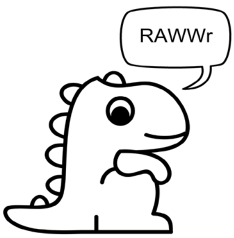
A Rhetorical Approach To Workplace Writing



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RAWWr: A Rhetorical Approach to Workplace Writing

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Chapter 1
What is Professional and Technical Communication?

Professional and technical communication (PTC) is just one of many ways to categorize writing done in the workplace.

This chapter will discuss the differences and similarities between technical and professional writing (also called business writing) as forms of writing done in the workplace.

Technical Writing

Technical writing and communication is **created by** technical professionals (engineers, scientists) and by technical communicators (full-time writers, editors, document-production people).

Technical content includes expert or specialized knowledge or information, often of a mechanical or scientific nature, but it includes other specialized knowledge as well. Technical communication, then, can be defined as writing/communication that melds the verbal, the visual, and the technical into a comprehensible text for a particular purpose and audience in a specific context.

Engineers and other technical professionals are accustomed to creating highly specialized designs and solutions. Technical documents also provide an important record for future

> **Professional**: Following an occupation as a means of livelihood or for gain
>
> **Technical**: Having a special skill or practical knowledge
>
> **Communication:** Imparting or exchanging thoughts, opinions, or information by speech, writing, or signs
>
> **Writing**: Using written characters for purposes of record or transmission of ideas

reference. However, the value of that technical work can only be materialized if the benefit of the technical solution can be understood by others—some of whom may be experts, some of whom may not.

Technical communication is essential because your specialized knowledge must be communicated to supervisors, subordinates, or both, as well as clients, executives, andm in many cases, the public-at-large.

Communication, both oral and written, is so important that the Accreditation Board for Engineering and Technology (ABET), an accrediting body for secondary education programs in engineering, incorporated a communication proficiency component in their accreditation standards.

Technical communication in the 21st century is:

- Produced for a specific purpose and audience
- Designed with the incorporation of visuals or sound
- Considered chiefly expository
- Shaped through collaboration
- Created to be functional
- Characterized by a special vocabulary and technical content, and
- Focused on a global marketplace

Professional Writing

Where technical writing focuses on communicating technical information (e.g., specialized, expert, science, engineering), professional writing is concerned with the operational purposes or needs of an organization. Professional writing gets business done.

To draw a distinction between technical and professional writing, in Writing in the Milieu of Utility, Teresa Kynell observes: “Business writing emerged in response to the specific needs of those involved in business-related enterprises and from the daily need for clear communication both inside and outside corporations.…Business writing… is grounded in commercial enterprise, in the communication needs of organizations." The emphasis in professional writing is on goods, merchandise and customers, and the larger system of business at work inside and outside organizations.

> The Organizational Author
>
> When you write a memo, email, proposal, or other official business communication, you are writing as the organization.You represent the organization to the reader.

Good writing is essential in business and industry because virtually every action has to be communicated to supervisors, subordinates, or both, as well as clients. Clear and effective professional writing furthers the goals of the organization.

Professional communication has a readership inside and outside the organization. The development of formal communication networks significantly increased the efficiency of this communication, which, in turn, increased the organization's overall efficiency. Much of the work done in business is accomplished through internal forms of communication. Professional writing is a tactical instrument that always considers the strategic plans and goals of the organization.

Professional communication in the 21st century is:

- Created for a specific purpose and audience
- Produced collaborative
- Designed with the incorporation of visuals or sound, and
- Focused on a global marketplace

One question that always comes up in discussions of PTC is how technical writing differs from professional writing. This question does not have a simple answer. In short, the difference between the two is that technical writing is writing about a technical subject, while professional writing is the everyday writing that gets business done.

No matter your major or what you plan to do when you graduate, you will need to write and communicate. You simply cannot escape it. Thus, our goal in this course is give you knowledge and skills so that writing and communicating can become easier since you'll have a way to approach any writing or communication situation.

All About Action

These two types of writing have much in common, and they often overlap in the workplace. Technical writing attempts to explain the complexities of technical subjects and technology, while professional writing is grounded to the communication needs of an organization's commercial enterprise. For example, a report highlighting the technical aspects and benefits of an open model MRI machine compared to the closed model is technical writing. The letter of transmit- tal that accompanies that report to the person who requested it is professional writing. Professional and technical communication actions are decidedly practical.

Even with the differences between technical and professional communication, the end product is the same. No matter what form those products take, the end result is action. You want your readers or users to move from process to problem solving.

For example, as a technical communicator:

- If you write a report, you want your readers to **use the information.**
- If you write a set of instructions, you want your readers to be able to **perform the steps**.
- If you write a specification, you want your reader to **build the product**.

For example, as a professional communicator:

- If you write a report, you want your readers to use the infor mation to **make informed decisions**.
- If you write a letter of complaint, you want your reader to **resolve the issue**.
- If you write a proposal, you want your reader to **ac cept your position**.

But how do you know how to write different types of documents to invoke action? For us, in this course, we're going to use rhetorical theory.

Rhetoric as Theory to Practice

Often times, when we hear "theory," we think of obscure or unhelpful approaches. That is, we consider theory to be something that is disconnected from the practices we do everyday. For technical and professional communication, we use the definition of theory to mean a set of principles that guides practice by accounting for and justifying the approach to that practice. In other words, in PTC, theory helps you do the work of communicating in the workplace.

Scholars and practitioners have generated a large number of theories that with study could all be appropriate for any number of circumstances in which you need to communicate in the workplace and in your civic life. For example, actor network theory (ANT) posits that human and non-human actors play equally important roles in the process of knowledge creation. ANT has been used a lot in PTC and in fields such as science and engineering because it helps to account for technologies and tools that are central to knowledge creation. Other theories such as Shannon and Weaver's model of communication that was premised on a sender and receiver with considerations of "noise" that may affect the message.

For the purpose of this course, however, we are using rhetoric as our theory of choice to help you understand how to approach writing and communication in the workplace.

What do a bunch of dead dudes from the fourth century B.C.E. have to do with professional and technical communication in the age of the internet, 3D printers, and electric cars? It's a reasonable question, and one we're going to briefly answer in the remainder of this chapter.

Classical Rhetoric

Rhetoric, **the art of effective communication,** dates back to ancient Greece. Rhetoric grew out of the need for people to represent themselves in a court of law. The narrative handed down is that Corax of Syracuse started the first schools to teach the principles of rhetoric to help people "argue" over land. What Corax started has made a very broad impact on Western thought and the basic premises of writing and communication still in use today.

The fundamental tenets of rhetoric were codified by Aristotle, and contemporary Western educational models are still based, in large part, on his work. Over the years, two closely related definitions of rhetoric have emerged. The first definition holds as follows:

- Rhetoric refers to the specific features of texts, written or spoken, that cause them to be meaningful, purposeful, and effective for readers or listeners.

This definition emphasizes the text as an object of analysis. It dictates that the rhetoric of a text consists of its diction (word choice), types of sentences, and use of figurative language such as metaphors. The idea is that paying close attention to words and sentences is helpful and important in crafting a text that becomes effective. Inherent in this definition are two problems, both of which constrain rhetoric's usefulness.

The first problem with defining rhetoric solely in terms of textual features is that it often leads to the mistaken interpretation that rhetoric is only about style (the words on the page and the way they are put together). If rhetoric is merely a style of communicating, then it can be turned on and off—that is, a writer can use rhetoric or not use rhetoric, as they prefer. Perhaps you can see how this defini- tion could lead to a theory such as the "windowpane" model noted above: if you ascribe to the windowpane theory of PTC, then good professional and technical writing should not be rhetorical. As noted in the examples above, professional communication requires rhetorical choices.

A second problem is that this definition eliminates any ethical or philosophical dimension from rhetorical activity. As you know, words can be used to damage or hurt a person or group of people. Discussing when and where communication works to marginalize, discredit, or vilify a person or group is vital to any discussion of communication, including PTC.

This ethical dimension of commu- nication is encompassed by another, complementary definition of rhetoric.

In a more complete definition:

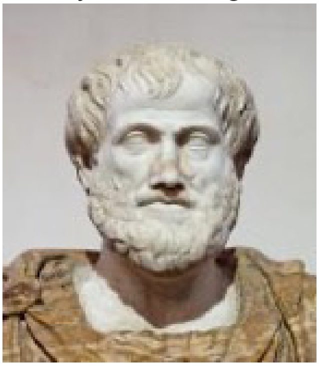
- Rhetoric refers to the work of finding and analyzing all the choices that a writer, speaker, reader, or listener might make in a situation so that the text becomes meaningful, purposeful, and effective for readers or listeners.

Or, if you are the writer:

- Rhetoric is the ability to discover and analyze all the possible options involving language and choose from those options the most effective means of creating a text that is meaningful, purposeful, and effective for readers or listeners in a given situation at a given time.

This definition is a paraphrase of one offered by Aristotle in the first systematic textbook on the subject, The Art of Rhetoric, writ- ten in the fourth century B.C.E. It incorporates not just the textual features of communication (as in the first definition), but also the work of analyzing the reasons why you're writing (purpose) and who you're writing to (audience). The ideas of purpose and audience, or what is in theoretical language known as the rhetorical situation, is the main reason why rhetoric matters to writing and communicating in the workplace.

Although much has changed in the subsequent centuries, one thing has not—the need to be able to communicate effectively. Unfortunately, today "rhetoric" is a term often used in the pejo-rative sense for persuasive or manipulative political commentary. But if we go back to the original meanings and definitions of rhetoric, applying rhetorical principles in communication can increase under- standing between people and foster development of knowledge and reason. In this way, rhetoric becomes a useful concept for learning how to construct and deliver effective communication.



The Rhetorical Situation

Aristotle not only codified this more complete definition of rhetoric, he also created the basic structure of a rhetorical educational system. One of the basic tenets of his system is the rhetorical situation, which is usually explained in a series of relationships visualized through triangles. Using the triangle to visualize parts of the rhetorical situation shows the recursive nature of the relationship between the thing created, the creator, and the recipients.

Recursive Participants

Aristotle's culture was orally focused, but as Western culture became more text based, these same appeals were adapted to the development of a written text. The appeals also are readily applicable to the visual and multimedia arguments.

The rhetorical triangle can be used to represent the participants in a speech act or any other act of communication. Because so many media are available to a communicator today, the label rhetor can be used to mean anyone communicating in any medium. See Figure 1.

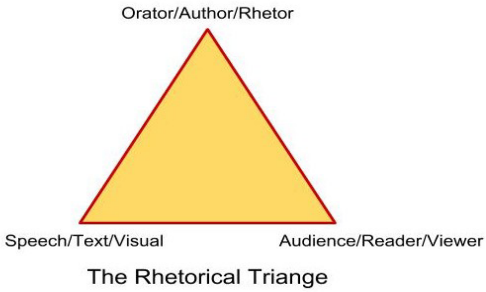


Figure 1: Rhetorical Triangle: Recursive Participants

Note that this triangle is essentially equilateral. Why? The equal sides and angles illustrate the concept that each aspect of the triangle is as important as the others. It also suggests that a balance of the three is important. Too much of one is likely to produce an argu- ment that will not be effective—for example, readers may find the argument unconvincing or difficult to understand, or they may stop reading. Professional and technical communication takes the theory of rhetoric and practically applies it within a **specific context** or **organizational setting**. See Figure 2.

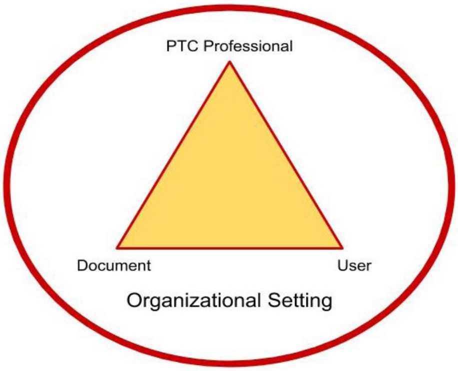


Figure 2. PTC in Context

Organizational cultures encompass values, beliefs, standards, past and current practices, expectations, industry standards, economics, and politics. Organizational settings and cultures are patterns of basic assumptions that develop within a distinct social group and/or parent organization. These assumptions guide the type of profes- sional or technical writing that you will do. For example, progress reports for a software development cycle will be different from prog- ress reports for monthly evaluations of air quality, and both those reports could differ among organizations.

So one of the reasons we want to use rhetoric as our theory is because it emphasizes that the communication shifts based on the context or setting of that communication. This is the fundamental guiding principle for the course: effective communication arises out of considering the rhetorical situation, that is your purpose, audience, and organizational setting.

Beyond thinking about the rhetorical situation, classical rhetoric gave us some strategies to use to help us meet the needs of our audience for a specific purpose within a certain context. Those strategies are the concepts of rhetorical appeals, decorum, and kairos.

Layers of the Rhetorical Situation

In addition to rhetor, audience, and text, there are two concepts that will help guide your entry into the writing situation: decorum and kairos.

Decorum

Decorum is the easier term to understand and on the surface looks rather simple, but it is often overlooked or misinterpreted, which can lead to a failure of communication. Decorum is a code that governs the expectations of behavior. Or, said another way, decorum is a conventional norm. For example, just as it would be a violation of expected behaviors for you to sleep in a business

meeting, it would be a violation of conventional norms to use curse words in a professional email. The tricky aspect of decorum is that expectations for behavior and conventional norms often are unwritten within organizations. The two examples above are obvious observations of general appropriateness. However, organizational cultures have their own unwritten rules of decorum that you need to learn, especially when it comes to writing tasks.

For example, some organizations will welcome and encourage you to use previous technical documents as models for the writing you do. Other organizations will frown upon this practice. When you are assigned a job writing for an organization, or when you join an organization, it is vital that you read the organizational culture, so you can begin to understand these unwritten expectations. Sometimes you will be given documents to help you—for example, style manuals or documents from Human Resources regarding appropriate behavior—but, often, you will have to research and closely observe organizational culture to learn the conventional norms that are unwritten.

Kairos

Kairos has no direct translation into English, but it is directly tied to time—specifically, an opportune, critical, or exact moment. In rhetorical practice, kairos refers to the right response to a specific time, opportunity, or occasion. It is sometimes characterized as "the right thing (to say or do) at the right time," or, if you think back to the second definition of rhetoric above, it's the part of the definition that defines effective communication for “a given situation at a given time.” Kairos helps to focus the rhetorical situation as a function of time. As a professional and technical com- municator, kairos positions your rhetorical situation in a specific moment—a specific time—so that you can craft your message based on the needs of the moment or situation.

For example, you’ve been tasked with writing the technical description of a proposed new water treatment plant. The final report (design) will be delivered at a city council (audience) budget meeting. Your description should focus on the technical aspects of the plant and the long term cost savings of updating the plant (purpose). These directives were dictated when the report was assigned. However, you also know that currently the city council is working toward “greening” city operations, so you might increase the report’s effectiveness with the target audience if you highlighted sustainable practices in planned plant updates.

This analysis of the rhetorical situation includes kairos, as the kairotic factor of your audience’s current interest in sustainability.

Figure 3: Time as Occasion (Kai- ros) by Francesco Salviati, Palazzo Vechio Museum, Italy

When you engage in rhetoric, you move toward asking specific questions about your writing situation and making strategic decisions about your products. Professional and technical writers who actively engage in rhetorical decision making understand that:

- Writers always write in response to a rhetorical situation: a convergence of time, place, and circumstances that leads them to make decisions about what purpose their text might accom- plish, who their audience is, and what type of document/design would be most effective

PAD What?

To help you begin to put rhetoric into practice, consider Figure 4.

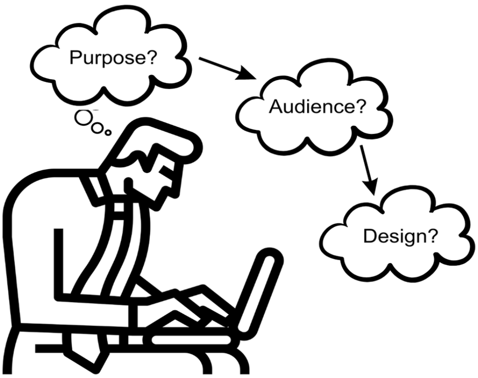
Purpose	Why am I writing?
Audience	Who am I writing to/for?
Design	What should it look like?

Figure 4. PAD: How to Analyze a Rhetorical Situation

It illustrates the basic concepts of rhetoric, and gives you questions to prompt your analysis of the rhetorical situation of a given PTC project. Rhetorical theory, then, can be applied as a *formula for success* in the workplace, or in civic life. Now the formula doesn't make the concepts and ideas easier to understand, but it does give you an entryway into how to begin the writing you'll dob on the job. PAD then is a tool for you to use. It is an easy to remember acronym so you can draw on it each time you start a new writing task.

Changing contexts demand changing strategies. In other words, communicating well means understanding your topic, of course, but also knowing your audience(s) and purpose(s). To that end, you can use the PAD —purpose, audience, and design—as a mnemonic device that will help you analyze a rhetorical situation and make rhetorical decisions to produce effective professional and technical writing projects.

