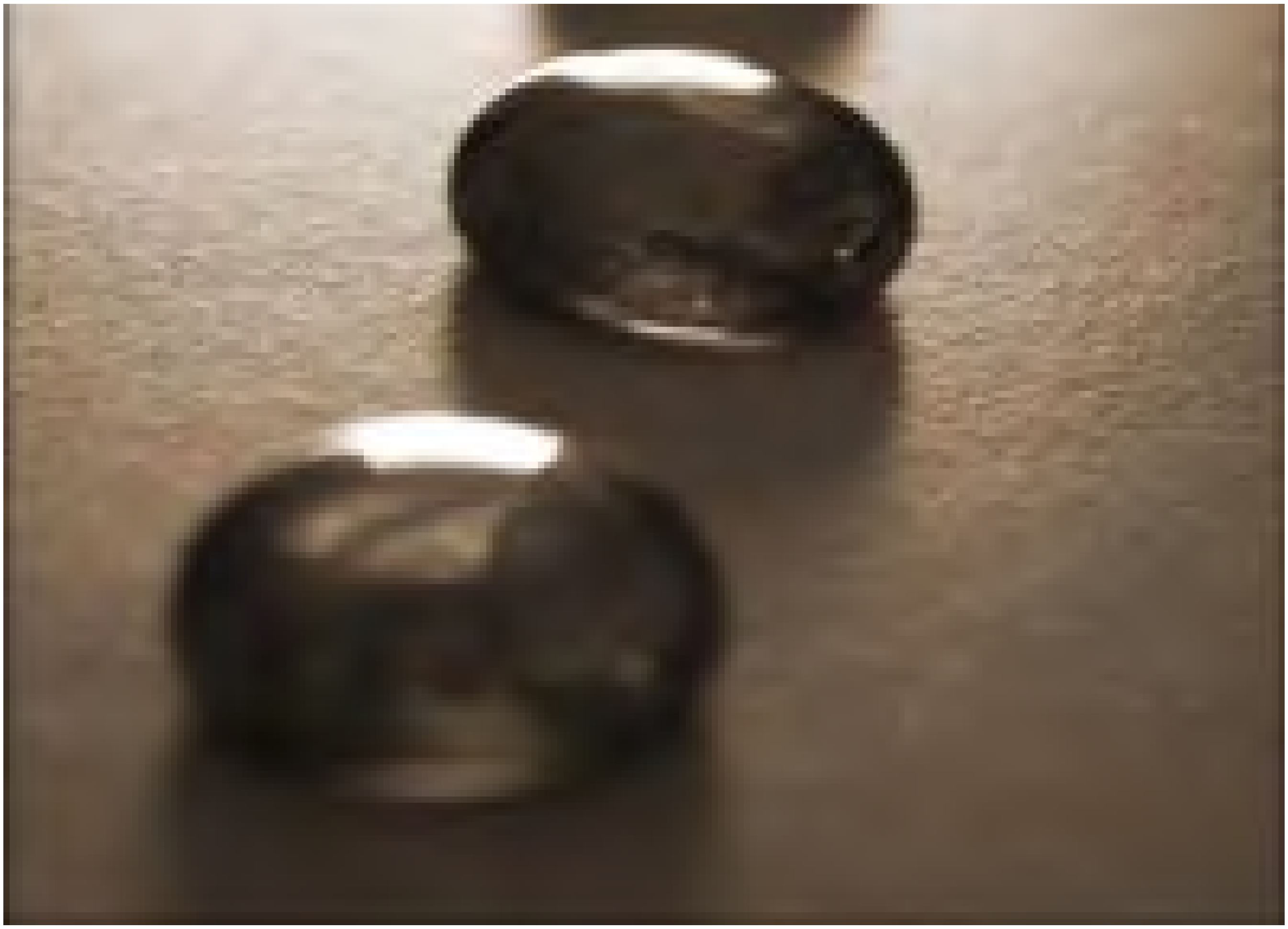


Image 1: Glass marbles. Authored by: Pedro Ferreira. Located at: https://flic.kr/p/6uPLMk. License: CC BY-NC-ND: Attribution-NonCommercial-NoDerivatives

In a proposal, you make an offer in attempt to persuade the reader to accept it. In exchange for money, time, or some other consideration, you will give the reader something they want, create something they desire, or do something they wish to have done. Business proposals have two objectives: To persuade and to protect.

1. Persuasion comes from the wording of the proposal. By definition, a proposal is an offer that needs to be accepted by the reader in order to succeed. If the proposal is not persuasive, you will not receive the support you are seeking.
2. Proposals serve metaphorically and often legally as a **contract**, so they need to protect you. If they are worded vaguely or they exaggerate promises, clients can take legal action if you do not perform the expectations stated. You also need to make sure you comply with any state laws when writing a

proposal.

Expertise in writing proposals requires two skills: you must be able to present your offer in the most appealing way possible, while carefully defining the limits of your offer so that no one thinks you are promising more than you can offer. To make a proposal appealing without promising more than you can offer may prove difficult because you need to set limits on your persuasiveness.

Variety

There are many different kinds of proposal situations.

1. You may need to write for a reader who is employed in your own organization.
2. Your proposal may be your own idea, or the idea of your reader.
3. Your proposal may stand alone or compete with other proposals.
4. Your company/group may have to proofread and approve of your proposal before you submit it to your readers, or you may have to send it directly to them.
5. Your proposal may be heavily regulated for content and structure, or you may have free range on what you think it should sound like.
6. Finally, the proposal can be evaluated in a plethora of ways.

https://www.youtube.com/embed/oA2VUdsSGNc?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

The Key Forms of Business Writing: Proposals The Key Forms of Business Writing: Proposals – UpWritePress Published on Mar 5, 2009.