Professional and technical communication takes the theory of rhetoric and practically applies it. Said another way, PTC represents a **rhetoric in action** that you can access when you use a rhetorical awareness of purpose, audience, and design to help you access the writing situation and move toward producing documents with effective rhetoric.



Just because it's a short and seemingly simple idea does not mean that writing is easy. It's not. It also doesn't mean that learning to read your organization and learning how to develop a keen sense of purpose and audience can be reduced to a single letter. But what PAD can do for you is to make the task of writing more manageable: it breaks down what can be seen as a daunting and overwhelming task into sections, P—A—D, that can then be systematically addressed. Writing and communication is hard, but with practice, you'll get a whole lot better at it. And using the "formula" above will drive the decisions you make about purpose, audience, and design and lead you to writing effectively.

Thinking Critically About PTC

"The university is a critical institution or it is nothing." -Stuart Hall

In higher education, the term "critical" often refers to "critique." To critique something you consider a topic by asking hard questions about issues of power, race, ethnicity, class, and culture. These are all big terms that each of you reading this right now will view and value in different ways. But those differences are part of what makes critique so important. When groups of people get together and critique something, like an institution or organization, they uncover all the different ways people view important issues and the various ways those issues contribute to policies and decisions within the institution or organization. By talking things through, by being critical as a group, we can help each other see things differently and shape the institutions and organizations in which we work to reflect multiple perspectives. Engaging in critique as a group allows you to learn and practice the type of critical work that will make you a valued team member and engaged citizen throughout your professional and personal lives.

One of the focuses of Professional and Technical Communication is the way groups interact and the consequences of those interac- tions, from collaborative working groups to organizations composed of groups working together. As we learn the concepts and practices of PTC, we are asking you to participate in a learning community where we will simultaneously learn PTC content while questioning the foundations and histories of that content. We are asking you to think critically about the ideas and organizations that you will be a part of when you join the workplace.

This critical approach needs to start with an understanding that no matter how it may appear on the surface, there is nothing objective about professional and technical communication. Professional and technical communication is always produced in conjunction with an organization's culture, which includes the norms, values, and ideologies of that organization. Ethical professional and technical communication must take as part of its goal the role of naming racist and colonial practices that uphold systems, usually created through policy and documentation, of inequality and disparities.

But what does this mean exactly--this idea that PTC is not objective and that it can continue racist and/or unjust policies and practices? Let's consider what may seem like an innocuous example. Many job ads will list "excellent communication skills" as a preferred qualification.This makes perfect sense because, as you've read in this chapter how business gets done--specifically, business gets done through communication (written and oral). But what we need to recognize is that there is an embedded assumption—a bias—in this idea of "communication skills." The phrase "communication skills" refers to communication skills in standardized English that is a byproduct of colonial practices in which linguistic diversity and vernacular languages were a symbol of inferior socioeconomic or cultural status. In other words, the overall concept of "excellent communication skills" is one that begins in a system that was meant to exclude certain groups.

Now, admittedly, we cannot overturn linguistic colonialism during the course of a single term. But this course can help you become more aware of how language and communication can uphold un- just systems that consistently have marginalized and discriminated against people of color. Biases are everywhere, and there is no de- nying that the concepts of PTC explored in this course assumes a starting place that is rooted in specific cultures and understanding. But change cannot be affected within organizations without first understanding those organizations.

Part of the role of professional and technical communication is to advance the goals and vision of an organization. However, many have assumed that this advancement of an organization's goals and vision is a business or capitalistic enterprise, and that this capitalist aim precludes being a critical employee who can and should raise concerns about questionable practices. In actual practice, a professional or technical communicator should use their expertise in language and communication to consistently question internal policies and practices that uphold inequitable practices.

This course works to help prepare you for the workplace you will enter while simultaneously preparing you to improve those workplaces.

A course in PTC will help you identify patterns, interrogate sources, write critically, perform research, understand culture and the im- pact of language on it and through it. There's a value here beyond marketability. These types of skills are universal and al- ways in de- mand in the workplace and in life.

This course will help you become a critical pragmatic practitioner[1]. What does that mean? A critical pragmatic practitioner critiques ideas and organizations as they engage in practical, or pragmatic, everyday work tasks. The training you receive in this course, therefore, allows you to question issues of power, race, ethnicity, class, and culture while doing the pragmatic tasks asked of you at work.

Being a critical pragmatic practitioner empowers you to emphasize the need to always be critical even when faced with pragmatic tasks. As a critical pragmatic practitioner you can:

- make and produce (pragmatic) a wide variety of documents and texts using technological tools and media
- critique existing structures
- propose alternative solutions
- maintain a strong ethical grounding

"Critical pragmatic practitioner" means that, as a practitioner, one should critically approach the practices of an organization, which includes using your own skills and knowledge, to work toward or to ensure equitable practices. Critical and pragmatic are not opposing terms. In your work, you will have the ability to improve organizations with the understanding that, often, change takes time, is incremental, and must be framed within parts of the existing infrastructures within an organization.

It is important to acknowledge that most organizations will seek to sustain themselves above all else. Your role as a critical pragmatic practitioner is to ask questions as you work that will foster productive and equitable change everyday and in every

1 Melonçon, L., & Schreiber, J. (2018). Advocating for Sustainability: A Report on and Critique of the Undergraduate Capstone Course. Technical Communication Quarterly, 27(4), 322-335. https://doi.org/10.108 0/10572252.2018.1515407

task you complete. You should ask, “How can I apply my knowledge and expertise in the most fair and equitable way possible?” and, “Are the policies I’m enacting reflective of the most fair and equitable practices possible?”

The key to invoking change within organizations is tied to the types and kinds of questions you ask. So the guiding questions above are a starting place for your own reflective inquiry and an entry point to understanding that what may appear to be an innocuous assignment (in college or on the job) is always embedded within power structures. You will learn that the questions you learn to ask about purpose audience, and design are always tied to questions of power, race, ethnicity, class, and culture, and that language and communication always has the ability to advance your organization and your ideas in positive—and in negative—ways.

Exercise 1

You create technical and business writing in your daily life, even if you don't actively think about it. This exercise asks you to think about how you can get your reader to take action, while considering the everyday application of professional and technical communication.

First, write a set of concise, technical instructions for an action you perform on your phone (e.g., post a photograph to a social media app, change a specific setting, or describe how to play a game that's on your phone).

Next, send these instructions to a peer and explain what you have done and what action you'd like them to take.

Exercise 2

You are faced with professional communication tasks regularly in your everyday life, whether as a student, an employee, or a member of a club, group, or team. This exercise asks you to engage with the acronym PAD (purpose, audience, and design) to break down the communication process. Using PAD illustrates the process of putting rhetoric into practice.

Think of a time recently that you had a communication task (e.g., writing, speaking, making a poster) for a course assignment, a group project, a work project or task, or a project for an extracurricular club or group. Once you have picked a task, use the steps below to analyze the rhetorical situation.

Do the following:

Purpose

- List the reasons that you are communicating. Answer the question: "What is the goal of the communication?"

Audience(s)

- Write out who you are communicating to/for. Remember, there could be more than one audience.

Design

- Think about and write out what the thing should look like?
- The key to completing this step successfully is to consider your audience(s) and purpose and then design it to be the most effective.

Based on your analysis of the three steps above, what would you draft to ensure that your message is most effectively communicated to your audience(s)?

Now describe in writing how you would draft it. Compare your decisions described above to what you actually did when you created and delivered your message (the physical product, or communication task).

Answer the following questions:

- Do you see yourself making rhetorical decisions even be fore you knew what rhetoric was? Where and how?
- Do you think your analysis based on PAD would have pro duced more effective communication? Why/why not and how?

When you have finished answering the questions above, write out a few sentences that describe what you think rhetoric is and how you used it.

Chapter 2
Purpose: Why am I Writing?

Before starting any writing project, you need to know the answers to the purpose, audience, and design (PAD) questions that will guide your work:

Purpose	Why am I writing?
Audience	Who am I writing to/for?
Design	What should it look like?

If you consider these questions independently, you will quickly realize that they are inextricably connected as part of the rhetorical situation. As such, a complete understanding of a project's rhetorical situation requires that purpose, audience, and design should always be considered collectively when making decisions about a project. However, to help you explore each question thoroughly, let's consider them separately, beginning with purpose.

Answering the Purpose Question

Purpose is defined by what the audience should

- know
- think
- decide
- do
- be able to do

after they read your document. Purpose helps you begin the writing process by narrowing the scope of your project based on the project's goal or desired outcome. Your documents can

- explain
- evaluate
- inform
- entertain
- persuade
- describe
- express
- narrate
- argue
- etc.

Documents can do almost anything, and, as the rhetor, it's your job to make sure you

- know what the document should do
- communicate to the audience what your document is doing

An understanding of the document's purpose is necessary to accomplish this work. To answer the purpose question your strategy requires that you consider the end result of your project, and then make the purpose of your project clear throughout the document, while avoiding mistakes that obscure the document's intent.

You'll notice that, in order to make decisions about the purpose of a document, you must have an understanding of the audience for whom you're writing, and, in order to make decisions about how you will achieve the document's purpose, you have to consider the document design that will facilitate accomplishment of the purpose. As you can see, all the elements of PAD relate when assessing a rhetorical situation: assessing purpose requires assessment of audience and design.

Consider the End Result

An easy way to consider the end result of a document is to ask a series of questions that may include the following:

- Why does the audience want the document?
- How will they use it?
- What do you want the document to achieve?

- What action(s) do you want your reader/user to do?
- Will they respond right away immediately, or file it, publish it, distribute it electronically?

Make Sure Your Purpose is Clear

In working to a project's purpose, your primary job is to make sure that your readers/users know what the purpose is. You should state your purpose clearly in the document and, in most cases, you should state your purpose as early in the document as possible. You also need to make sure the document stays focused on the purpose throughout the text. Straying from that purpose compromises the capacity of the document to achieve the purpose.

For example:

- In an email: Be specific in your subject and stay focused on that subject in your message.
- In a report: State the problem in the introduction and make sure all subsequent information relates clearly to the stated problem.
- In a description: Immediately identify the "thing" you're describing and describe only that "thing" throughout the document.

Avoid Common Mistakes

Below are some common purpose-related errors to avoid:

- Burying your purpose: Don't make it difficult for your audience to figure out what a document is trying to do.
- Confusing your end result: You will not achieve your purpose if you set out to do one thing and end up doing another.
- Failing to consider the end result: If you start out unclear on what you are doing, then you will not have a clear end result for your audience.

- Overlooking the idea of multiple purposes: Projects may be used any number of ways by your audience(s). Make sure that you have considered the multiple purposes your document may serve.

- Confusing use of language: Your language should be clear, effective, and appropriate, as determined by purpose and audience.

- Neglecting to convey vital information: Always include all information necessary for your audience to understand and/or act on the problem or issue you address.

- Underestimating, overestimating, or obscuring vital information: You must give vital information the appropriate meaning and weight. Your purpose will not be achieved if you fail to make clear the relative value and/or import of information.

- Conveying the wrong information: If you introduce errors, you guarantee your document will not achieve its purpose.

Exercise

Read the following scenarios and example documents. Write down the purpose of each, what you think each author is trying to achieve, and how effectively they are accomplishing their goal.

Scenario 1: A sales manager in a team meeting

"I won't lie, we didn't hit our quota last month. We didn't even come close. But, I'll take the loss on that one, and do you want to know why? Because if I can't lead this group of hard-working, professional, customer-focused employees to victory, then that's on me. This month, though, I'm going for a win, I'm going to do whatever it takes that I give it everything I've got just like you folks do every day! So let's get out there and sell some cars people!"

Scenario 2: A physician's assistant at a nursing home on the phone with a patient's daughter.

"No, no ma'am it wasn't serious, Herman just had a little tumble in the bathroom. Probably just the new meds is all. I promise, he was already laughing about it at dinner and boy did he eat well tonight."

Scenario 3: A writing instructor to a class of first-year college students

"Think of rhetoric as that thing you do before you go to a party. When you get dressed, you're making choices based on your purpose for going. Maybe you want to be comfortable to relax with friends or maybe you want to look nice to impress someone new. When you choose what to bring to the party you're making decisions about your audience and what you expect the environment to be like. Is this the kind of crowd you bring sodas to? How about salsa? Board games?"

Chapter 3
Audience: Who am I writing to/for?

Before starting any writing project, you need to know the answers to the purpose, audience, and design (PAD) questions that will guide your work:

Purpose	Why am I writing?
Audience	Who am I writing to/for?
Design	What should it look like?

If you consider these questions independently, you will quickly realize that they are inextricably connected as part of the rhetorical situation. As such, a complete understanding of a project's rhetorical situation requires that purpose, audience, and design should always be considered collectively when making decisions about a project. However, to help you explore each question thoroughly, this chapter considers **audience**.

Your audience is the person (or people) reading or using what you write. Throughout this book, audience, reader, recipient, and user are used interchangeably to designate your audience. Understanding audience and all that term encompasses is one of the most important and challenging tasks you will face on the job. Once you begin the work of understanding and addressing the concept of audience, you are on your way to being a successful professional and technical writer.

Answering the Audience Question

To answer the audience question, you need to perform an audience analysis. Here are some broad questions to get you started:

- What type of person/people will be reading the document?
  - └ For example: Are you writing for executives, engineers, the general public, etc.? Is the audience knowledgeable about or experienced with your topic/issue/problem? Are they favorably, unfavorably, etc., inclined toward your topic/issue/problem?
- Why is your audience reading the document (notice the relationship to purpose)?
  - └ For example: What does the audience want from the document? What is your audience expecting: to be asked to act, to be given information, to receive a recommendation, etc.?
- How will your audience use your document (notice the relationship to design)?
  - └ For example: Will they simply read the document, or will they responsively interact with it (e.g., modify, edit/revise, or develop it)? Where and how will they engage with the document? Will they be reading your document online, using it in hard copy in a lab environment, viewing it in a meeting, etc.?

Audience analysis means you need to consider the type, knowledge, physical location, disposition, experience, interest and expectations of your potential audience(s). You'll want to pay close attention to cultural factors, as well. Differences in culture significantly inform whether your document will be effective in communicating to your audience and achieving its goal.

Audience Types

Audience is a dynamic construct. That means your audience is a moving target. Audiences are living things composed of people and, as you know, people transform, adapt, and evolve all the time. While we use the term "audience" like it's a singular, static entity, "audience" is a dynamic, changing group of people.

In analyzing audience, then, your job is to come up with an "informed guess" about the character and qualities of your reader(s). In many cases, you will have multiple audiences (and multiple purposes) for a single document, and you need to think through and explicitly identify all possible audiences and their relationships to your document as you make decisions about how to write your work. You also may need to do research to make sure you understand the following as well as possible:

- Who will see your document?
- Where it will be circulated?
- What strategies and language are required to effectively communicate with your audience?

Primary Audience

To do an audience analysis, your first job is to identify the **primary audience**—that is, the person or group most directly interested in or connected to your document. You will write principally to this person/group, as your primary audience represents the person/group for whom your document must be most useful and effective. You may be acquainted with this group and have the luxury of bringing your personal experiences with your primary audience to the table when you sit down to write, but your primary audience often will be unknown or little known to you. In this case, you will have to research their needs, expectations, and communication norms and standards. Some approaches to audience research are discussed at the end of this chapter.

Secondary Audience(s)

Once you have determined your primary audience, you also need to consider your **secondary audience(s)**. These groups will have different reasons for reading your document and different expectations about what they will get out of it, but, because they too will be looking for information in your document, they are readers who need to be considered.

For example (See Figure 1), you are a junior engineer tasked with writing the preliminary technical specifications for a pedestrian bridge improvement in a greenway project. Your primary audience comprises engineers and the project manager who will be responsible for overseeing the bridge project. However, you also are keenly aware of your secondary audiences: the unit supervisor who will be promoting a junior engineer in the coming months, and the finance people who have to make sure the project can be completed within the specified budget. A further complication is that the draft of your document must first get past the initial audience, who will review the document prior to distribution to the primary and secondary audiences. The initial audience here is the senior engineer on the project, who doesn't like you very much.

Ultimately, your technical specifications will be included in a larger recommendation report for the bridge project. This full report will be read by the vice-president of sales, who will either approve it or request changes (initial and secondary audience), before she sends it to another key audience: the potential client who sent out the call for proposals (CFP) for the bridge. The client represents another primary audience as it is this reader who will decide, from all proposals received, which engineering firm should get the contract.