Readers

When you write a proposal, you are representing yourself, your idea, and your company. You are asking your readers to invest something (time, money, other resources) because you can not provide it yourself. The readers will review the proposal with caution because they may have limited supplies and if your idea does not seem well thought out or effective, they will not consider it. If your business proposal is competing against others, the readers will need to consider each one in order to pick the best.

Writing a Business Proposal

Business proposals need to be organized. There are many different ways to write a business proposal. The actual task of asking the reader to decide whether to invest in you or not is an important aspect of this process and should be incorporated in every business proposal. For the reader, investing in you takes their limited resources and puts them in your hands. Therefore, business proposals should be precise and address many different issues the reader might have such as money, time, space, etc.

Frequently Asked Questions

Most of the time, readers want to know four types of information when they consider a proposal: Problem, solution, cost, and capability.

- The problem, need, or goal of your

Image 2: FAQ Button. Authored by: photosteve101. Located at: http://www.planetofsuccess.com/blog/faqs/. License: CC BY: Attribution

proposal should be clearly addressed in order to let the reader know why the proposal was written and why they should be interested in it. A properly written problem/need/goal will add clarity to your proposal.

- If you provide a problem, be sure to describe the solution you are proposing; explain what actions you plan on taking to solve the problem. The reader wants to make sure that your solution will work effectively and if it is worth investing in.
- Cost is also important. The reader will consider the problem and solution and determine their answer on what their financial situation is. A good business proposal can flounder because the cost may be too high.
- Capability can be considered as well, if you agree to perform some work. If you are being paid, readers want to make sure that you will work hard.

Strategy of Conventions

A business proposal needs to have a framework. Usually, there are ten topics that need to be addressed. However, all proposals need to have the following:

Introduction, Problem, Solution, and Cost

The following is a detailed description of the ideal sequence of thought you should lead your reader through:

- In the introduction, the reader should learn what you want to do.
- You should present a problem, need, or goal to the reader. This should

persuade the reader that the problem is important to them.
- The plan of action to solve the problem, meet the need, or achieve the goal should give objectives and solutions in order to persuade the reader that the plan of action is effective.
- Giving methods, providing a schedule, showing resources, and describing qualifications should persuade the reader that you are capable of planning, managing, and completing the proposed solution.
- Explaining how the benefit exceeds the cost will persuade the reader that the proposed action is reasonable.

By including at least these four sections, you are leading the reader through a persuasive argument on why your proposal deserves to be considered. If you divide the proposal up into several sections, it is more efficient for the reader to concentrate on the sections that are more important and skim through the other sections, instead of having to read the whole thing and look for key points.

Superstructure

Image 3: Kings Cross Station Architecture. Authored by: Alex Loach. Located at: https://flic.kr/p/coecMA. License: CC BY-NC-ND:

The superstructure provides a framework for writers to organize their proposal. Writers can use it as a guideline, but note that it is not mandatory for writers to include every single element listed below in their proposal. Sections can be combined or even briefly stated in other sections.

Introduction

In the introduction, you want to focus on what you are announcing. Although you may want to reveal the full description in the beginning, it may be better to make the introduction brief and allow the full description to be revealed throughout the document. This way, readers can obtain a glimpse of what you will be focusing on without you explaining it several times (in the beginning and later on).

Problem

After the introduction, you should present your readers with a problem, need, or goal that is significant to them. It is important to summarize the problem from the readers' point of view, otherwise they may think that it doesn't affect them and become uninterested. Stating a problem can take some research. Sometimes, readers may provide a problem for you (like when a firm writes your company a letter explaining a problem and how you should solve it). Other times, readers may still give you a problem, but be vague. Other times, you may have to define the problem yourself, based on your own frustration or helplessness. Before you consider something to be a problem, try to talk about it with a potential reader to see if it is worth writing a business proposal about. If the feedback is positive, you will know you have more means for continuing the proposal.

Objectives

After you describe your problem and before you state your solution, tell your reader what the goals of the solution are. The objectives help to connect the problem and solution together. Objectives should be brief or listed, and should tell how the action of the solution solves the problem.

Solution

How do you want to achieve the objectives that you have listed? Your solution should answer this question. To do this, you must **address** each objective and persuade your readers that your solution is the **best way to achieve** the objectives. These statements are only necessary when they are not obvious to the readers. This can be the case when your readers are coworkers who are aware of problems around the workplace.

The solution's description can be tricky because you may find that you are promising more than you can deliver. The best way to counter that is to be very specific (i.e., what are the limits of the program, what are the capabilities, etc.).

Make sure you do not overstate your capabilities, and inform the reader which objectives are possibilities rather than certainties.

Method

After you propose a solution to the problem, readers will want to know the steps you will take to make sure the solution is carried out. How will you produce the result? These are the aspects that most readers will look for:

1. Facilities
2. Equipment
3. Your schedule
4. Your qualifications
5. A plan for managing the proposed project

Sometimes, explaining the method is superfluous. If everyone is already familiar with your methods, you do not have to give a detailed explanation. However, make sure your readers know what you are talking about before you assume that they will know everything about your project.

Resources

If your plan requires equipment, facilities, or other resources, you should include this section. Tell your readers what you need and why it is needed. If no special resources are required, you do not need to include this section in your proposal.

Schedule

Schedules help provide readers with three things. First, they give readers a deadline so they know when to expect a final result. Second, schedules can be critiqued by readers to make sure they are feasible. Third, a schedule is a good way to keep track of how a project is proceeding.

In addition to project deadlines, schedules should also include due dates for drafts, resources, and other information that is needed to assist you with your project goal.

Qualifications

A qualifications section is a good place to explain the talent and experience of yourself and your team members. Depending on your readers, this section may be small or large. As with all business documents, you need to be honest when you write your qualifications. If you think that you need to learn new programs, remember that the time and money spent gaining experience can take away from the project's completion.

Management

A project's success depends on its management team, and readers are impressed if you can describe your project management structure in your proposal. By identifying each person on your team and explaining what their tasks and responsibilities are, you can coordinate your work efficiently. It is important for each person to know what they will be doing beforehand so there won't be many problems concerning leadership and time management further into the project.

Costs

Since your readers are investing their money and time into your project, it is necessary to know how much you expect the project to cost. A budget statement is good for organizing your expenses, but you should also think about the amount of time you and your team members will spend on the project. You may also include how much money your project will save the readers to make it seem more appealing.

Design

Believe it or not, design DOES matter when writing a business proposal. You want to make the proposal appealing to the readers. If the reader is looking at two proposals and one has graphics and color on the front cover and one has just text, which one do you think they will want to read first? Spend the necessary time to organize the information in an easy-to-review way; follow the guidelines introduced earlier to create an easy-to-scan heading system; and reduce any excess wordiness throughout the document to ensure the key information is accessible.

Attributions:

Parts of a Business Proposal

A proposal has many parts, and the front matter is an extremely important element to writing any report, whether it is for specific company research or for other personal reports. Specifics such as the size of the font, font type, formatting, and organization also need to be taken into consideration when creating the front matter of your report.

The first few pages of a report are essential. An abbreviated abstract will assist the reader in finding what the main points of the report will be about. These elements are often referred to as “Book Elements”, as they are commonly found in larger works.

It is important to examine how your publication will be used. To increase usability, you should consider how your readers will be using the report, and what they will be looking for, and focus on making this easy to find.

https://www.youtube.com/embed/mozVzcNZMG0?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

How to Write a Business Proposal? 7 Minutes Step-by-Step Guide

Covers

A cover page is a simple, precise, and brief way to introduce your report to the reader. This part of the proposal should contain:

- A large specific title
- Company name
- Name of the author(s)
- Date of the report
- Relevant picture

The use of a relevant picture or two can help reinforce the subject of the report. One goal of the cover page is to be informative and scalable because once it is filed, it will need to be easy to pick out of a stack of other reports. A second goal is to make the report stand out. If the report cover looks bleak and dull, the reader will start reading with a negative outlook. Think of the cover page of a report like attire worn to a job interview. The cover page is the first image that is seen, and it will be the foundation for first impressions, for better or worse. One easy way to make the report stand out is to use a theme for the report that your audience can connect to. For example, if a report is written to McDonald's, the cover page will be in yellow and red with the golden arches as a picture. It is important that the reader believes that he or she is the most important aspect of the report.

Title Page

A title page will be similar to your front cover and it repeats the information on the cover, but adds more important details. This may include a report number, date, title, the names and addresses of authors, specific contract information, the name and address of the supervisor, and the name and address of the organization who supported the report (Technical Communications, p.312).

The title page is an opportunity to provide specific, detailed information about the document and its authors to its intended audience.

Sample Draft

(Document number) 10-1 (Date) March 7, 2010 (Title) The Madden Project

By (Author) John Manning Brett Peterson 1234 Touch Down Lane Miami, Fl 57897 Madden Inc

And

(Place to Contact) Madden Inc. No. 54321

Project officer

(Who's in charge) Ari Washington Manager of Exploratory Research 6667 Prime Time Court Mendota Heights, MN 55178

(Who paid for the project) Football Cooperation The Department of Research and Development 1812 Legacy Drive Columbus, OH 99121

Executive Summary or Abstract

Abstracts are an important element in the business world. This will help a manager learn the main points of your document, and help the reader determine if the entire report is relevant to what they are looking for. Charts and graphs that show factual data are helpful visuals that can be implemented into this section of the document.

Major topics should be mentioned, but not the main points of each. This will be where most of the keywords of your report are used, and will be a preview of the information to be covered. Often, summaries are used when representing a report in a database, so illustrating the main topics of your report in this segment can be useful.

The abstract should always be a page or less, especially in informative situations. Typically an abstract should not be more than 15 percent of the total report.

According to the Lumen *Technical Communications* text:

- Identify the intended audience
- Describe contents
- Explain how the information is presented within the document

Table of Contents

In any report or analysis, a table of contents is helpful to navigating the report. Some lengthy reports may also include a table of graphs and/or a table of figures. In addition to the summary, this will allow the reader to quickly scan the topics you have covered. This will also help if they are looking for something particular. Use of proper headings and sub-headings gives readers a good overview of all the information contained in your document.

Table of contents are usually extremely generic and similar to each other. This is for ease of navigation to the user. Table of contents can be formatted from Microsoft Word.

EXAMPLE**:** **Chicago Manual of Style: Table of Contents: Formatting**

Lists of Figures and Tables

This is a useful section to include because your images or tables are referred to repeatedly throughout your text. Include Figures and Tables lists when your article is over about 15 pages. This also allows for easy comparison between images when they are grouped together.

Attributions:

Revising a Business Proposal

Now that you know what information is required, you can prepare a checklist to make sure that everything is covered and you are not missing something that may be essential.

Introduction

1. Does the introduction state the purpose clearly?
2. Does it provide sufficient background information?
3. Does it foreshadow the rest of the proposal to help guide the reader?

Problem

1. Does the problem explain the proposed action's need or goal?
2. Does it persuade the reader that the problem is important to them?

Objectives

1. Do your objectives relate directly to the problem?
2. Can you present them without going into the solution?

Solution

1. Is the solution clearly described?
2. Is the solution persuasive upon claiming it will achieve the objectives?
3. Does the solution effectively show it is the most desirable way to achieve the objectives?
4. Does the solution offer protection to you and your team members/employer by only promising things that you can deliver?

Method

1. Are the steps in the method described clearly?
2. Is the method persuasive enough for your readers to be convinced that it will work?

Resources

1. Can you persuade the readers that you have resources or can attain them?
2. Can you clearly identify all of the resources you can supply, protecting you and your employer?