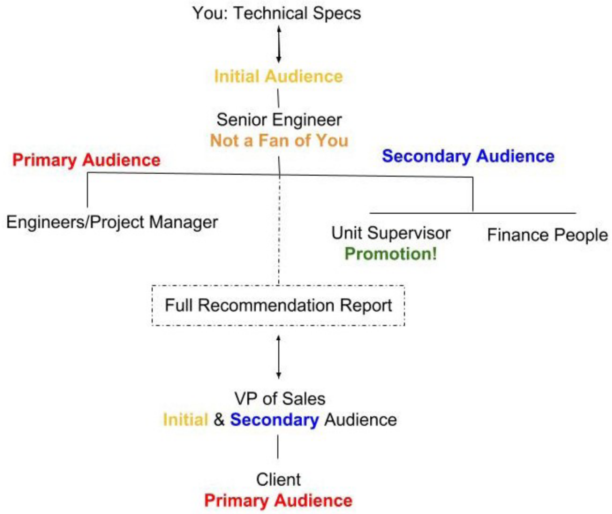


Figure 1. Example Audience Analysis

Communication is not an isolated one-way event, but instead, a circuit involving many people and many audiences. A combined audience will read most of the documents you write on the job, especially longer documents (e.g., reports). While Figure 1 does not show that your audiences might be talking to each other about your document, they may and often do. You need to approach audience analysis as a multi-layered event that takes into consideration the social process of communication. Considering all of the potential audiences is a vital aspect of professional and technical communication.

Audience Expertise Categories

Although audiences are varied and diverse, they can be broken down into four *general* knowledge categories that describe each reader's expertise in your field or subject. These general categories can serve as a guide to help you develop an understanding of your audience.

Lay Audience (Knowledge Level: Uninformed)

The lay or uninformed audience is not expert in the technical field, discipline or subject matter about which you are writing. The lay audience has a practical interest in your focus, rather than an interest in the technical details, specifications, or operations of your subject. Most likely, the lay audience has a personal stake in the topic with an emphasis on how the subject matter affects them, their priorities, their lives, and/or their work. To write for this audience, consider the following:

- Focus on the big picture—the results, not the methods
- Explain facts and figures in the simplest terms
- Define all terms
- Use illustrations and/or graphics to visualize information and highlight what's important
- Employ comparisons and anecdotes that are familiar to the lay audience to relate your subject matter to experiences that are part of their everyday lives

- Provide enough background information to put data and conclusions in context
- Draw conclusions for the audience and explain them fully, rather than leaving it to the audience to derive conclusions or implications

Executive Audience (Knowledge Level: Acquainted or Informed)

The executive audience may have some technical knowledge, but is definitely not an expert. They are interested in the big picture, and generally will be use your document to act or make decisions, often involving money. Therefore, they are concerned with practical matters such as: How does this matter affect the company, the business as a whole, and/or the industry? To write for an executive audience, consider the following:

- Provide some background information: the executive audience will need less background than a lay audience because executives are familiar with the business of the organization and most likely will have been exposed to the topic of your document
- Explain facts and figures
- Discuss the implications of data and/or specifications rather than the details of data or specifications
- Supply opinions, interpretations, and recommendations that would be helpful when making decisions, in addition to conclusions

Note that executive audiences working in your organization will be more informed about your subject and be better acquainted with the organization's communication norms and conventions than executive audiences with the same level of knowledge who work outside your organization.

Audience of Technical Experts Outside of Your Field (Knowledge

Level: Acquainted or Informed)

An audience of technical experts who work outside of your field are expert in some field, but not in the field in which your document is situated. Because they are experts, this audience will have a high level of knowledge and skills, but they aren't experts in the technical knowledge/skills of the field on which your document focuses. To write for an audience of technical experts outside your field, consider the following:

- Focus on technical description of how things work (rather than implications or interpretations)
- Supply technical data, details, and methods
- Define terms and concepts specific to your field
- Do not explain basic terms or concepts, or general/obvious technical/scientific principles
- Discuss how the information provided relates to the entire project (i.e., all fields involved)

Audience of Technical Experts in Your Field (Knowledge Level: Expert)

The audience of technical experts in your field are field specialists who have the knowledge and skills necessary to fully understand and contextualize the information your document provides. This audience will not need background information that explains technical terms, concepts or scientific principles that underpin the field, and they will be able to understand and interpret technical shorthand, such as equations, formulas, or abbreviations and acronyms. When you supply data, you may wish to include all details and observation, even when they appear inconsequential. Your audience of technical experts might want to examine seemingly trivial information because it could lead to useful insights. To write for an audience of technical experts in your field, consider the following:

- Focus on technical description of how things work (rather than implications or interpretations)
- Include context or background only if it relates to specific situations or methods new or previously unknown within the field or concerning your subject

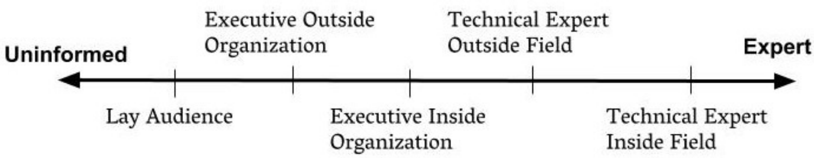


Figure 2. Audience Analysis: The Expertise Continuum

- Supply all technical data, observations, and methods in detail
- Draw any conclusions clearly and explicitly from data

These four categories are neat containers that help get your audience analysis started, but, in practice, the categories above exist more accurately on a continuum, as seen in Figure 2.

In the example at the beginning of the chapter, in which you were writing a specification for a pedestrian bridge, here's how we can classify the expertise levels and types of different audiences:

Primary Audience Analysis

Primary Audience

- Other engineers: Technical experts in your field
- Project manager: Executive in your organization with some technical knowledge

Secondary Audience

- Unit Supervisor: Executive in your organization with some technical knowledge

• Finance People: Executives in your organization with some technical knowledge

Initial Audience

- Senior engineer: Technical expert in your field (review/recommend revision of specification drafts)

Secondary Audience Analysis

Initial and Secondary Audience

- Vice-president of sales: Executive in your organization with some technical knowledge (review/recommend revision of report drafts)

Primary Audience

• Client (end user): Executive outside your organization with some technical knowledge who also will have

• Technical experts in and outside of your field who read the specification and report back to him

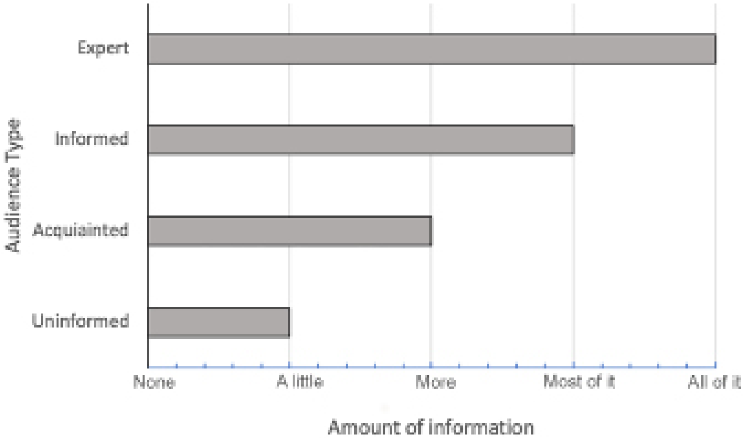


Figure 3. Information complexity based on audience type

Figure 3 is another way to visualize the knowledge levels of your audiences, and another way to classify the general expertise categories.

As Figure 3 shows, you can gradually increase the amount of technical information you include in a document based on the expertise level of your audience. For the lay or uninformed audience, always keep things simple. For informed audiences, like technical experts, you can increase the amount of complexity.

Beyond Expertise

An audience's expertise in the subject matter about which you write is a fundamental and defining component of a useful audience analysis for a professional or technical writing project. However, expertise most definitely is not all there is when considering how your document will be read and interpreted by an audience. While professional concerns like expertise are a fundamental focus of professional and technical writing projects, considerations beyond professional factors always play a role in an accurate assessment of audience.

Audience and Organizational Hierarchy

The organizational infrastructure in the place where you write can influence communication decisions, as it informs and defines relational power dynamics in the workplace. A power-related facet of audience analysis situates reader(s) within an organizational tree. An organizational tree or chart (see the sample organizational chart in chapter 5) describes the organization's hierarchy of roles and responsibilities. This visual representation of an organization's structure describes how the organization's personnel relate to each other, who has oversight of which departments and/or personnel, and who is responsible for making which decisions. Considering these hierarchies informs how you should address your audience and fulfill their expectations.

As you analyze your audience, consider your reader's position (i.e., job or role in the organization) in relation to your position within the organizational hierarchy. Think about how your various audiences relate to or view your role in the organization. This understanding may guide your choices of language and tone, and also help you incorporate your organization's political and cultural conventions. Think about the differences between a document you create for a supervisor or a board of directors versus a group of your peers or subordinates. You'll see that this comparison correlates to not only knowledge level, but also to power dynamics within the organizational hierarchy.

Another factor related to organizational hierarchy is a reader's decision-making role (which is often, but not always, tied to position or job). Audiences with decision-making responsibilities are important to consider in your audience analysis because the decisions these readers make can have significant, far-reaching, and/or long-term impacts on the people inside and, potentially, outside your organization. It is vital that your document communicate effectively to audiences with such consequential authority.

Audience Personality

Audiences are made up of people, of course, and all people have their own unique personalities and quirks. Groups, too, have standards, norms of conduct, and, yes, quirks that define the group's culture. Further, people and groups interact in the circuit of audiences discussed earlier in the chapter, and these interactions color and shape how the audience as a whole will behave. Perhaps now it's clear how audiences are dynamic living things.

As previously discussed, you cannot be expected to fully capture all the individual and collective quirks of your audience in your audience analysis, but you can learn or become aware of elements of an audience's personality that will help you create a document that more effectively communicates to your audience.

Think back to the pedestrian bridge example. As you recall, the senior engineer who is your initial audience in charge of draft revisions is not your biggest fan. With this information in mind, you would want to make each draft you submit as thorough and polished as possible. Also, the unit supervisor who is part of your secondary audience is in charge of hiring for a promotion you totally want. This knowledge motivates you to produce the highest quality product possible.

As another example, if you know the project manager, who is part of your primary audience, rarely reads anything all the way through, you definitely should thoroughly develop the executive summary, concluding recommendation paragraph, and any other sections the project manager likely would jump to in the interest of finding key information quickly.

Audience Interest

The interest your audience will take in your document is an important factor in audience analysis that needs to be considered from two perspectives:

- What is the audience's attitude toward the subject?
- What are the audience's reading preferences?

All audiences, and all individuals within audiences, have inherent biases. It is your job to try to understand the audience's bias and adapt accordingly. Readers may or may not have a friendly, hostile, indifferent, or interested view of the information you are communicating. Be as aware as possible of the attitudes readers bring with them. While this is much easier said than done, as you gain experience in reading your organization's culture and work more with people from outside your organization, you'll become more adept at reading biases and attitudes. For example, your audience may not find a robust discussion of fasteners as interesting as you do, so, while information about fasteners should be included in your technical specification, avoid spending four pages discussing the fascinating world of flange bolts.

The other important factor in audience interest is reading preferences or how audiences read. Today's business person is probably suffering from information overload. Because of all of the information, many people have developed various reading strategies to deal with incoming information. At any given time, your audience may use one or more of the following reading strategies.

- **Skimming:** Looking for general or main ideas, or to see if everything that should be there is there. These readers aren't really trying to get any deep understanding or detailed information from the document.

- **Scanning:** Looking for keywords. These readers will stop when they see a keyword, read the a sentence or two around the keyword, and then move on if it's not what they need.

- **Search Reading:** Looking for known and/or new key concepts. These readers mimic the idea behind a Google search; they read just enough to get what they are looking for and then stop. This approach is similar to scanning, but often times readers may not know the exact keyword they are looking for until they find it.

- **Receptive Reading:** Looking for an understanding. These readers are actually reading what you write to get a complete understanding of your work. And they are probably reading almost every word.

- **Critical Reading:** Looking for critical comprehension. These readers are approaching something new. They usually read every word as they work to develop as thorough an understanding of the subject as you document allows.

Taken together, your reader's disposition toward your subject and reading habits directly correspond to how the reader consumes your work and what they are looking for within it.

Cultural Factors

Remember that the business and technical world is increasingly global. Keep in mind that the audience for your document may be multicultural. In that case, you need to take the time to research and understand the business practices of audiences from other countries, and be very thorough in ensuring that your text will not be misunderstood by or offensive to readers from countries and cultures other than your own.

Biased Language

Technology has made our lives easier and brought our world closer together, making it accessible to conduct business on global level. When adapting a message to your audience, be sure to use language that is sensitive to implied biases. Avoid expressions that refer to gender, race, ethnicity, age, and disability unless they are necessary for understanding the context of the situation. Avoid use of idioms and phrases, as they are can be confusing or offensive in other cultures.

Being audience-aware is a very big, very important job. Consider this: no matter how accurate, technically sophisticated, or life-changing the information in your document is, if your audience doesn't understand it, can't access it, or is offended by it, the information won't go anywhere and the message doesn't matter. The response of the audience ultimately determines how successful the document is, and knowing how to identify and analyze your audience is a crucial skill for all writers.

Avoid Common Assumptions About Audience

When conducting audience analysis, it's easy to fall into a trap of faulty assumptions. This is a list of the easiest and most common errors of assumption, but you must be mindful throughout your work to avoid generalizing your audience. Be careful of the following assumptions:

- The person you are addressing (primary audience) is always the only audience
- The audience is like you in expertise, character, or expectations
- The report has a finite time period of use
- The writer (you) and/or the audience always will be available for reference or to answer questions about the work
- The audience is familiar with the reasons why the document was produced
- The audience has been involved in daily discussions of the material
- The audience has time to read the document

Researching Your Audience

If you are an expert in your field and you are asked to write your fellow field experts, you will have a pretty solid idea what your audience expects from the document and how they expect to be given the information. However, odds are that you will need to write for primary audiences outside your field and with differing knowledge levels at some point, if not often. And you most definitely will be tasked with writing for secondary audiences from wide-ranging fields and levels of expertise. When you are tasked with writing for diverse groups with whom you are to varying degrees familiar, you will need to research your audience. There are any number of ways, or methods, to conduct this research. The research options below include some common methods but is not an exhaustive list.

Internet

A good place to start is the Internet. Consider the type of audience you are researching and identify some defining characteristics—for example, field or discipline, location, age, interest, role in the organization, or any other aspect of their character that could inform their engagement with your work. Once you have considered who the audience might be, search for artifacts from that group or similar groups. The information you find might include studies conducted by other researchers in the field, census reports and other public records, scholarly or trade journals, and professional or public articles written by or for the group, as well as official websites for professional organizations and government departments or unofficial blogs. In addition to government, professional, and scholarly conversations about your audience, you can read what members of an audience think about their community and themselves, and maybe even the topic or issue your technical communication actually addresses. You are looking for are looking for documents or artifacts in any other media that might give you insight into the following questions:

- How does the audience talk between and among fellow members?
- How does the audience talk to people outside the group?

- How do people outside the group communicate with your audience?
- Is the audience thinking or talking about the topic or issue that's the subject of your document? If so,
- What does the audience think about your topic or issue and how do they talk about it?

When you read/view these sources, try to listen for the values and the language that communicates these individuals' needs, in addition to the communication conventions they employ. This information defines what counts as effective communication for the audience.

Structured Research

Depending on the assignment you've been given and the expectations of the document, you may be afforded the opportunity to engage in more formal or structured research into your audience. These circumstances are rare and precious, as they give you the chance to gather empirical evidence about the people for whom you're writing, rather than relying exclusively on informal inference and subjective interpretation. For a closer look at structured research, refer to Chapter 21, "Workplace Research."

Observation

If you can talk to or observe your target audience(s), you can learn how they speak to and interact with each other and with the objects and materials they use to do their jobs. If you are permitted this type of direct interaction, it will give you invaluable insight into the the daily standards, practices and norms of the field in which your target audience operates, not only from a professional perspective, but on an interpersonal level, as well.

Surveys

Surveys are particularly useful for providing statistics about demographics and answering specific questions directed toward your audience. You can ask straightforward questions about race, gender, beliefs, and attitudes, but carefully consider the response options and what is implied in the language you use. You don't want to bias your participants' responses by giving them a poorly worded question, or offend them with objectionable or culturally insensitive language.

Interviews

Unlike surveys, answers in interviews are more personal and open-ended. When deciding whether and whom to interview, consider that interviews take more time than surveys. You can get more in-depth with interviews, but you'll be talking to fewer people, which means you're not necessarily getting the broadest perspective. Prepare your questions ahead of time and avoid "yes/no" questions that discourage dialogue and are better suited to survey methods.

Focus Groups

Focus groups are like interviews, but, rather than being conducted one-on-one, they are conducted with an assembled small group of people. You would want to create a comfortable setting that encourages participants to interact not only with you, but with each other. Participants should be free to discuss their opinions. Using a moderator can keep participants on task, mitigate any hostility between personalities, and conclude the session on time while you interact with the group. As with observations, you would want to conduct a few focus groups to ensure that you're drawing reliable conclusions from the sessions.

Each of these methods has its merits and challenges, and the method you choose should depend on the context and scope of your project. Often, a combination of methods is most beneficial. However, none of these structured methods may be an option for you. If not, you will have to go back to the good ol' Internets, and simply talk to as many people as you can who might offer credible insight. As stated earlier in the chapter, audiences are dynamic, and, for all your best efforts, your analysis of audience will yield an "informed guess." But that "informed guess" and the effort you put into making it are absolutely vital to the success of your document. Remember, no matter how thorough, informative, insightful, or generally amazing your work is, that work is meaningless if your target audience doesn't understand, stops reading, or is excluded from the document. It is your job to ensure the work you create can be understood and used the way it needs to be.

Exercises

1. Pick a subject and find two works on that subject—e.g., a professional presentation, speech, document, video, etc. You can use a product (e.g., electric car), or a service (ride-sharing services), or anything else about which you can find professional and popular (i.e., general public) works.

   a. Do an audience analysis for each of the two works:

   - Identify primary/secondary audiences, as appropriate
   - Identify all relevant audience characteristics and categories for each audience (i.e., knowledge level, personality, biases, etc.)
   - Explain your reasons for characterizing the audience the way you do (i.e., What's your evidence for your conclusions?).

   b. Compare the two analyses:

   - Are the audiences the same for each work? Different? How do you know?

2. Read the scenarios below and choose the best audience research method (this may be one or a combination) for each scenario and explain your decision:

Health Sciences

1. You are creating a pamphlet describing the benefits and side effects of a pill that helps lower cholesterol. Your employer is the pharmaceutical company that produces the pill. They have supplied the data, but you need to present it clearly to users and potentialusers of the medication.

2. You are designing a computer patient information system for a hospital and want to know how to make it most efficient for doctors, nurses, and staff.

3. You want to research the demographics of an area surrounding a new medical center to determine what services would be most useful.

Engineering

1. You have developed a new user manual for a printer, and you want to find out if it is helpful to users of the product.

2. You need to research a city's traffic patterns to decide exactly where to install signs and directions towards a newly constructed bridge.

3. You have developed a tutorial for a new computer software program and want to determine its usefulness to users.

Professional Writing

1. You are creating a handout for a meeting that you will run with a colleague, and you want to make sure you list all major talking points for the both of you.

2. You are producing a report on your company's financial standing for potential investors.

3. You are giving a presentation on your company's latest product to an audience of potential buyers. You want to research their needs in addition to providing proof of the product's success with other groups.

Chapter 4
Document Design

Before starting any writing project, you need to know the answers to the purpose, audience, and design (PAD) questions that will guide your work:

Purpose	Why am I writing?
Audience	Who am I writing to/for?
Design	What should it look like?

If you consider these questions independently, you will quickly realize that they are inextricably connected as part of the rhetorical situation. As such, an complete understanding of a project's rhetorical situation requires that purpose, audience, and design should always be considered collectively when making decisions about a project. However, to help you explore each question thoroughly, let's look at **design**.

When you are tasked with a writing assignment, the genre or form of the final product often is specified (e.g., write a report, a memo, etc.). Knowing the genre conventions gives you a basic set of ideas for what the document should look like, but many decisions remain as you work to design a document that is visually appealing and easy to read. A document's overall appearance affects the reader's attitude toward the document and determines whether the reader can find and engage with information simply and efficiently.

Answering the Design Question

Design incorporates two major concerns:

- Format of the page
- Incorporation of graphics or visuals

This chapter specifically addresses the design of the page and the arrangement of words on the page. Chapter 5, “Visual Design,” discusses graphics and other visuals, including their uses and types.

Business and technical documents need to be designed well because documents must compete for your reader’s attention in the workplace. Some, perhaps all, of your readers are only looking at your document because they are required to do so as part of their jobs. These readers will scan your document or only read sections relevant to their purposes. Good design ensures that the document is easy to read, and a document that is easy to read contributes to the document’s overall effectiveness.

The design of your document will be based on your audience and purpose. Once you’ve determined these two factors, use can use the following general guidelines to design your document. You should make decisions about document design in the planning stages, before you actually begin to write, because what you write will be informed by the format used to presenting your words to your audience. With this in mind, you will need to make choices regarding the following design elements:

- Shaping the appearance of the page
- Styling words through typographic elements
- Crafting access to information
- Adding other design features

Figure 1 illustrates a document design flowchart. Once you have made these choices, you must stick to them and use them consistently throughout the document.

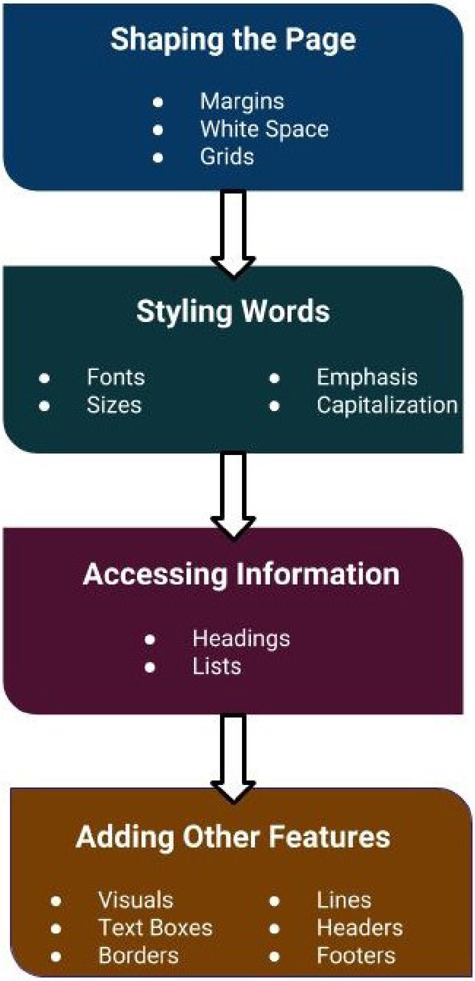


Figure 1. Document Design Flowchart.

Shaping the Page

Shaping the page includes three primary factors: margins, white space, and grids.

Margins

Most desktop publishing software and word processing programs, including Microsoft Word, automatically set default margins. It is important to consider whether the default margins are the best design choice for your documents. You need to be sure you have left ample room around your page to accommodate format issues like binding and display conditions.

You will select your margin space based on your audience, purpose, and final delivery. For instance, if your document will be printed and bound on the left side, you should leave a margin of at least 1 ½ inches on the left side to allow room for binding. You will need to ask for guidelines if you don't know for certain how much space to leave or how the document will be used or circulated.

Margin decisions also include the use of justified or unjustified text. Justification refers to the alignment of type along the left and right sides of the margin. The previous two paragraphs are **left justified**: the type aligns on the left, and type edge is ragged on the right. This paragraph formatted using **full justification**: the type aligns on both the left and right sides of the page. You probably are most familiar with left justification in your writing projects, but full justification is commonly used in books and other formal documents and materials. Like margins, ask for company guidelines about justification. Default left justification (also called "ragged right" justification) won't always be appropriate.

White Space

White space remains one of the most important features of document design. White space is all the empty "white" space not filled by words, images, or other visual elements. It provides a way to separate sections of the document, and this separation is invaluable for the reader—both visually and mentally. White space can do three very important things in a document:

- Provide a break for the reader's eye (see Figure 2)
- Keep elements together (see Figure 3)
- Isolate or emphasize important elements (see Figure 4)

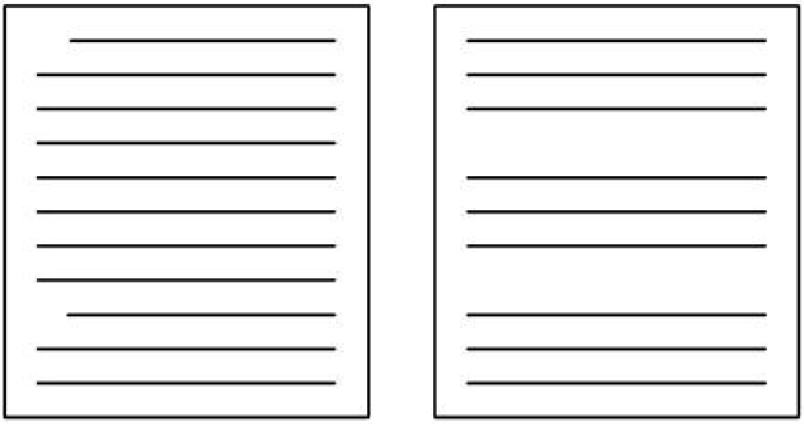


Figure 2. Page with little white space (left) compared to one with white space (right).

To understand the significance of white space, imagine text on a page as noise—voices reading the words on the page.

Figure 3. White space showing like elements together.

White space provides your reader a quiet space—literally—to take a break from the visual noise of the text and the mental noise of information.

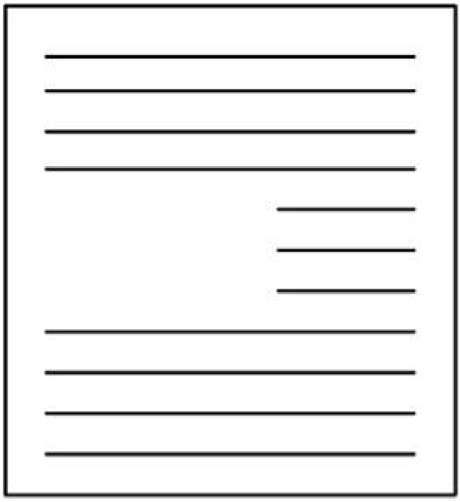


Figure 4. White space emphasizing information.

These spaces, these brief rests, allow the reader to pause for a moment to process what you've told them and to get ready to move forward before re-entering your text. As with any rest—however slight—the reader returns to your work just a little more focused and receptive to the document. If you've ever experienced mental fatigue looking at a page of solid text with no breaks, then you can imagine how white space helps the reader.

Grids

Grids allow you to design a page with the "big picture" in mind. Grids give you a consistent page layout that readers will use to access the information. Grids are like page maps that you make during the planning process. These page maps standardize placement of text and graphics throughout the document. Grids vary in type and design, but Figure 5 below shows three standard examples of grids.

The first sample (far left) in Figure 5 is a two-column grid or vertical grid. The far right is a horizontal grid with noticeable "chunks" of information.

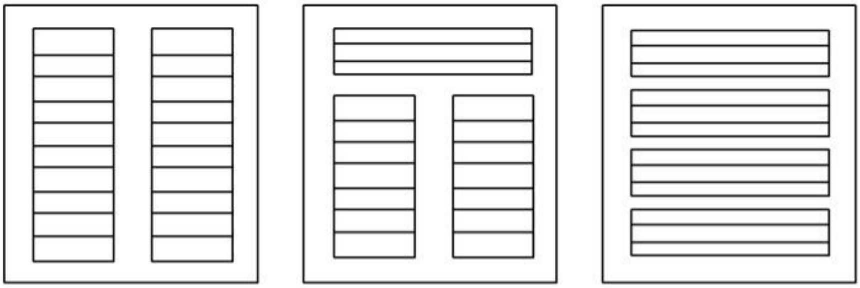


Figure 5. Page Grid Examples.

The one in the middle is a combination of them both. These are simply three standards of grid examples. You can and will design your own grids when you sit down to create a document. When you do, remember that using grids gives you a page template that helps with effective and consistent page design.

Styling Words

You need to consider typographic choices to make your documents easier to read. Typographic choices also help guide the reader through the document. There are four considerations for typographic choices:

- Typefaces
- Sizes
- Emphasis
- Capitalization

Typefaces

All typefaces are divided into two major types: *Serif* or *Sans Serif*. See Figure 6.

Serif fonts have "little tails" on the letters while *sans* (meaning "without" in French) serif fonts are "clean" since they have no "tails." Sample typefaces follow:

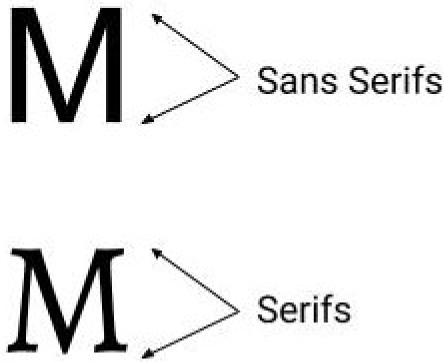


Figure 6. San Serif (top) and Serif Fonts (bottom)

12 point Times New Roman (Standard or default serif font)
12 point Arial (Standard or default sans serif font)
12 point Avenir
12 point Georgia
12 point Courier New
12 point Garamond
12 point Comic Sans

In most conventional print documents, headings are formatted in a sans serif font and body text are formatted in a serif font. For online documentation, both headings and body tend to be sans serif. But you can experiment with different typefaces. Readers become used to conventional fonts that they have seen over and over again. This habituation to certain fonts can be good if you do not want to call your readers attention to your design choices. Using conventional fonts tells your reader that you are doing things "by the book"—like turning in a paper for a class using Times New Roman. In that case, you want your instructor to be focused on content and not forming opinions about your unconventional design choices. Conversely, a change in typeface will be noticed by the reader, even if only slightly, and that extra attention could make it easier for the reader to notice typographic elements like headings when scanning, or, if submitting a proposal, to distinguish your organization's offer from other firms.

However, a word of caution about font selection. Fonts are designed to convey mood and tone. They work on the human mind like different voices. The mood and tone of a font conveys emotion (remember pathos?), no matter how subtly. As you pick through fonts, make sure that the voice you choose to speak your words is appropriate for your rhetorical situation. Like many bungled design choices, choosing the wrong font for the job will hamstring the effectiveness of your document before your audience has read a word. For example—Pro Tip: Do not ever write a technical document using Comic Sans. You can call it the Comic Sans Rule: No PTC documents in Comic Sans. Just. Seriously. Don't do it. Unless you're writing a memo to clowns. And even then, no.

Sizes

This text is written in 11 point font. Body text is usually 12 or 10 point. Headings size will vary, but consider that you will have multiple heading levels (e.g., Heading level 1, 2, 3, etc.), and no heading level should be smaller than your body text. Also, headings need to be readily spotted by your audience. As you think about size, then, consider that your headings should be neither obnoxiously large nor insignificantly small. Each heading should be easily seen, but not disruptive to the reader. The table below provides some examples of font sizes and uses.

12 pt	Body Text
20 pt	Heading 2 or 3
30 pt	Big Heading 1
42 pt	Title

Emphasis

Typographic highlights for emphasis that you can use are **Bold**, *Italics*, Color, or Underline. Some conventional uses of emphasis include bold for important phrases (i.e., key concepts), or italics for special terms (especially on first use). However, use special typefaces and highlighting options sparingly. Overuse of emphasis results in loss of effectiveness when the reader sees the emphasis so often that it doesn't seem emphatic any more. Overused emphasis also is visually distracting, causing the reader to focus more on the type itself then the information. Both of these conditions decrease the overall effectiveness of the document.

If you do decide to use typographic emphasis, remember that, like your other design decisions, you need to be consistent with the use of emphasis throughout your document. If you bold an important keyword in one section, make sure you bold important keywords throughout the document. Like headings, emphasis is a visual cue.

You can also use creative typefaces for emphasis, but the above rule applies. If you use creative typefaces, use them thoughtfully and do not overdo it. Following are several creative typefaces that you could possibly use *when making* design decisions. Or you could add some emojis. Okay, really, to complement the Comic Sans Rule, NO emojis in PTC documents.

Capitalization

Capitalization is another way to add emphasis, BUT YOU NEED TO BE CAREFUL. Sentences or long passages in full capitals letters are difficult to read, and also give your readers the impression that you are yelling at them. You can use all capital letters for emphasis to highlight a word or short phrase (as in the Emoji Rule above). For single word headings capitals may also be considered for a design choice. As with other emphasis typography, use all capital letters very carefully—unless you WANT to yell at your audience.

Accessing Information

Readers need to be able to simply and efficiently access the information you've compiled in your document. Two of the most effective ways for readers to access information is by incorporating headings and lists into your documents. Headings and lists function as both a way to organize information and as a design feature. Headings and lists are textual elements that communicate information, but they also are visual elements that draw the eye and break up the page into readable portions, or chunks, of information. Headings and lists also serve as visual cues that tell the audience what type of information is coming up—i.e., a new topic (headings) or several items that all relate to a current topic (lists). Headings and lists organize both the page and the information on the page.

Headings

Headings serve as a roadmap of your document--often literally, as they form the basis of the table of contents. Following the map laid out by headers should provide readers reliable access to different types of information. Headings are one of the most important design elements in professional and technical writing.

To illustrate this claim, imagine a 50-page report. Hold it in your hands. Open it up and flip through it. It has no headings. Not one. Just 50 solid pages of text, tables, and graphs. Close that right up. Now open it again and see the headings that navigate you through the content. Which document are you going to read? Thanks, headings. Headings are the best.

Keep in mind the chaos of the headingless document as you design your own projects. If you're using headings, you are on your way to success as a professional and technical writer.

Decide on Levels of Headings

Since headings function as a roadmap to your document, you should have a system based on the level of headings. You should match the size of the heading to its importance. For example:

> Heading 1: Sections
>
> **Heading 2: Major Topics**

Heading 3: Minor Topics

In general, you shouldn't use more than four levels of headings. Although headings are important, excessive use of headings make the document seem fragmented or cluttered. If you use too many headings, they no longer provide structure, they just add distraction. Below are some guidelines to creating effective headings.

Write Concrete and Specific Headings

You should always write descriptive headings that include concrete language. Generic headings like "Section 1" or "Part II" are not useful for the reader because they provide no information regarding content.