Schedule

1. Does the schedule say when the project will be completed?
2. Has your work been reasonably scheduled?
3. Does the schedule clearly state what you must do to meet your deadlines, protecting you and your employer?
4. Have you included a schedule chart (if it makes your proposal more persuasive?)

Qualifications

1. Can you persuade your readers that you can complete the project successfully?

Management

1. Can you persuade your readers that your team is organized effectively?
2. Have you included an organizational chart that illustrates the hierarchy of your team members and their responsibilities?

Costs

1. Have you presented all costs?

2. Are they reasonable?
3. Are all of your costs included, protecting you and your employer?
4. Do you have a budget table?

Conclusion

1. Are all of your key points summarized?
2. Have you ended on a positive note?

Attributions:

Chapter 15: Develop Effective Presentation Skills and Materials

Oral Presentations

A common assignment in technical writing courses—not to mention in the workplace—is to prepare and deliver an oral presentation, a task most of us would be happy to avoid. However, while employers look for coursework and experience in preparing written documents, they also look for experience in oral presentations as well. Look back at the first chapter to refresh your memory on how important interpersonal communication skills are in the workplace.

If you can believe the research, most people would rather have root canal surgery without novocaine than stand up in front of a group and speak. The task of public speaking is truly one of the great stressors. But with some help from the resources that follow, you can be a champion presenter.

When you finish this chapter, you should be able to plan and prepare a talk or presentation, deliver the presentation, create presentation materials that reflect standards of effective presentation, and evaluate presentations delivered by others, including classmates.

Contents and Requirements for the Oral Presentation

The focus for your oral presentation should be clear before you begin. Make sure your goal for the presentation is clear; then, you can begin working to create an understandable presentation which requires you to organize, plan, and time your discussion in a way to engage and persuade your audience. You don't need to be Mr. or Ms. Slick-Operator—just present the essentials of what you have to say in a calm, organized, well-planned manner.

When you give your oral presentation, your listeners will be seeking similar outcomes. Use the following as a requirements list to focus your preparations:

- Plan to explain what the situation of your oral report is, who you are, and who the audience is. Make sure that there is a clean break between this brief explanation and the beginning of your actual oral report.
- Make sure your oral report lasts no longer than the time allotted.
- Pay special attention to the introduction to your talk. This is where you tell your audience what you are going to tell them.
  - Indicate the purpose of your oral report
  - Give an overview of its contents
  - Find some way to interest the audience
- Use a visual design software—preferably a slide software (such as Powerpoint, Prezi, Google Slides). Use visuals to compliment your text and keep your audience engaged.
- Create slides with minimal text. Some tips to reduce text is to create bullet lists that use verb-led phrases. Also, avoid including complete sentences or slides with more than six lines of text.
- Make sure you discuss key elements of your visuals. Don't just throw them up there and ignore them. Point out interesting or important aspects; explain them to the audience.
- Plan to explain any technical aspect of your topic clearly and understandably. Don't race through complex, technical content—slow down and explain it carefully so that your audience will understand it.
- Use "verbal headings"—at this point in the course, you've become a pro at using headings in your written work. There is a corollary in oral reports. With these, you give your audience a clear signal you are moving from one topic or part of your talk to the next. Your presentation visual can signal your headings.
- Plan your report in advance and practice it so that it is organized. Make sure that listeners know what you are talking about and why, which part of the talk you are in, and what's coming next. Overviews and verbal headings greatly contribute to this sense of organization.
- End with a real conclusion. People sometimes forget to plan how to end an

oral report and end by just trailing off into a mumble. Remember that in conclusions, you can:
    - summarize (go back over high points of what you've discussed)
    - conclude (state some logical conclusion based on what you have presented)
    - provide some last thought (end with some final interesting point but general enough not to require elaboration)
    - or some combination of these three
- And certainly, you'll want to prompt the audience for questions and concerns.
- As mentioned above, be sure your oral report is carefully timed. Some ideas on how to work within an allotted time frame are presented in the next section.

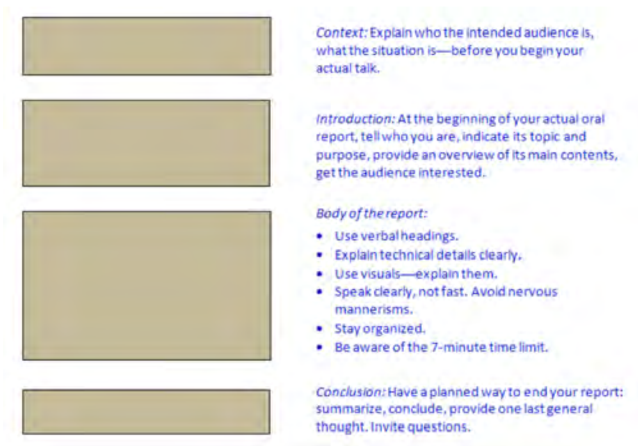


Figure 5: Diagram of Presentation, David McMurray and Cassandra Race. "Sexy Technical Communication – Oral Presentations." iBooks.

Effective Oral Presentations

An effective oral presentation is more about creative thinking on your feet and basic skills than about wearing good shoes and knowing how to turn on the computer projector. Allow the presentation to remind you of your key points rather than using the presentation slides to outline every single idea and statement you plan to share. Companies have long cried for graduates who can give dynamic talks, and they have long relied on presentations as a key way to sway concerned parties towards a desired outcome. But many presenters make the mistake of trying to let the computer, bells and whistles blaring, do all the work for them. They forget the fundamentals of oral presentation, and thus whatever polish they have quickly loses its luster.

To become a modern speaker worth listening to, whether you're serving as a company representative or presenting at a conference, you must come fully prepared, engage your audience's attention and memory, read the audiences' reactions, attend to some visual design basics, and take stock of how you come across as a speaker.