Write Parallel Headings

Parallel headings are easier for the reader to access and remember. Parallelism means that the heading is written in an identical grammatical form. The headings in this document are an example of parallel construction. The table on the following page shows an example of parallelism.

Table 1. Non-Parallel and Parallel Headings (Source: Lannon, John. Technical Communication. 9th edition. New York, Longman: 359.)

Non-Parallel Headings	**Parallel Headings**
How to Avoid Damaging Your Disks	Avoid Damaging Your Disks
• Clean Disk Drive	• Clean Disk Drive
• Writing on labels with felt-tip pen	• Write on Disk Labels with Felt-Tip Pen
• It is crucial that disks stay cool	• Keep Disks Cool
• Disks should not be in direct sunlight	• Keep Disks Out of Direct Sunlight
• Keep disks in protective jackets	• Keep Disks in Protective Jackets

In Table 1 above, the non-parallel headings used a mixture of phrases and sentences in varying grammatical forms. Look at the first words of the non-parallel list items: clean, writing, it is, disks, keep. This is a random-seeming mix of nouns, verbs, and verb tenses. It reads as careless and disorganized. Look at the first words in the parallel list: clean, write, keep, keep, and keep. All these words are active verbs in the imperative mood. These headings are orderly, symmetrical, informative and easily scanned.

When you decide how to structure your headings, remember that it does not matter the grammatical structure of the heading (or list), as long as it is consistent and parallel.

Other Heading Considerations

As you are considering when, where, and how to use headings, you also want to keep in mind the following related design guidelines:

- **Page Breaks:** Keep heading with the section it covers even if it means adjusting the page break.

- **Spacing:** Put more space before the heading than after it. The heading separates text from the section above it, but relates to the section below.

- **Table of Contents:** Match headings to table of contents (when applicable). Both the table of contents and your heading are roadmaps of the document.

- **Section Introduction:** Do not use words like “this” or “it” to start the first sentence after the heading (e.g., Section heading “Kittens” followed by, “They are the fuzziest.”). The heading is not part of the document text; it describes or identifies the subject of a section.

- **Online Documents:** Incorporate more headings in online documents to accommodate online reading styles and the absence of page breaks.

Lists

When highlighting specific information or when you need to break up information, consider using lists. The most common types of lists are the bulleted list and numbered list.

Bulleted lists highlight a set of components, items, or ideas.

Numbered lists highlight a sequence or amount of components, procedures, items or ideas.

In addition to the advantage of breaking up information on the page, list elements are isolated by surrounding white space. This white space lends emphasis and significance to each list item, while visually establishing that list items as related and this connects list items in the reader's mind.

Other List Considerations

When using bullets you should also consider the following design decisions:

- Do not overuse. Too many lists will fragment your text, and you'll lose continuity.

- Be certain a list meets your goals. Lists show relationships between list items (as a set or sequence). If you're not trying to show a relationship, don't use a list.

- No such thing as a list of one. You need at least two items to make a list, preferably three.

- Be consistent in design. Like all other design elements, pick a list format (e.g., type of bullets, spacing, parallel grammatical structure, etc.) and stick with it throughout the document.

Other Design Features

Other design features you should consider incorporating when planning your documents include the following:

- Visuals
- Text boxes
- Lines/borders
- Header/footer

Visuals

Visuals enhance not only the aesthetic appeal of the page, but visuals can provide compelling support to your document through the incorporation of a functional or motivational graphic.

For more information on visuals, see the Visual Design chapter. The remainder of this chapter focuses on visual elements that augment textual elements.

Text Boxes

> Pulling information out of the body calls attention to it.

Text boxes, call-outs, pull quotes, or marginal glosses are a way to highlight specific information. You do this by selecting the information you want in the body of your text and displaying it as a visual element separate from the body of your text.

Different fields call them different things. No matter what you call it or how you format it, when you pull a particular quote or line of text away from the body, it draws attention to the quote and also adds an aesthetic element that draws the reader's eye. And, just like all the other design elements we've discussed, you'll want to decide on the style of your text boxes (i.e., fonts, font size, color(s), boarders, placement on page, etc.), and then stick to those choices.

Lines and Borders

You can also add borders or lines to add visual appeal and another way to help break up information and allow easy access for the reader. If you choose to incorporate borders and/or lines, think carefully about the design you will use. Borders and lines command your readers attention. Stars or other cute borders (e.g., paw prints) are generally not appropriate in a business environment, but a simple border may well be a good design decision.

Lines or horizontal rules provide a way to help break up information and can function as a divider between major (or even minor) points. Horizontal lines can be used to complement heading, as long as you use them thoughtfully. Using lines with headings draws added attention to the change of topic, and amplifies visual appeal.

Headers and Footers

Figure 7 provides a visual example of a header and footer.

Headers and footers represents the placement of information that you want to appear on every page of your document.

MEETING REPORT 7

Date: 30/03/2014 **Start Time:** 15:00h **End Time:** 17:00h **Place:** Groep T

Absences/Apologies:

Agenda

- Discussing and divide activities to be performed by each member in coming ester vacation.
- Discussing about ssv2 and its model.

Minutes

Group leader discussed the points and briefing which was told by the coach about SSV 2. As it was before ester holidays, all the tasks were divided for the ester holidays. SSV Part 2 model in detail was discussed, about the construction, its detailing, and solid works, 2d design.

Member Name	Activity
Praveen Saragadam	Design SSV/2d design
Sanjay Kandukuri	Analytical calculation/solid works
Anjali Nedunuri	Reports / Design SSV
Surendra Botu	Analytical Calculations
Anoop Nuka	Design SSV
Chaitanya Ketha	Analytical calculation

Weekly Progress Report:

All the tasks given in last week were successfully completed, and ssv2 was also started.

Figure 7. Running Header and Running Footer

Your page numbers will be in either a header or a footer, but you can include other information as well: company name and/or logo, date, revision number or date, title of document, client name, etc. Including this information on every page helps your readers keep track of which document they are reading, and where they are in the document. Headers and footers are especially effective in longer documents.

Document Design Versus Visual Design

This chapter has focused on the ways you can visually enhance, augment, or emphasize the text of your professional documents. As you've seen, the way a document is shaped, styled, and designed for audience accessibility all directly relate to how rhetorically effective or persuasive that document will be. In the next chapter, you will be exploring elements of visual design and principles for creating and incorporating visual supplements (like tables, graphs, charts, etc.) in these documents to further increase their appeal. It's important to remember, however, that the medium of professional and technical documentation is a visual one—even if it's just words on a page— and that the small choices you make about margins, font, and white space can make a big impact on how well your work is received.

Exercises

1. Find at least two examples (good and bad) of the following document design categories, and discuss the reasons why one is more effective than the other. You can look for sample documents published on the web, or at the websites themselves (they are PTC projects, too). You may not find all of the design elements listed for each category, but try to find as many as you can. And as you think about the reasons for your opinions (good/bad) of the designs you find, keep in mind audience and purpose.

    a. Shaping the Page
       i. Margins, White Space (or lack thereof), and/or Grids
    b. Styling Words
       i. Fonts, Sizes, Emphasis, and/or Capitalization
    c. Accessing Information
       i. Headings and/or Lists
    d. Other Features
       i. Visuals, Text Boxes, Borders/Lines, and/or Headers/Footers

Chapter 5
Visual Design

As discussed in Chapter 4, there are two major categories of design PTC professionals need to be familiar with. Document design refers to the rhetorical choices that make a document visually appealing, which include shaping the page, choosing appropriate and accessible fonts, and organizing the text in a usable, inviting way. This chapter discusses the basic elements of visual design, presents multiple types of visuals for consideration, and explains how you go about incorporating visuals in a text document as well as why this might be a good idea. To conclude, this chapter offers some questions to consider when designing or using visuals related to ethics in the field.

Visuals and Graphics

Contemporary tools and technology allow you to present data to your audiences in visually appealing ways using tables, charts, graphs, and illustrations. Building these visual representations has never been easier, and the impact of visuals on your audience is substantial. Microsoft Word, and other word processors, have built in functions that will create tables, graphs, and charts, as well as insert illustrations. Spreadsheet applications, including Microsoft Excel and Google Sheets, allow you to input data in a spreadsheet and then convert that data into visualizations such as bar graphs or pie charts. Online document design applications, such as Canva, provide hundreds of templates that combine images with text to produce projects such as infographics, logos, and newsletters. As you can see, visuals often can be created using simple interfaces, drawing and editing tools, and templates. This chapter will develop your understanding of when and how to deploy visuals, so you can integrate them successfully in your work.

Using Visuals

Why add visuals? Visuals are more interesting than text. Text is abstract and reading requires extended concentration. It takes time and effort for readers to follow a textual message. Visuals, on the other hand, are immediate and viscerally engaging. This visceral appeal is a key aspect of what makes visuals so useful, even in professional and technical writing. Readers get the message quickly and directly, engaging with the information both logically and, to varying degrees, affectively. Remember, even colors and shapes suggest mood. Visuals present data to your audience for quick access and interpretation in a tidy, eye-catching package. Visuals are interesting. As discussed in the Design chapter, your audience often is reading not because they want to, but because they have to. Anything you can do to increase the audience's interest, focus, or comprehension would be appreciated, and an appreciative audience is more favorably inclined toward your document.

However, like the textual design elements, visuals should be used thoughtfully and sparingly. Not only will the impact of the visuals be diminished through overuse, but your document may seem to lack deep analysis or critical thought, more like a comic book than a technical report. Think of visuals as the life of the party; they're exciting, but they can get really annoying after a while.

Visual Design Decisions

When you are making design decisions regarding visuals, you have two decisions to consider:

- What type of visual will be most useful and appropriate for your audience?
- Where will the visual be most effectively placed to serve your purpose?

You'll notice that designing visuals presents you with a smaller PAD rhetorical situation. To make an effective visual, you will need to know what purpose it serves based on the needs of the audience; then, you can design the visual. As you consider purpose and audience, keep in mind that the same data can accomplish different purposes for different audiences depending on the visual design you choose. For example, if you have data that describes the environmental impact of runoff from commercial farming, an audience of technical experts might want to see a table or line graph describing the amounts of different types of runoff over time, but a lay audience might benefit from an infographic that visualizes the sources of runoff in different seasons. Same data, completely different visuals to suit different audiences' needs.

Integration of Visuals into Your Text

Norms for integrating visuals generally are consistent for all types of visual elements. Prior to a discussion of different types of visuals and what they do, you'll want to know how to include visuals in your document.

Visuals should be named based on type and with a number that corresponds to their position in the document—e.g., "Figure 1" or "Table 4." When naming figures and tables, start with "Figure 1" or "Table 1," and then count up for each additional figure or table. Depending on your document conventions, you may number figures and tables sequentially throughout the entire document, or you may start over at "1" with each new chapter or major section. Note that while naming conventions generally distinguish between figures and tables, everything that's not a table usually gets labeled as a figure.

To integrate a figure/table into your document, you must observe the following conventions:

- Introduce a visual by name and refer the audience to a visual in the body text—e.g., "(See Figure 1)" or "Figure 1 illustrates…"

- Supply a full explanation or interpretation of the information a visual represents or communicates in the body text after introducing the visual. A full discussion of the visualized data is necessary to fully integrate a visual into a document.

Introducing a visual by name and description should happen before you present the visual whenever possible. You shouldn't ask your audience to go back and find the visual after you have described the information it presents. The audience should be able to refer to the visual while reading your interpretation. However, you can introduce the visual, provide the visual, and then continue in your explanation or interpretation of the visual after it has been presented.

When you are ready to place the visual in your document, note the following label convention:

- Label the visual with the name and a caption above or below the table/figure—e.g., **Figure 5. Ratio of cuteness to fluff in baby bunnies.**

You can put the label (name and caption) above or below the visual. These labels will have a consistent typographical style in your document—e.g., **body text font, bold, 10pt.** You also may need a citation under the label, if the visual came from another source. See Figure 1 as a guide for labeling visuals.

Figure 1. How to label visuals.

The work you do to standardize the integration of visuals in your document organizes visual elements within the larger project, and ensures that references to visuals can be added easily to an Index of Figures or Table of Contents.

In discussing how to integrate visuals, you've seen that the text and the visual work together in a document to add depth to your audience's understanding of your information. However, each visual should be intelligible and useful if it were to be examined alone. For each visual you design—before you integrate it into your document—ask yourself if, on its own, the visual stands up as:

- An accurate representation of the data/information
- A thorough representation from which conclusions may be logically drawn

If the visual you have made passes the above test, it can be added to your document for the benefit of the audience.

Types of Visuals

Knowing which kind of visuals to use is as important as knowing when to use them. The most common types of graphic visual aids may be grouped into five different categories, each with its own unique purpose:

- Tables
- Graphs
- Charts
- Illustrations
- Numerical Equations

Tables

Tables allow you to display and compare data in an efficient, compact format that is organized and easy to read. Table 1 supplies a company's sales, overhead, and profit over a period of ten years.

The information in Table 1 represents a decade of information about three different data points, and puts those figures in conversation with each other, allowing the audience to draw some quick conclusions about financial trends within the company. The body text of the document in which this table would be included would explain the data and conclusions in more detail, but the key information may be gleaned with a glance at the table.

Table 1. Profit Margin, 2010–2018

Year	Sales ($)	Overhead ($)	Profit ($)
2008	180,500	50,500	130,000
2009	250,000	62,000	188,000
2010	258,000	64,000	194,000
2011	399,000	84,000	315,000
2012	423,500	88,500	335,000
2013	424,000	89,000	335,000
2014	423,250	88,000	335,250
2015	399,000	90,000	309,000
2016	323,000	89,000	234,000
2017	313,500	93,000	220,500
2018	305,500	85,000	220,500

Effective tables should:

- Display exact quantities of data clearly and accurately
- Display descriptive column and row labels
- Present multiple variables
- Compare sets of data to each other

When deciding whether or not to use a table, consider that tables supplying too much data are not effective. Tables put datasets in conversation. If you have too many conversations—too many datasets—in a table, your audience will lose track of what's being said.

Also, make sure that the information displayed is clearly labeled both within the table and in the caption. Without proper labeling, tables are just a meaningless assortment of letters and numbers.

Graphs

Graphs allow you to display the relationships and interactions between multiple variables. Graphs have horizontal and vertical axes that display these variables: the horizontal axis (x-axis) displays the categories to be compared (independent variables), and the vertical axis (y-axis) acts as a baseline, displaying the range of values for comparison (dependent variables) or a measure of the categories.

As with tables, graphs need to be titled, captioned, and cited (if applicable). The name of a graph should be “Figure 1,” or whatever number is next in sequence, so that you can refer to the information within your document. The two most common types of graphs are line graphs and bar graphs.

Line Graphs

Line graphs typically display the relation between variables over time. In Figure 2, notice that the x-axis is in years. Time is a common set of independent variables against which the dependent variables on the y-axis are compared. Line graphs generally do not display exact values very well. The audience must estimate the exact values by approximating the position of the line on the x- and y-axes at a given point. However, line graphs display trends in the data over time (or other independent variables) more effectively than bar graphs.

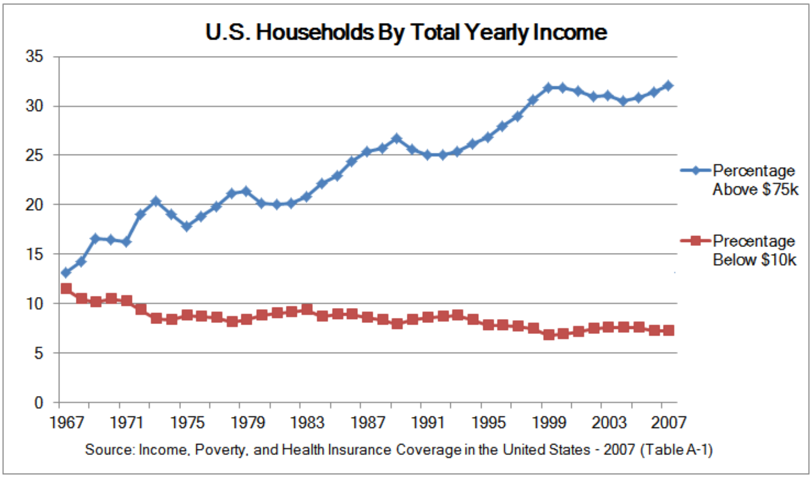


Figure 2. Sample Line Graph

Bar Graphs

Bar graphs display the values of multiple variables and are well-suited for comparing variables to each other along an axis of independent variables (See Figure 3). Like line graphs, the exact values at specific points on the bars must be estimated, but bar graphs effectively represent comparisons between groups or between groups over another variable, like time.