Preparing for a Talk

There's a rule-of-thumb in carpentry: Measure twice, cut once. The tenets behind this principle should be obvious—once a mistake is made, it's difficult or impossible to undo. Though the carpenter can usually spackle or glue to repair, as a speaker you simply cannot get back those three minutes you just wasted in a fifteen-minute presentation. The following preparation principles will keep you right on track.

- Practice your talk straight through, and as you go, jot quick notes to yourself about how to improve it. If you cannot manage to practice your talk straight through, perhaps you are not yet ready to offer it.
- Ideally, practice your talk under conditions similar to those in which you will give it, considering such factors as acoustics, distance from the audience, lighting, and room size. Lighting becomes especially important when computer equipment is involved. Be mentally prepared to adapt to the environmental conditions.
- As a draft, present your talk to a friend or two first and have them critique it. If you're gutsy and can tolerate the unforgiving lens of the camera, record your practice talk and critique it afterwards.
- View all of your visuals from your audience's perspective prior to your talk. Be sure that your audience can easily see all that you want them to see, especially material that appears in the lower half of the screen.

When you speak professionally, always request presentation guidelines from any relevant organizations and conform to them explicitly. It would be embarrassing for you if you were expected to present units in metric, for example, and you did otherwise because you failed to request or follow the available guidelines.

- As part of your preparation, choose an appropriately engaging and helpful title. You are expected not to come off as dull and uninspired. Which talk would you rather attend: "Specific Geometrical Objects with Fractional Dimensions and Their Various Applications to Nature in General and The Universe At Large as we Know it" or "And On The Eighth Day, God Created Fractals"?
- Become highly familiar with any technology you'll be using. Practice with the actual hardware or type of hardware you'll be working with, making sure that compatibility or speed issues don't get in your way. I've seen students go to present at a conference with a USB version of their presentation confidently in hand, only to find that the computer they were using could not open it. If websites are needed as part of your presentation, check connection speeds and make sure all URLs are up and running.

Preparing for the Oral Presentation

Pick the method of preparing for the presentation that best suits your comfort level with public speaking and with your topic. However, plan to do ample preparation and rehearsal—some people assume that they can just jump up there and ad lib for so many minutes and be relaxed and informal. It doesn't often work that way—drawing a mental blank is the more common experience. A well-delivered presentation is the result of a lot of work and a lot of practice.

Here are the obvious possibilities for preparation and delivery:

- Write a script, practice it; keep it around for quick-reference during your talk.
- Set up an outline of your presentation; practice with it, bring it for reference.
- Set up cue cards, practice with them, and use them during your talk.

Write a script and prepare by reading from it until you are comfortable giving the presentation without the script.

Of course, the extemporaneous or impromptu methods are also out there for the brave and the adventurous. However, please bear in mind that people will be listening to you—you owe them a good presentation, one that is clear, understandable, well-planned, organized, and on target with your purpose and audience.

It doesn’t matter which method you use to prepare for the talk, but you want to make sure that you know your material. The head-down style of reading your report directly from a script has problems. There is little or no eye contact or interaction with the audience. The delivery creates a dull, boring monotone that either puts listeners off or is hard to understand. And, most of us cannot stand to have reports read to us!

For many reasons, most people are nervous when they give oral presentations. Being well prepared is your best defense against the nerves. Try to remember that your classmates and instructor are a forgiving, supportive group. You don’t have to be a slick entertainer—just be clear, organized, and understandable. The nerves will wear off someday, the more oral presenting you do. In the meantime, breathe deeply and enjoy.

The following is an example of an introduction to an oral presentation. You can use it as a guide to planning your own.

Oral Presentation: Enhancement of the Recycling Program

Valerie and I represent the Austin Coalition for Recycling, a group that was founded in the late 1960s, partly in response to rising utility bills and partly out of a concern for the environment and its resources. High utility bills not only hurt each of us in our pocketbooks but also hurt the quality of life of our city as a whole. We are all particularly proud of what a fine city we live in and what wonderful citizen involvement there is here in a whole range of civic activities. These things make our city special and ought to be the force that enables us to make a recycling program an integral part of the city's waste management program. Backed by the City, a new powerful recycling program will contribute enormously to keeping Austin the wonderful place it is.

Opening: establishes who they are, what they represent, and why they are here.

Attempts to build some interest and identification with the audience.

Valerie and I want to talk to you about how recycling works currently, how it will work once integrated with the city's waste management program, how this integration will benefit our city, and what you can do to support this plan.

Purpose and scope: explains the purpose of the presentation and provides an overview of the topics to be covered—all in one sentence.

Figure 6: "Introductory Remarks in an Oral Presentation" by David McMurray and Cassandra Race. "Sexy Technical Communication – Oral Presentations." iBooks.

Delivering an Oral Presentation

When you give an oral report, focus on common problem areas such as these:

- **Timing—**Make sure you keep within the time limit. Finishing more than a minute under the time limit is also a problem. Rehearse, rehearse, rehearse until you get the timing just right.
- **Volume—**Obviously, you must be sure to speak loud enough so that all of your audience can hear you. You might find some way to practice speaking a little louder in the days before the oral presentation.
- **Pacing, speed—**Sometimes, oral presenters who are nervous talk too fast. All that adrenaline causes them to speed through their talk, making it hard for the audience to follow. In general, it helps listeners understand you better if you speak a bit more slowly and deliberately than you do in normal conversation. Slow down, take it easy, be clear…and breathe.
- **Gestures and posture—**Watch out for nervous hands flying all over the place. This too can be distracting—and a bit comical. At the same time, don't turn yourself into a mannequin. Plan to keep your hands clasped together or holding onto the podium and only occasionally make some gesture. Definitely keep your hands out of your pockets or waistband. As for posture,

avoid slouching at the podium or leaning against the wall. Stand up straight, and keep your head up.