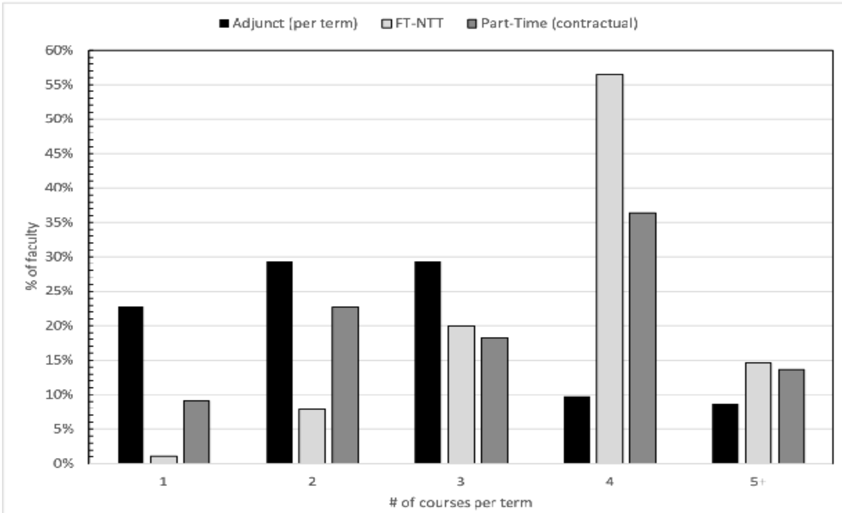


Figure 3. Sample Bar Graph

Keep in mind that there are many line and bar graph formats and styles to choose from. The right one for your document depends on the variables you need to represent and the desired appearance of the graph.

When designing a graph, ask yourself:

- Who is my audience?
- What do I want my graph to say to them?
- Which type of graph will be the most effective at conveying the data?
- How should that graph look?

Do some research, look at examples, and select the graph format and style that best suits your data and your audience's needs.

Charts

While graphs let you see how variables interact with each other, charts allow you to visualize relationships of individuals parts within a whole. There are a variety of charts to choose from depending on your purpose.

Pie Charts

Pie charts (See Figure 4) are easy to interpret and visually appealing, but do not display complex dynamics well. They visualize ratios efficiently, but they can reduce complex issues to percentages of a single variable. If you have one variable and you want to show ratios of the variable, a pie chart may be the right choice. However, always consider whether the pie chart oversimplifies the issue or condition being presented by highlighting only one variable, and then consider whether the oversimplification renders the data in the chart misleading.

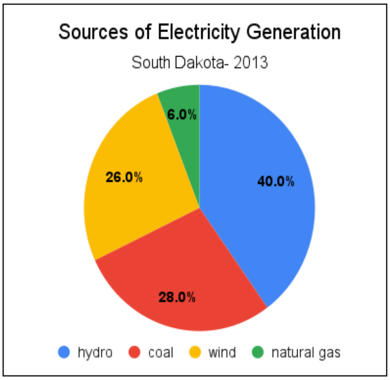


Figure 4. Sample Pie Chart

When designing pie charts, you also need to consider color and texture. The effectiveness of the visualization depends on the ability of your audience to easily identify parts of the whole. Consider whether the pie chart will be printed in black and white or color, and whether you will need to add texture or grayscale to ensure that all pieces of the pie are clearly visible.

Effective pie charts should:

- Display the exact percentages for each segment
- Add up to 100%
- Include at least two segments (charts may become overly complex if you include too many segments)

Organizational Charts

Organizational charts divide things, such as organizations, into multiple parts of the whole, however, unlike pie charts, the organizational chart can show relationships between the parts. For a typical business setting, the top of an organizational chart would contain the president or CEO of a company and the bottom would contain the lowest level employees, displaying a hierarchical structure (See Figure 5).

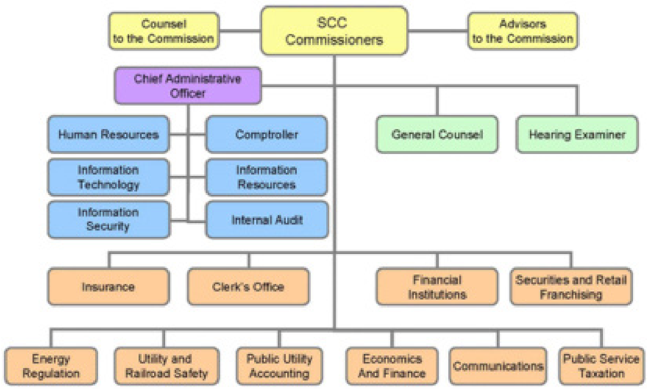


Figure 5. Sample Organizational Chart

Flowcharts

Flowcharts typically describe a process from start to finish, accurately displaying things such as algorithms and workflows(See Figure 6). You probably have seen many of these throughout your lives. Flowcharts are frequently used to display multiple possible decisions and outcomes as part of a process. A flowchart is deterministic or causal—that is, the choice made determines the response.

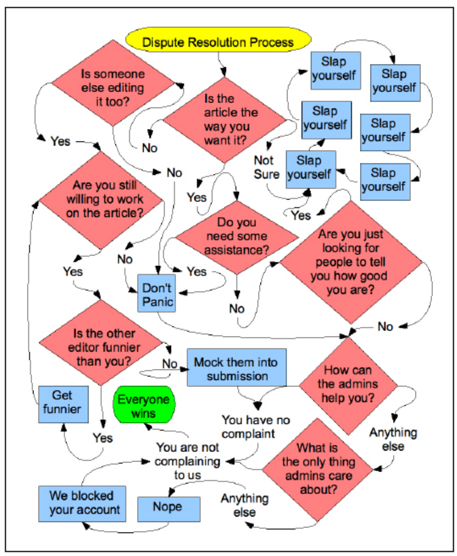


Figure 6. Sample flowchart

Tree Chart

Tree charts (See Figure 7) are like flow charts in their illustration of processes, but where flowcharts are deterministic or causal, tree charts, or decision trees, visualize probabilities or cost/benefit relationships. Tree charts illustrate conditional or joint probabilities based on a thread

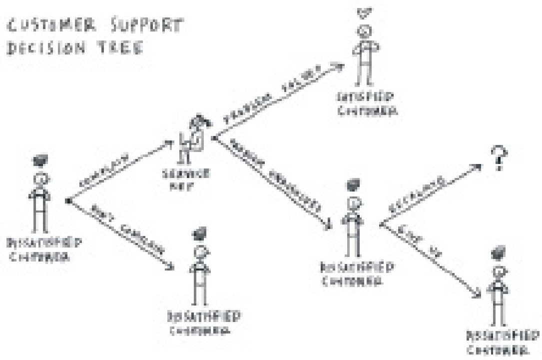


Figure 7. Sample Decision Tree

or stream of choices. Tree charts can be used to strategically make decisions and assess the probability of multiple outcomes.

Gantt Chart

Gantt charts (See Figure 8) are used to display a process as a function of time. Gantt charts map out the total amount of time to be spent on a process or project, and then break that time up into segments that visualize specific tasks to be completed during specific time periods along the project timeline.This type of chart displays the steps needed to complete a project, allocates the amount of tim-

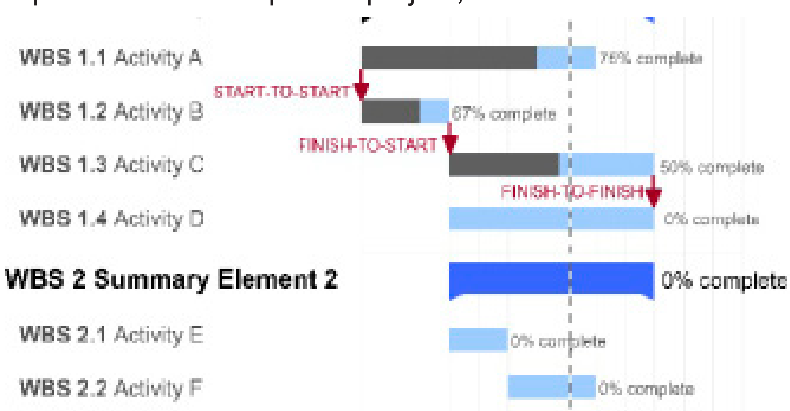


Figure 8. Sample Gantt Chart

needed to complete each step, and represents both concurrent and consecutive tasks. Gantt charts are useful in project management and proposals. If you have used Google Calendar or a similar digital calendar system, then you have turned your life into a Gantt chart.

Illustrations

Illustrations allow you to show your audience representations or depictions of places or objects. By using illustrations in your documents, the audience can better understand the relationship between the appearance and information. For example, a labeled illustration of a bunny a) points out the location of its little nose; and b) identifies that the nose is the seat of bunny cuteness, as you are discussing in your cute report. The bunny illustration, therefore, augments your report on the cuteness of bunny noses by allowing the audience to not only understand the information in your text, but see it for themselves on the bunny illustration.

Because of this relationship between information about an object and an illustration of the object itself, you will want to consider the following when designing an illustration:

- What medium will this document be published in?
- How does this medium affect your illustration?
- Will the document be available to the audience in color or black and white tones?
- What type of illustration should I use?

These questions ask you to consider the type and scope of illustration appropriate for your document. To "illustrate" something simply means to "demonstrate" or "show" it, and you can illustrate information using many different types of illustrations. Below are some common illustrative visuals you might consider:

Pictograms

Pictograms (See Figure 9) are pictures or icons that stand for words or phrases. Pictograms for a non-technical audience makes information and/or data more accessible and appealing. Pictograms also

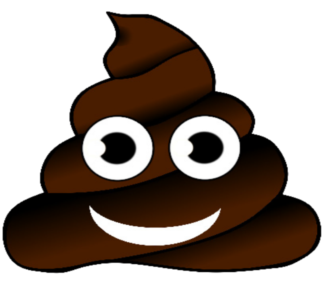


Figure 9. Sample pictogram

can resonate with multicultural audiences. An apple icon communicates “apple” clearly and to many different cultures. That’s why pictograms often are used in infographics, on street signs, and in any number of different types of public communication. However, pictograms can be misleading if the picture is unclear, or if a target audience identifies an icon as something other than you intended. It’s also possible that a picture or icon could be mean different things to different audiences, and this could lead to offense. To mitigate these risks, you will want to choose your pictogram carefully, and include a key when appropriate, so all your readers will understand the data being presented.

Photographs

Photos are useful for displaying how something looks in real life (See Figure 10). They give the audience vivid representations of places, living things, or objects. The photographs you provide should show the subject of the photo from a perspective and/or in a context that is most relevant to your work. Try to give the audience a realistic and useful view, and make sure you crop the photo to eliminate any unnecessary details. You may wish to add labels to the photograph to point out important details. It may also be helpful to include a familiar object in the frame to give your audience a sense of scale. If the image is not your own, you will need to obtain permission from the owner, and make sure the image is cited properly.

Figure 10. Sample Photograph of Bunny Nose

Maps

Maps (See Figure 11) display relative positions, locations, and relationships between physical locations or among an array of data.

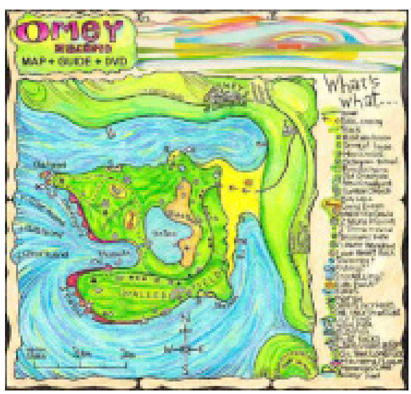


Figure 11. Sample Map

Two important factors to consider when designing maps are a) resolution; and b) keys. When you are integrating a map into your document, you will need to be sure that the map is large enough and of sufficiently high resolution to ensure legibility for your reader. You also will need to provide a sufficiently detailed key to the map to ensure that your readers can identify relevant information. A scale may also be necessary to communicate relative distances.

Schematic Drawings

Schematic drawings, such as blueprints and wiring diagrams, are useful for depicting complex systems in a simplified, easier to understand manner (See Figure 12). This type of illustration helps to display the arrangement(s) of internal mechanisms within complex technologies.

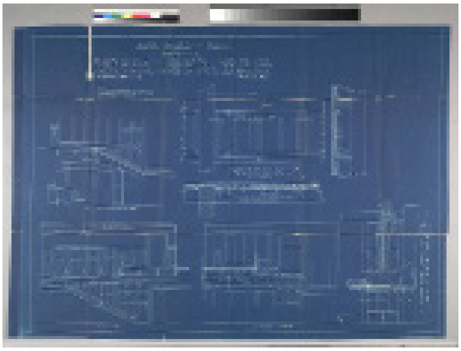


Figure 12. Sample Schematic

Diagrams

Diagrams present a schematic representation with highlighted elements of structure, appearance, and/or mechanism (See Figure 13). Exploded diagrams include cutaways that show the interior of the place or object within the diagram, giving the audience a more in-depth portrayal of its structural features and internal workings.

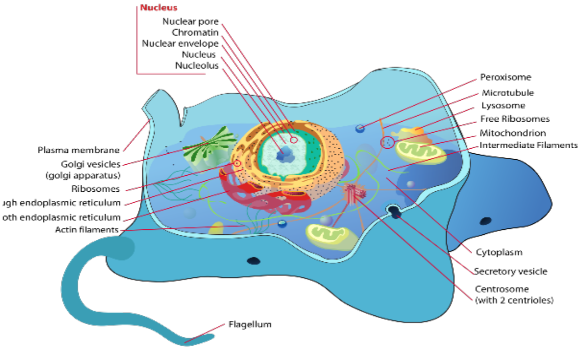


Figure 13. Sample Diagram

Clip Art

Clip art describes readily available, pre-made digital illustrations of simple design (See Figure 14). Stock photos are not usually included in the clip art category. Clip art was developed to provide a wide range of general purpose subjects and styles in multiple file formats. They are easy to find and use, and, for the most part, generic and indistinctive. Because clip art tends to commonplace, its use will not distinguish your document as unique or visually innovative. However, clip art has its advantages. Often clip art is free. It's easy to find clip art images that are not associated with licensing restrictions. And the neutral and/or conventional characteristics of these images may be effective for a broad range of general audiences. If you want a unique, distinguishing, or highly engaging visual, you probably don't want to consider clip art. But if you are looking for a quick, readily accessible, and generally recognizable image, clip art may be worth a look.

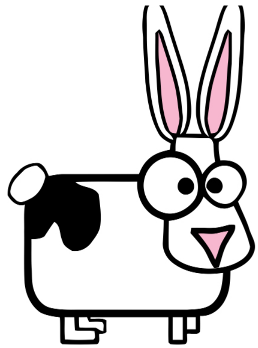


Figure 14. Sample Clipart

Numerical Equations

Visuals of numerical equations illustrate calculations (See Figures 15 and 16). Showing your math can support or validate your conclusions drawn from your data. Visualizing equations also can represent to your audience how to perform complex calculations.

Equations and calculations should be placed within the document in the order that they would be performed, and calculations for engineering should include the following:

$$x = \frac{1}{2}at^2 + v_0 t + x_0$$

$$x = \frac{1}{2} \cdot 4 \cdot 1.5^2 + 3 \cdot 1.5 + 5 = 14\,\text{m}$$

$$M = A_s f_y\left(d - \frac{a}{2}\right)$$

$$a = \frac{A_s f_y}{0.85 f_c' b}$$

$$a = \frac{0.62 \cdot 60}{0.85 \cdot 4 \cdot 12} = 0.912\ \text{in.}$$

$$M = 0.62 \cdot 60\left[21.81 - \frac{0.912}{2}\right] = 794\ \text{in.-kip}$$

Figure 15 (left) and Figure 16 (right). Sample Equations

- Information required to perform the analysis or design (i.e.

drawings, material information, design criteria, etc.)

- Problems and solutions organized to be read from the top to the bottom of the page
- A summary of the solution

For more complex equations, as when equations exist within equations, show both equations first, and then repeat the second equation with values substituted. The source or sources for the equations must be cited, if they are not your own.

Lastly, your calculations should be detailed enough that your work can be easily replicated by other professionals within your field. Replicability is fundamental to your credibility with your audience.

Infographics

Infographics, like most visuals, represent information in graphic form. However, unlike most of the visuals discussed in this chapter, infographics are notable for their ability to communicate large amounts of information and/or thematic concepts (See Figure 17). A single infographic can convey a significant amount of data, represent data patterns and relationships, and identify changes in variables over time or in space. Further, infographics often are highly visually appealing and frequently create visual narratives that make engaging with infographics even more enjoyable for an audience.

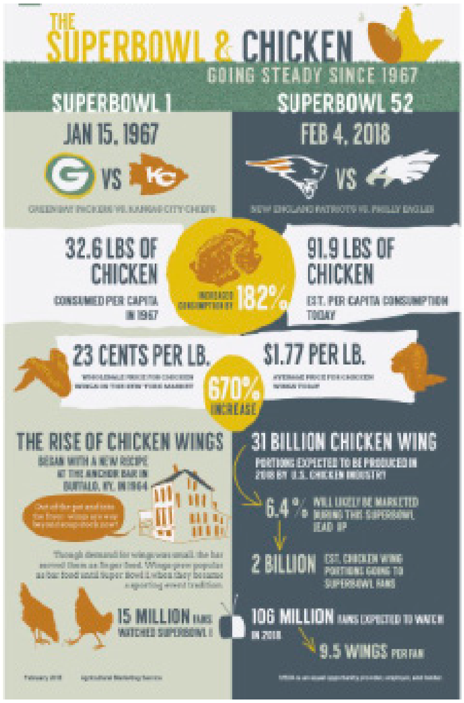


Figure 17. Sample Infographic

However, infographics can be visually challenging. Because of the volume of information infographics can present, and because infographics include engaging visuals and textual information, "reading" an infographic can require as much effort as reading text. They also tend to be vibrantly colored and employ symbols and icons to signify variables, so they can present to your audience like a picture book. Not every audience will appreciate being asked to read a picture book. Further, while infographics can tell dynamic stories with data, those stories tend not to be very nuanced. In general, infographics are more useful for general audiences and broad concepts, but not appropriate for highly technical information or complex interpretations.