- **Verbal crutches—**Watch out for too much "uh," "you know," "okay" and other kinds of nervous, verbal habits. Instead of saying "uh" or "you know" every three seconds, just don't say anything at all. In the days before your oral presentation, practice speaking without these verbal crutches. The silence that replaces them is not a bad thing—it gives listeners time to process what you are saying.

The following is an example of how topic headings can make your presentation easy for your listeners to follow.

Figure 7: "Examples of Verbal Headings in an Oral Presentation." David McMurray and Cassandra Race. "Sexy Technical Communication – Oral Presentations." iBooks.

Planning and Preparing Visuals for Oral Presentations

Prepare at least one visual for this report. Here are some ideas for the "medium" to use for your visuals:

- Presentation software slides—Projecting images ("slides") using software such as Powerpoint has become the standard, even though maligned by some. One common problem with the construction of these slides is cramming too much information on individual slides. A quick search on terms like Powerpoint presentation will enable you to read about creating these slides and designing them intelligently. Of course, the room in which you use these slides has to have a computer projector.

- Posterboard-size charts—Another possibility is to get some posterboard and draw and letter what you want your audience to see. Of course, it's not easy making charts look neat and professional.
- Handouts—You can run off copies of what you want your listeners to see and hand them out before or during your talk. This option is even less effective than the first two because you can't point to what you want your listeners to see and because handouts distract listeners' attention away from you. Still, for certain visual needs, handouts are the only choice. Keep in mind that if you are not well prepared, the handouts become a place for your distracted audience to doodle.
- Objects—If you need to demonstrate certain procedures, you may need to bring in actual physical objects. Rehearse what you are going to do with these objects; sometimes they can take up a lot more time than you expect.

Avoid just scribbling your visual on the chalkboard or whiteboard. Whatever you scribble can be neatly prepared and made into a presentation slide or posterboard-size chart. Take some time to make your visuals look sharp and professional—do your best to ensure that they are legible to the entire audience.

As for the content of your visuals, consider these ideas:

- Drawing or diagram of key objects—If you describe or refer to any objects during your talk, try to get visuals of them so that you can point to different components or features.
- Tables, charts, graphs—If you discuss statistical data, present it in some form or table, chart, or graph. Many members of your audience may be less comfortable "hearing" such data as opposed to seeing it.
- Outline of your talk, report, or both—If you are at a loss for visuals to use in

your oral presentation, or if your presentation is complex, have an outline of it that you can show at various points during your talk.

- Key terms and definitions—A good idea for visuals (especially when you can't think of any others) is to set up a two-column list of key terms you use during your oral presentation with their definitions in the second column.
- Key concepts or points—Similarly, you can list your key points and show them in visuals. (Outlines, key terms, and main points are all good, legitimate ways of incorporating visuals into oral presentations when you can't think of any others.)

During your actual oral report, make sure to discuss your visuals, refer to them, guide your listeners through the key points in your visuals. It's a big problem just to throw a visual up on the screen and never even refer to it.

As you prepare your visuals, look at resources that will help you. There are many rules for using PowerPoint, down to the font size and how many words to put on a single slide, but you will have to choose the style that best suits your subject and your presentation style.

The two videos that follow will provide some pointers. As you watch them, make some notes to help you remember what you learn from them. The first one is funny...Life After Death by PowerPoint by Don McMillan, an engineer turned comedian.

https://www.youtube.com/embed/KbSPPFYxx3o?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Life After Death by PowerPoint. “Life after Death by PowerPoint” by Don McMillan, licensed under a Youtube license.Excerpt From: David McMurray and Cassandra Race. “Sexy Technical Communication – Oral Presentations.” iBooks.

You may also have heard about the presentation skills of Steve Jobs. The video that follows is the introduction of the iPhone…and as you watch, take notes on how Jobs sets up his talk and his visuals. Observe how he connects with the audience…and then see if you can work some of his strategies into your own presentation skills. This is a long video…you don’t need to watch it all, but do take enough time to form some good impressions.

https://www.youtube.com/embed/vN4U5FqrOdQ?enablejsapi=1&origin=https%3A%2F%2Fmytext.cnm.edu

Steve Jobs Iphone 2007 Presentation. “Steve Jobs iPhone 2007 Presentation” posted by Jonathan Turetta, and licensed under a Youtube license.

Attributions

- *Technical Writing*, 11.5 Slides and PowerPoint Presentations by Allison Gross, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva is licensed under a CC-BY-NC-SA 4.0 International License, except where otherwise noted.
- *Sexy Technical Communication* – "Oral Presentations." by David McMurray and Cassandra Race. iBooks.

Slides, PowerPoint Presentations, and Preparing for a Talk

Microsoft introduced PowerPoint in 1990, and the conference room has never been the same. Millions were amazed by the speed with which a marketing professional or an academic could put together a consistent, professional-looking slide presentation. And then…

At some point, somebody with critical thinking skills asked a great question: "Do we really need all these slide shows?" The stock images of arrows, business people in suits, stick figures scratching their heads, and the glowing, jewel-toned backgrounds eventually looked tired and failed to evoke the "wow" reaction presenters desired.

Microsoft is attempting to refresh the design options for PowerPoint, and there are dozens of good alternatives, some of them free (Keynote, Slide Bureau, Prezi, SlideRocket, Easel.ly, Emaze, Slidedog). **But the fundamental problem remains—text-heavy, unfocused, overlong presentations are the problem, not the software.** If you are sure that a visual presentation will provide something necessary to your audience, keep the number of slides and the amount of text on each slide to a bare minimum. Think of a slide presentation as a way of supporting or augmenting the content in your talk; don't let the slides replace your content.

If you had planned to read your slides to the audience, don't. It's considered one of the single most annoying choices a presenter can make. Excessively small text and complex visuals (including distracting animations) are frequently cited as other annoyances. Use your presentation slides as a way to engage your audience, introduce key ideas in short phrases, and provide a visual design strategy to help you share the complex information built into your presentation.