Infographics use words, numbers, and pictograms, and can incorporate photographs, or other types of visuals, as well. In general, infographics

- Create a strong visual narrative

- Focus on impact over depth of analysis
- Incorporate other forms of visual communication (i.e. graphs, charts, pictograms, etc.)

Infographics are well-suited for mass communication and quick dissemination of information because they make a strong impression on the viewer. They often are used in emails, posters, flyers, and many other types of communication situations that call for general and memorable information. Infographics can be very powerful communicative tools, but, when creating an infographic, you'll want to avoid these common pitfalls:

- Including too much information (excessive or unnecessary context or data, research methods, etc.). When infographics become overly busy, their impact is compromised.
- Not being creative enough. Remember that infographics rely on vibrancy of their visual storytelling elements (i.e., pictograms, colors, theme). If your infographic is not visually dynamic, it will not accomplish its purpose.
- Using an unappealing or irritating color scheme. The color story of your infographic is essential to its affective appeal. Make sure the colors you use draw the eye and complement the overall theme.
- Misrepresenting the data. Make sure the data you include in the infographic is both accurate, and that it actually supports the point the infographic is working to make. Do not take data out of context to tell your story. And make sure all data is cited.

Ethics and Visuals

Your document addresses a real-world problem—a thing that is happening or will happen in the world. In your effort to deal with the problem, you, or a team of you, collect data—probably, a lot of data. As you sit down to write, it occurs to you that visuals might help your audience understand the problem and/or solution better. So you select a dataset and create a visual. Think about what you've just done: You have taken a tiny subset of data from a very large data set and blown it up into a visual that physically dominates the page on which you put the visual, and takes up significant space in your document when you describe it. All the rest of the unvisualized data is there—it's included in the report and informs your analyses, interpretations, and recommendations—but unvisualized data is not going to be nearly as memorable or significant when your audience thinks back on the document. Datasets that are visualized are far more significant to your audience than data not visualized. Datasets that are visualized become representative of the whole dataset. Visuals are a part of the dataset that speaks for the whole.

While this synecdoche (a part representing the whole) of information may not be intentional, it is an inevitable consequence of using visuals. It's important to know that a visual, taken on its own, flattens, reduces, and oversimplifies the complex problems we gather data to describe. This fact becomes even more disturbing when you consider that data often describes people and real-world situations. By extension, then, a visual reduces people to numbers, to data, and then, by making a visual using some data but not other data, you make some people more significant than others.

But data can be used to do more than misrepresent. Data can cause harm. Data justice "examines the intricate relationship between datafication and social justice by foregrounding and highlighting the politics and impacts of data-driven processes and big data." (https://datajusticelab.org/about/)

In more lay terms, data justice places critical emphasis on the role that data (and data gathering) play in institutional and organizational decisions that can impact individuals and communities in negative ways. For example, data is often used to sort groups of people and attach labels to them that are unjust and unfair. An example in higher education is when scores from standardized tests are used to determine where students are placed. This data reduces a person to a score that does not take into consideration the individual's social and cultural context. Placement based on these scores is reductive, incomplete, and unfair. Ethical considerations of data are more than simply ensuring that one does not misrepresent the data. Rather, ethical considerations of data justice involve thinking through issues of data discrimination, data colonization, labor's impact on data gathering and maintenance, issues of surveillance, algorithms, and many other considerations.

In short, even something as innocuous or everyday as a report that highlights mental health cases on campus (as one of the examples show) can be used in ways that do more harm to minority or at-risk groups than good. Any use of data for visualizations should start with questions such as, “Am I representing the data accurately?” but also, “How am I representing or ephasizing others?”. You must know that visuals, no matter how accurate, are incomplete, and can be unfair and unjust. You cannot represent all the complexity and nuance of real-world problems impacting real-world people with a few variables, some lines, and a little color. And you can harm specific groups or people if you have not thought through all the implications of your visualizations.

That doesn’t mean that you shouldn’t use visuals. It does mean that, as a professional and technical writer, you are obligated to consider closely and take responsibility for the ethical implications of your use of visuals.

A few things to keep in mind when designing and incorporating visual aids in order to maintain the highest level of integrity and credibility with your audience:

- Provide the audience with context for each visual aid you incorporate so that the information will not be misunderstood

- Include all relevant information, even if it the data contradicts orweakens your interpretations, analyses, or recommendations

- Avoid distorting your image to add emphasis; be sure to accurately display all data based according to the parameters and conentions of the visual you design

- Make sure that the visuals you use do not misrepresent the data or the context to which they apply

- Cite all data, evidence, and/or information you have borrowed from other sources

Recommended Reading

Dragga, S., & Voss, D. (2001). Cruel pies: The inhumanity of technical illustrations. Technical Communication, 48(3), 265-27

Exercises

1. According to U.S. News and World Report[1], the Engineering department at the University of South Florida (USF) has over three times the amount of male students (76%) than it does female students (24%). Of the 1,126 students, 856 students are male and 270 students are female. In order to increase the diversity at USF, the alumni and deans of the College of Engineering have asked for proposals on how to increase the female engineering population within their college. Your assignment is to use this data as well as other information from the links provided below and your own research on the topic in order to create a proposal that accurately does the following:

a) Identifies and contextualizes the problem for the audience

b) Attempts to find a solution to the issue

c) Incorporates visual aids to more vividly depict data

d) Persuades your audience that this solution would work and supports your claim(s) with evidence

2. Explain the following: Why would my proposed solution work to solve this issue? What data does the audience need to understand my argument? How can this data be best displayed through visual aids? How can I ethically present the data to my audience?

1. U.S. News and World Report, University of South Florida Engineering School Overview. https://www.usnews.com/best-graduate-schools/top-engineering-schools/university-of-south-florida-main-campus-02048/21775470034_control

Chapter 6
Ethics in Professional and Technical Communication

"Writing ethically entails developing habits of paying attention to the relationalities of becoming and always entertaining the possibility that 'what everyone knows'—and what you believe—might be wrong"

-Marilyn Cooper

The study of ethics is of broad and far-reaching interest to many disciplines, including philosophy and law. For purposes of professional and technical communication, the intersection of PTC rhetoric and ethics occurs when the necessity for action intersects the consequences of those actions. If rhetoric is a function of what we do to achieve a purpose for a specific audience, then we must accept that everything we do to communicate to our audience—what we say, how we say it, who we say it to, and what we choose not to say—impacts people. The decisions we make that impact other people are ethical decisions, and, as writers, we must take the responsibility for our ethical decisions very seriously, because real people and real consequences are at stake.

As you have learned, professional and technical communication may be characterized by its call for practical action. Because professional and technical writing is designed to have a real impact in the world, the ethical decisions made by professional and technical writers are particularly weighty.

From the initial conception of a document, professional and technical communicators make ethical choices. While the ethical complexities of each document vary, ethical decision-making is always a factor of document creation—for example, selecting which skills to include on a resume, drafting company memos concerning employee behavior, or making a recommendation in a report. The impacts of these decisions are real. Using the PAD mnemonic, you can begin to approach ethical issues in PTC. These issues often have to do with consequences, access, inclusion and exclusion, and power.

Purpose

Some ethical implications of document purpose include the following:

- What larger purpose or outcome does the document serve?
- How does the document goal affect other people and policies?
- What short- and long-term effects might occur as a result of the document?

Audience

Some ethical implications of document audience include the following:

- Who are you including/excluding from your audience?
- Are you stereotyping or otherwise generalizing your audience?
- Are you marginalizing or otherwise disempowering your audience?

Design

Some ethical implications of document design include the following:

- Does your document design lead to misleading, misunderstood, or mistaken conclusions?

- Do your data, interpretations, visuals, etc., mislead, misrepresent, or manipulate the audience?

- Have you designed your document for maximum accessibility and usability for all of your audience?

It is important to note that you almost certainly will not find yourself adrift, making complex ethical decisions on your own. You will likely have guidance from your organization or your team to help you negotiate ethical issues. Your ethical decision-making most likely will be informed by the following:

1. An existing code of ethics developed by your field or profession

2. An ethical code developed by your organization

3. Societal norms of ethics

4. Your personal ethics (often, what you deem to be right and wrong)

Ultimately, thinking ethically about PTC serves to make sure that the best possible good is done for the most number of people. It is possible that you may be in a situation where your organization's ethics and your own are in conflict. In these instances, there are no guidelines or checklists to follow. Rather, you have to use some of the same rhetorical skills we've been asking you to consider this term. That is, you have to examine the situation and then make a decision based on what is best for all involved. There are no easy answers and many ethical considerations in the workplace, particularly around writing and communication, fall into a gray area dependent on the situation.

In order to evaluate an ethical situation, you need to take into account specific human acts, such as means, motives, and consequences. When you are drafting a document, if you are asking yourself questions like these, you are on the right path:

- Can you put yourself into someone's shoes (e.g., a subordinate, supervisor, the general public, etc.) and see a situation from another angle?

- What aspects of other people's points of view are at odds with your organization’s or your own stance?

- Who are you excluding or marginalizing by adhering to your organization’s or own point of view?

- What options are available to balance multiple points of view?

For more information about specific ethical concerns, see “Accessibility,” “Usability,” “Audience,” and “Design.”

Work Cited

Cooper, M. M. (2019). The Animal Who Writes: A Posthumanist Compostion. University of Pittsburgh Press.

Exercise

Below are names of four professional and technical organizations. Look up the code of ethics for each of these organizations:

Institute of Electrical and Electronics Engineers (IEEE)
Society for Technical Communication (STC)
International Association of Business Communicators (IABC)
Association of Teachers of Technical Writing (ATTW)

Look at these four examples and discuss similarities and differences between them. Pay special attention to words and ideas they have in common, as well as to explicit and implicit statements that pertain to professional writing. Can you characterize each organization's attitude about ethics in professional writing?

Chapter 7
Usability

Examples of poor design are easy to find. Consider these examples below:

Figure 1. Sign with a rotating arrow pointing to its destination.
Source: https://gfycat.com/delectableafraiddoe

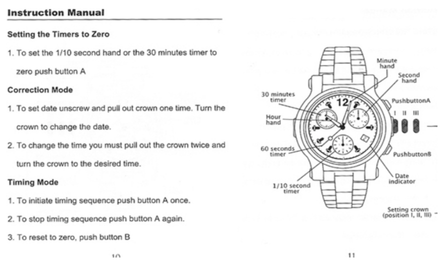


Figure 2. Instructions for a watch.
Source: https://jessicalouisebell.files.wordpress.com/2014/03/renato_chronograph_instruction_manual_1.jpg

Figure 3. Visually chaotic website for a news network.
Source: http://anselme.homestead.com/afphaiti.html

What makes these designs problematic? Users cannot accomplish their goals using the information provided. For example, the goal of the sign is to direct viewers to a restaurant, but the sign rotates, so the arrow directs viewers in a different direction depending on when it is viewed. The lucky viewer who finds the restaurant looks at the sign at the right time, and everybody else is confused and hungry. Clearly, this sign is not *usable*. In other words, if you are the *user* (the person using these examples to complete a specific task), you would struggle to successfully achieve your purpose.

Problems with usability often stem from issues of organization and interface. It's not that the information isn't in the document, it's

“Problems with usability often stem from issues of organization and interface”

that users are unable to find, access or understand the information when and where they need it. Maybe the information isn’t where the user expects it, labels or headings aren’t accurate, content is missing, or, for digital interfaces, links are broken or misdirected. These are all usability problems. And the problem is frustrating. More often than not, unless you absolutely have to use that document or site to get something done, you will seek information elsewhere.

User Experience

Usability is an extremely useful term that focuses attention on users, rather than focusing exclusively on the content or information being provided. To develop your ability to consider usability when you write, keep in mind your own experiences with horrible websites, and how frustrated you have been with usability issues. Usability allows you to consider your project from the perspective of the people who will be interacting with your project, which, as a writer, means that you’re thinking about your project from the point of view of the audience.

Usability is about how easy it is for the user to achieve *their* objective. That is, usability shouldn’t necessarily be about how well users can accomplish the goals you think they should have, but how well they can accomplish their own goals and how they feel about the process of doing so. If you don’t understand the goals of your audience, then you may design something that doesn’t help them achieve those goals, and even if the document may be usable for the goals which you envisioned, it will not lead to a productive user experience.

The takeaway here is that usability isn’t *just* about how easy your writing is to use or understand. Something may be easy to use, but not for what the user wants to do with it. Usability, then, is a nexus between ease of use, audience, and assumed and actual goals. This may sound like usability thus involves too many contingencies for any one person to account for—how could you possibly anticipate everything a user might want to do with your website, or your set of instructions, or your software? To some extent, this is true. You can't plan for every possible contingency. Sometimes, too, the resources aren't available to check with the actual users on these issues until the end of the project. In this case, it falls to you to think about what users' concerns might be and to act as an advocate for them in the design process. Other times, however, you will be able to employ *usability testing* to answer these concerns.

Usability Testing

Usability testing occurs when you engage with the actual or imagined users of your writing to collect data and determine how usable it is and what issues interfere with its usability. In practice, usability is a matter of both development and testing. In other words, for objects and documents to be most usable, users and their needs should be central concerns throughout the design process, from the planning stages through to public release.

In the workplace, however, this can be a difficult target to hit. Some workplaces fully implement user-centered design, which is a design process that brings in real-life users at the development phase. The idea is that including users during the design phase ensures that how a project is used will be "naturally" integrated into the design, rather than something users have to learn to work with or work around later. In user testing, you might ask users to complete some specified tasks (or ask them to use a product to complete their own tasks) and allow them to do so with no extra resources other than the document that you're testing. While this is happening, you observe and take notes, and you might conduct interviews with your participants later to determine what they were satisfied with and where they had issues.

However, user-centered design often is costly and time-consuming, so many workplaces will only incorporate real users in the final testing phase, if at all. In these circumstances, the task of advocating for users often falls to the designers and technical communicators involved with the project. It's then up to you to determine who the users are, what their needs and expectations are, and how those needs and expectations can be met best. It becomes your job to think like a user.

You can consider a variety of elements when you're thinking about usability. The elements you consider will depend on the project, who's using the final product, and recommendations from usability experts that you find most relevant. Of course, if you're conducting usability studies in a real workplace, you'll also be influenced by what the programmers, managers, engineers, accountants, or other co-workers think is important to consider.

For example, usability studies could focus on any one or more of the following elements of a designed object or system:

- Clarity
- Consistency
- Convenience
- Elegance
- Familiarity
- Functionality
- Learnability
- Predictability
- Responsivity
- Skimability
- Simplicity
- Visibility

Here are some questions you can ask to help you incorporate usability principles as you design for specific audiences:

- Who are my users?
- What are my users' expectations for this kind of product or service?

- What are my users’ needs and goals? Why are they using this product or service?
- Can my users’ needs and goals be prioritized? Should the product or service focus on particular needs and goals while still enabling others?
- What prior related experiences do my users bring to this product or service?
- What are my users’ cultural contexts?
- How accessible is this product or service to my users? Might some of my users require accommodations that other user groups may not?
- What are the top criteria by which users will judge this product or service’s usability?

If you are able to involve users in development and testing, you can bring these questions to those users directly. Conduct focus groups, observe users trying to perform specific tasks, and ask for user feedback as you develop the project. Remember, your goal is to design, as well as write, with the user in mind. There are several key things to keep in mind when performing usability testing with actual users:

- You should look to understand user experience, not simply if your writing can be used. Ask participants about how satisfied they were rather than simply if they could complete a task.
- You should be testing the writing, not the users. You will get poor results from your test (and probably upset your participants) if you chalk issues with your writing up to user error.
- You should decide beforehand what criteria you will use to determine success. For instance, you might be concerned with the speed with which a user can complete a task, or you might be interested in how many clicks it takes to navigate to a specific website page.
- You should not interact with your participants or provide them with help or clarification when using the writing. Any interaction

interferes with your ability to assess their actual use of it. They wouldn't have you there to explain things if they were at home using your website on their laptop.

- You should make sure that your usability tests are repeated. It should be easy for a user to recall things about the writing and use it again on subsequent uses. It should be just as easy to use, if not easier, the second and third time.

Ideally, you would do multiple rounds of usability testing. After one round, you would revise your writing and do another round of testing with new participants to determine if the revisions were successful. How many rounds you can do, of course, depends on your available resources, so you want to be as comprehensive as possible in each round.