Try to design your slides so that they contain information that your viewers might want to write down; for example, good presentations often contain data points that speakers can't just rattle off or quick summaries of key concepts that viewers won't be able to make up on the fly. If you can't explain how the slides add value to your presentation, don't use them.

To get a feel for what may annoy your audience, try Googling "annoying PowerPoint presentations." You'll get a million hits containing helpful feedback and good examples of what *not* to do. And finally, consider designing your presentation to allow for audience participation instead of passive viewing of a slideshow—a good group activity or a two-way discussion is a far better way to keep an audience engaged than a stale, repetitive set of slides.

https://embed.ted.com/talks/john_bohannon_dance_vs_powerpoint_a_modest_proposal

Tips for Good Slides

All of the design guidelines in this competency will help you design consistent, helpful, and visually appealing slides. But all the design skill in the world won't help you if your content is not tightly focused, smoothly delivered, and visible. Slides overloaded with text and/or images will strain your audience's capacity to identify important information. Complex, distracting transitions or confusing (or boring) graphics that aren't consistent with your content are worse than no graphics at all. Here are some general tips:

- Simplicity is best: use a small number of high-quality graphics and limit bullet points and text. Don't think of a slide as a page that your audience should read.
- Break your information up into small bites for your audience, and make sure your presentation flows well. Think of a slide as a way of reminding you and the audience of the topic at hand.
- Slides should have a consistent visual theme; some pros advise that you avoid using the stock PowerPoint templates, but the Repetition and Alignment aspects of CRAP are so important that if you don't have considerable design skill, templates are your best bet. You can even buy more original-looking templates online if you don't like the ones provided with the software.
- Choose your fonts carefully. Make sure the text is readable from a distance in a darkened room. Practice good repetition and keep fonts consistent.
- Practice your presentation as often as you can. Software is only a tool, and the slide projector is not presenting—*you*. Realizing this is half the battle.

Helping Your Audience Remember Your Key Points

Andy Warhol is known for the comment that everyone will be famous for fifteen minutes. If your fifteen minutes of fame is during your oral presentation, you want to be sure not to waste your opportunity. I'm amazed at how many times I've sat through a talk and come away with only a vague sense of what it was about. There are many reasons for this—some speakers view their talk as simply a format for reading a paper, while others fill the air with many words but little substance—but the most common reason is the simplest one: the *speaker* showed uncertainty about the talk's alleged subject. If you don't spell out your premise, highlight your key points, and make it easy for your audience to remember the thrust of your presentation, you can't expect your listeners to come away with understanding and investment.

To ensure an engaged audience for your talk, follow these practices:

- Introduce and Conclude. Use a formal introduction at the beginning of your talk and a summary afterwards to highlight your major points. Make sure your audience can remember your key points by keeping them simple and straightforward—even enumerated.
- Present in Sections. Give your talk "parts"—usually no more than three major parts for practical purposes—and let us know when we're transitioning from one part to the next. This will help your audience to remain interested and focused.
- Spell out the Objective. Give the talk's objective and even a hint of the conclusion right up front. Articulate the objective on its own slide so we can't miss it. Revisit the objective at the end if necessary to underscore how it was realized.
- Use Props. Consider the use of some simple, meaningful props—even pass them around. Props can generate audience interest and, especially if they represent the actual work you did, they make the nature of that work more concrete. I've been to great talks where an experimental sample or photographs representing production sites were passed around, and they often generated focused questions from the audience members afterwards.
- Use Handouts. If appropriate, give a handout. As long as it's well-designed, a concise written summary with bulleted points on a handout will ensure that your talk can be followed throughout. Such a handout should ideally be just one or two pages long, and be sure to time and manage its distribution so that it doesn't take away attention from you as you speak. One possibility for handouts is an actual printout of your slides through the "Handouts" option in PowerPoint, but be certain that your audience actually needs all of your slides before electing this option.

Offer Q&A and provide contact information. Create a final slide that welcomes the audience to ask questions and provides your contact information. If question and answer is involved as part of the end of the talk, don't let any questions deflect our interest. Some audience members might try to draw the attention to themselves, or focus on a mistake or uncertainty in your presentation, or even undermine your authority directly with an intimidating challenge. (I recall one speaker at a professional conference being tossed the strange question, "Your data is crap, isn't it?") Remember that the stage and agenda are yours, and it's your job to keep it that way and end your talk with a bang, not a whimper. If you don't know the answer to a question, admit it or offer to discuss it privately after the presentation, then move on. One savvy way to handle questions is to turn back to your presentation slides as you answer them—call up a slide that will help repeat or explain the relevant point—and this will remind your audience that your talk had substance.

Mastering the Basics of Slide Design

PowerPoint helps us to think of each projected page as a "slide" in a slideshow. But just as someone else's home movies can be thoroughly uninteresting if they're grainy, poor in quality, and irrelevant, PowerPoint slides that are too flashy, cluttered, meaningless, or poorly designed can quickly turn a darkened room full of smart people into a mere gathering of snoozers. As you design your slides, consider these factors:

- Templates. Even though PowerPoint helps you design your slides, don't assume that someone else's template will always match your needs. Take charge of slide design by considering first the most efficient way to transmit the necessary information.
- Simplicity. Keep slides as simple and uncluttered as possible, and if the information must be complex, prioritize it for your audience as you present it (e.g., if presenting a ten-column table, direct your audience to the most significant columns). Offer only one major point per illustration. If you need to focus on more than one point, present the illustration in another form on

a separate slide with the different point emphasized.

- Titles. Give most slides titles, with a font size of at least 36 points, and body text with a font size of at least 24 points. If you need to cite a source of information, include the citation in a smaller font size at the bottom of your slide.
- Rule of 8s. Apply the "rule of 8s": include no more than 8 words per line and 8 lines per slide.
- Bullets. When using bulleted lists in slides, present each bulleted line in parallel fashion—i.e., if the first line is a fragment, the others should be as well; if the first line opens with a verb, so should the others.
- Design. Design slides so that their longest dimension is horizontal rather than vertical. Use both uppercase and lowercase letters and orient pictures left to right. Avoid the overuse of animations and transitions, especially audio-based transitions, which can be distracting and downright silly.
- Color. Make sure the color for both the background and text are highly readable, especially under less than optimal lighting conditions. There's nothing wrong with basic dark lettering and white background for your slides, particularly if they're text-based. If you do choose a background theme or color, enhance continuity and viewability by keeping it consistent and subtle.
- Images. When possible, replace words with images. Use images in particular when presenting data, demonstrating trends, simplifying complex issues, and visualizing abstractions.
- Spelling. Spelling does count, and you can't rely on Powerpoint to be an effective proofreader. Be sure your slides are free of grammatical and spelling errors. As Will Rogers quipped, "Nothing you can't spell will ever work."

Maintaining the Look and Sound of a Professional Speaker

Public speaking is often cited by people as their number one fear (with death, ironically, as number two.) Clearly, no one overcomes such fear overnight, and no one set of tips can transmogrify you into a polished speaker. However, you can work through that fear by learning from the successes of others. As

Christopher Lasch once noted, “Nothing succeeds like the appearance of success.” Good speakers attend first to their wardrobe, dressing as well as their “highest ranking” audience member is likely to dress. An equally important part of looking and sounding like a professional speaker is how you handle your body language and your voice. You must exude confidence if you want to be taken seriously, and remember that a high percentage of your audience’s perception is not about what you say but about how you look when you say it. The following guidelines will help you to look good and sound good as you give a talk:

- Take care not to stand in the way of your own slides—many speakers do this without even realizing it.
- Ideally, use the mouse pointer, a stick pointer, or a laser pointer to draw our attention to a particular item on the screen. One simple circle drawn briefly around the selected information is enough to draw our attention.
- When you are not using a slide directly, keep it out of sight or out of your audience’s line of attention. Turn off the projector or create a dark screen when no visuals are relevant; literally invite your audience to turn its attention away from one idea to another.
- When working with computer projection, do not trust that hardware will always perform as you anticipate. Sometimes equipment fails midstream, or what worked fine for one speaker in a group doesn’t work for the next.
- Don’t forget the value of a good old-fashioned easel or chalkboard. Not only do they offer variety, they are especially good for writing down basic information that you also want your audience to muse over or write down, or for presenting a picture as it evolves via its individual pieces (e.g., a flow chart, schematic, or simple experimental set-up).
- Maintain eye contact with at least a few people—especially those who are being the most responsive—in various parts of the room. Conversely, if you’re especially nervous about one or two audience members or you note some audience members looking sour or uninterested, avoid eye contact with them.
- Refer to time as an organizational tool: “For the next two minutes, I will summarize the city’s housing problem, then I will move on to . . . ” This

keeps both you and your audience anchored.

- Use the "point, turn, talk" technique. Pause when you have to turn or point to something, then turn back towards the audience, then talk. This gives emphasis to the material and keeps you connected with audience members. Strictly avoid talking sideways or backwards at your audience.
- Use physical gestures sparingly and with intention. For instance, raise three fingers and say "thirdly" as you make your third point; pull your hands toward your chest slightly as you advocate the acceptance of an idea. Beware, though, of overusing your body, especially to the point of distraction. Some speakers habitually flip their hair, fiddle with their keys, or talk with their hands. I've heard some people recommend that speakers keep one hand in a pocket to avoid overusing physical gestures.
- Minimize the amount of walking necessary during your talk, but do stand rather than sit because it commands more authority. As you speak, keep your feet firmly rooted and avoid continual shuffling of your weight. Intentionally leaning slightly on one leg most of the time can help keep you comfortable and relaxed.
- Take care to pronounce all words correctly, especially those key to the discipline. Check pronunciation of ambiguous words beforehand to be certain. It would be embarrassing to mispronounce "Euclidian" or "Möbius strip" in front of a group of people that you want to impress. I once mispronounced the word "banal" during a speech to English professors and one of the audience members actually interrupted to correct me. Most of that speech was—as you might guess—banal.
- Dead air is much better than air filled with repeated "ums," "likes," and "you knows." Get to know your personal "dead air" fillers and eliminate them. Out of utter boredom during a rotten speech a few years ago, I counted the number of times the speaker (a professor) used the word "basically" as an empty transition—44 times in just five minutes. Don't be afraid to pause occasionally to give your listeners time to digest your information and give yourself a moment for reorientation. To quote Martin Fraquhar, "Well-timed silence hath more eloquence than speech."
- If you know that you have a mannerism that you can't easily avoid—such as stuttering or a heavy accent—and it distracts you from making a good

speech, consider getting past it by just pointing it out to the audience and moving on. I've been to several talks where the speaker opened by saying "Please accept the fact, as I have, that I'm a stutterer, and I'm likely to stutter a bit throughout my speech." One such speaker even injected humor by noting that James Earl Jones, one of his heroes, was also once a stutterer, so he felt in good company. As you might guess, the following speeches were confidently and effectively delivered, and when the mannerism arose it was easy to overlook.

- Avoid clichés, slang, and colloquialisms, but don't be so formal that you're afraid to speak in contractions or straightforward, simple terms. Use visual language, concrete nouns, active single-word verbs. When using specialized or broad terms that might be new or controversial to some audience members, be sure to define them clearly, and be prepared to defend your definition.
- Be animated and enthusiastic, but carefully so—many notches above the "just-the facts" Joe Friday, but many notches below the over-the-top Chris Rock.

Attributions