Whether you are writing or designing—or, most often, you are doing both—you always want to do so with an eye toward usability. Your goal is to ensure a positive and productive user experience—which will help you accomplish the goals of your writing. Thinking in terms of usability means thinking in terms of audience. Even if you cannot perform usability testing, you should continually ask yourself who will use your writing, how they will use it, what their needs and goals are, and how you can make it easier for them to achieve those goals when using your writing. You will want to keep in mind concerns such as cultural contexts and accessibility (see "Accessibility"), which could impact the ways that a user experiences your writing.

Exercises

Find an example website or set of instructions. Develop at least five questions that you would ask if you were the writer of your example and wanted to determine its usability. Then write a short response about whether you think the example is usable or not and why you think so.

Consider this set of instructions for folding paper:

1. Fold the page in half
2. Fold the top right corner down to the bottom
3. Turn the page over
4. Fold the left side to the middle
5. Make a diagonal fold through the center
6. Rotate the page 90 degrees
7. Fold the top flap back
8. Flip the paper
9. Bring the corners together

You'll probably notice that these instructions aren't very usable and that, if you compare your results to someone else, you most likely would have different results. Rewrite these instructions so that they are more usable and so that a user would arrive at the same shape that you did.

Chapter 8 Accessibility

What is Accessibility?

Accessibility is the extent to which a person who experiences disability is able to use something. You probably think of accessibility in terms of designing products that make things easier for people with disabilities (e.g. wheelchair ramps or hearing aids); however, accessibility is an important concern in everything we create, including writing and communication. For instance, a piece of writing could be inaccessible if it can only be read visually, or a set of instructions could be inaccessible if some steps can't be performed by people with certain disabilities. Writing accessibly means thinking about the range of different reader experiences and abilities. An accessible document affords as many different ways of engaging with the material as possible and in as many contexts as possible.

This type of thinking is closely related to universal design or design thinking, wherein designers attempt to create things that are accessible to everybody (disabled or otherwise). Thinking and designing and writing in such an inclusive way has benefits for everybody. Designing with accessibility in mind has the potential to making documents easier for everyone to use. Sometimes, it even leads to innovations that are applicable far outside a design's original scope: for instance, audiobooks, remote controls, and even text messaging were all originally created for people with disabilities, yet are now ubiquitous technologies that you probably use everyday.

Direct and Indirect Access

> *"Writing accessibly means thinking about the range of different reader experiences and abilities."*

When thinking about accessibility in your writing, it's important to keep in mind that there are two different kinds of access: *direct* and indirect. Direct access refers to an accessible development that facilitates unassisted access to a product. For instance, direct access developments would include adding closed captioning to an audio composition to increase accessibility for hearing impaired users, or adding hover capability to links to increase accessibility for color-blind users. Indirect access provides users with assistive technology or ensures compatibility with existing assistive technology. You would be writing for indirect access if you were making sure a website that you create is compatible with existing screen reading technology.

Americans with Disabilities Act

It's important to keep in mind that, though accessibility is an ethical concern that should always be considered, there is legislation regarding accessibility as well. In the U.S., the Americans with Disabilities Act (ADA) prohibits discrimination against people with disabilities and requires businesses to accommodate both employees and customers with disabilities. Many other countries have similar legislation. It's crucial not only from an ethical, but from a legal standpoint to be both familiar with the needs of your audience and the laws that protect everyone's rights to have equal and fair access to anything you write.

Remember that designing for accessibility doesn't necessarily mean designing for one type of disability; it also doesn't mean that you should assume a deficit for people with disabilities. Rather, think of it like this: people experience the world in a multitude of different ways, and have different understandings and experiences based on this. Your design and writing should incorporate the widest possible range of these solutions, so that they are accessible to everyone. This will not only make your communication more accessible, but will make it more inclusive and will help ensure that you are engaging in ethical communication practices.

Exercise

1. You work at a company that has been critiqued for having a website that is not accessible. The website has poor color contrast, it is not fully keyboard accessible, and does not provide text alternatives for non-text content. You have to do the following:

- Decide how to fix these accessibility issues and justify your choices.
- Write a short internal memo to the rest of the company providing your proposed solutions and your reasoning for them—keeping in mind that some of these changes might take significant redesign, investment, or labor hours, and you need to convince others in the company that these costs are worth it.

Chapter 9
Writing Process

Writing is a process. Producing professional and technical writing is no different from any other type of writing. Whether you realize it or not, every person who writes has a unique writing process, and to become a better writer, especially in technical communication settings, you have to understand your own process. The goal of understanding your process is to maximize your productivity as a writer and successfully meet the expectations and deadlines of your organization.

For example, a writer might generate initial brainstorming and drafting questions the old-fashioned way using a pen and paper, then transfer those ideas to an outline with some maps or diagrams. After brainstorming and drafting, she may move to the computer to write an initial draft. At this point in the process, she allots extra time to editing and revising, because her initial drafts are clunky, out of order, and generally a hot mess.

Understanding your writing process, which may or may not be anything like the one above, allows you to efficiently plan the amount of time it will take you do complete a project, or to compress the process into a short period of time, when necessary. Writers who know their process will go through the same steps to complete a project whether they have a month or an hour to do the job.

What you need to remember as you discover your process is that, while every writer's process is different, all writers will go through the same basic steps. And these basic stages go back (again) to ancient Greece. Aristotle broke down the writing process into five stages or canons that can be adapted for the modern writing process:

The Classical Canons

An adaptation of Aristotle's classical canons for modern writers includes the following stages:

- **Invention**: How do writers generate their ideas so that they are most effective for the audience?
- **Arrangement**: What principles of order, structure, or organization do writers use that will lead to an effective text for the audience?
- **Style**: What choices do writers make with sentences and words so the text will be most effective for the audience?
- **Delivery**: How do writers get their texts to the audience on the Internet, with graphics and hot links, and so on?*

Aristotle included an additional canon of **memory** that does not fit neatly within this modern version. In antiquity, the question of memory would address how might writers commit their text to memory prior to delivering it, but most writing today—with the exception of presentations—does not have to be memorized for oral delivery. However, we can adapt this classical canon for modern purposes by placing the memory question as part of the invention process: how might writers tap into the cultural memory of their audience?

Writing Process

Perhaps you can see how the PAD mnemonic complements the rhetorical canons. That's no coincidence. Thanks, again, Aristotle!

Plan (Invention)

- **Purpose:** Ask questions about goals, purpose and organizational context
- **Audience:** Ask questions about audience(s) and knowledge

*Adapted from David Jolliffe, AP ® English Language and Composition Teacher's Guide, ed. Kathleen M. Puhr College Board, 2007

- **Design:** Determine what the final deliverable is and how it will be delivered and make preliminary design about what that deliverable should look like
- **Research:** Gather information and begin to consider questions you need to ask subject matter experts (SME's) or other members of your technical team
- **Schedule:** Find out or set project deadlines and assign preliminary tasks

Organize (Arrangement)

- Outline. Let your design help you
- Formulate a style sheet
- Arrange information. Determine if holes exist
- Assign secondary tasks. Interview or follow-up with subject matter experts (SMEs) or meet again with your team

Draft (Style)

- Write rough draft
- Incorporate graphics and visual aids
- Test (if applicable)
- Review by outside personnel

Revise (Style)

- Edit content, arrangement, logic, and style
- Check consistency
- Request another review
- Check for mechanics, documentation, and style

Publish (Delivery)

Present your work to your audience

Discussing process benefits you any time you have to complete a project.

Knowing your process helps you:

- Approach a large task systematically
- Use a reliable process
- Segment the task in manageable increments
- Make steady progress (while still having a life)
- Deliver an effective product (document or other project)
- Complete the task on time

Comparing the Writing Process to the Engineering Design Process

A production process accomplishes the same purpose regardless of context: it takes a project from ideas to execution, from planning to finished product. Often, then, different processes overlap, as explained below in a comparison of the writing process to the engineering design process (see Table 1).

Table 1. Mapping the Engineering Process onto the Writing Process. Adapted from Holtzapple and Reece, Foundations of Engineering, Boston: McGraw Hill, 1998. 436-455

The Engineering Process	The Writing Process
1. Identify the need and define the problem.	The same concept applies to the writing process. You have to know why you're writing, who you're writing to, and what it should look like.
2. Identify the constraints and criteria for success.	The constraints and criteria in writing are usually answered during the invention at the same time you're addressing PAD.
3. Search for solutions.	Similar to the brainstorming and data gathering part of the writing process.
4. Create a detailed design.	This step corresponds to the actual drafting of the document.
5. Communicate and construct a solution.	To communicate and construct a solution aligns to the review and revision stage and then the publish stage of the writing process.

The purpose of showing the comparison between the engineering process and the writing process is to illustrate that much of the work writers do—no matter what your field is—goes through a series of steps, even if some of them are unconscious steps.

To be able to write effectively on the job, you need to know your own process so that you can move through writing tasks more efficiently and effectively.

The flowchart below (See Figure 1) describes the writing process as a flowchart. Note that the process is recursive, which means that you may have to go back through a step in the process several times before you are ready to move on to the next step. Your process may emphasize planning or it may involve a great deal of drafting. There's no right or wrong way to do it; what's important is that you know how you work. Knowing how you work is how you get work done.

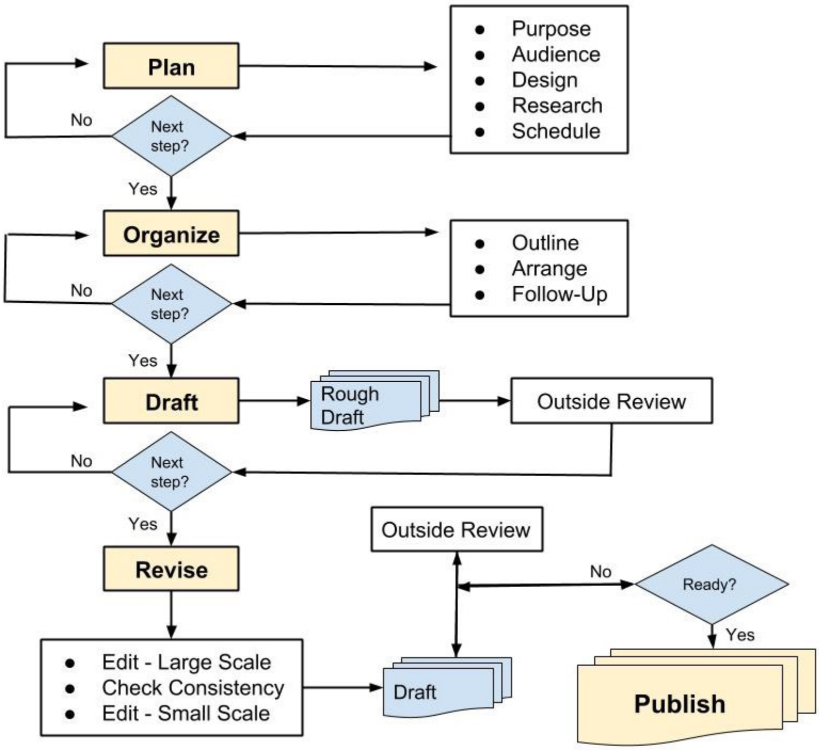


Figure 1. Writing Process Flowchart

Exercises

Think back to the last two or three writing projects you completed—big or small, for school or not for school. For each project, describe as best you can everything you remember about how you completed the project from start to finish. Every single step. Don't leave out behaviors you might wish you hadn't done, like procrastination. Once you have described your process for each of the three projects, look for similarities and differences. What are the similarities? Can you explain the differences (i.e., you had more time or were more interested in the subject matter)?

Based on your analyses of your recent projects, and your experience writing overall, describe your writing process. As the semester continues, return to your description and edit it, as necessary. Your goal is to leave the course with a good idea of your writing process, so that you can have a more productive and positive writing experience in the future.

Chapter 10
Organizing Information

Organizing information may seem easy on the surface, but in fact, it's one of the most challenging aspects of learning to write well, especially when you are designing a long document. How information is organized directly corresponds to how well your reader will understand the information you present.

As part of the writing process, the planning stage is so important because you are developing strategies for how you will organize your information. The structure you design needs to be consistent, but it also needs to be flexible enough to incorporate changes when you realize additional information needs to be added or sections need to be deleted. Organizing information is broken down into two parts:

- Major topics or sections
- Sub-topics or sections contained with the major topics

Organizing Major Topics

The major topics are the primary structure of your document and should be guided by the general form of the document you are creating. For instance, if you are creating a recommendation report, the introduction will include a summary of the recommendation. The next section in a recommendation report includes the background of the problem. Both of these sections are major topics within your report, so your major topic organization strategy will include major sections that correspond to these content areas.

Headings communicate to your audience the structure of your document. Following the structure you have designed for the document, they organize your information and keep the document focused. Big-picture topics then become Heading 1 while little-picture sub-topics are Heading 2, followed by further sub-topics Heading 3 and Heading 4, as necessary.

The size and placement of your headings helps cue your audience to the structure of the document and the importance of the information. You will select the style and placement of each heading as part of your document style guide. For more information about heading design, see the "Design" chapter.

After you know what your document should look like or the general form you will be using, you need to consider the following:

- What are the primary objectives of the document?
- How should the information be ordered based on the objectives?

Most major sections for reports, proposals, specifications, and instructions can have sub-topics or sub-sections that include relevant and necessary, but not vital, information. For example, in a recommendation report, you may have a major section titled "Research and Findings." The "Findings" information is much more important to your audience than the extensive research. You can include most, if not all, of your research, but you need to organize your report so your readers know the research is less important to your objective than your findings.

General forms are flexible enough to account for a variety of variables. For example, the appendix sections of proposals and reports are a great place to put additional information you feel is important, but is not fundamental to the document's objectives. An appendix may be where you include your less important, but still relevant research.

Organizing the major topics of your documents relies on putting the most important information up-front and then providing adequate support that reinforces your important information. The key to major-topic organization is to plan your document and make sure your plan fits your purpose and audience.

Organizing Sub-Topics[1]

Once you have your major topics organized in your working draft, then you need to start working on your sub-topics. To help build good paragraphs, use several strategies to help you organize information:

- Chronological
- General to specific
- More important to less important
- Comparison and contrast
- Classification and partition
- Problem-method-solution
- Cause and effect

Each particular strategy has its strengths and weaknesses; therefore, it becomes your job to know your purpose and audience so that you can choose the appropriate organizational structure.

Chronological

Chronological organization presents a timeline of events. You would describe the events in the order in which they occurred or you may describe the events that led to a particular situation. When you use chronological order, you need to provide signposts like numbers (one, two, etc.), steps, phases, and transitional words in sentences and paragraphs such as “next,” “then,” or “finally.”

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1 The organizational strategies are adapted from Mike Markel’s *Technical Communication*.

General to Specific (Deductive)

As the name implies, you move from the general to specific within your paragraph. General-to-specific strategies are effective when writing to anyone who is not an expert. General concepts are usually one that most readers know on some level. By easing the reader into the topic with familiar information, you can allay their apprehension about a new topic, then move to more specific information. For instance, in describing a process, you would describe the overall (general) process before describing each step in detail (specific).

More Important to Less Important

The more-important-to-less-important pattern is useful when the discussion cannot be organized effectively using a chronological, spatial, or some other similar pattern, or when it is necessary to call the reader's attention to an important point right away. You will often use this strategy when writing technical documents, especially for American audiences who expect that you will state your purpose directly and up front. When you write using this strategy, it is important you explain why one point is more important than another.

Comparison and Contrast

Comparison-and-contrast organization is used to describe or evaluate two or more options. Effective comparison-and-contrast requires that the writer choose sufficient and appropriate criteria of comparison and contrast and then decide which structure to use: whole-by-whole or part-by-part.

Classification and Partition

Classification is the process of placing similar items into larger categories so that they can be understood as a group. Partition is the process of breaking a single entity into its parts or elements. Effective classification or partition requires that you use only one basis of categorization (e.g., criteria or type) at a time, choose a basis consistent with the writing situation, avoid overlap, be inclusive, and arrange the items in a logical sequence.

Problem-Method-Solution

The problem-methods-solution pattern is useful when you want the reader to understand the logic of a project that began with an identifiable problem, proceeded to methods of analysis, and then yielded a solution.

Cause and Effect

Technical writing often incorporates discussions of cause and effect. Discussions can move from cause to effect or from effect to cause. With either forward or backward reasoning, you need to provide answers to the basic question: What will be the effect(s) of Y? and What caused X? You also need to explain your reasoning, while being careful not to overstate your argument. Remember that correlation does not always equal causation. Just because two things happen in physical or temporal proximity does not mean they are related. When you are drawing causal links, make sure the links are actually there.

Exercise

Now that you're an organizational expert, you've been contracted to help a junior associate revise a quarterly report. Read the (very rough) first draft below. When you've finished, rewrite the passage by reorganizing the text. Note any spaces where transitions are needed or could be revised. Pay particular attention to flow of ideas and paragraph breaks.

Sample quarterly report:

This has been a trying time for the Wonka corporation. Despite our new marketing initiative and rebranding of FunDipTM, we are deep in the red. Various Oompa-Loompa union representatives have voiced concerns over the lack of workplace safety improvements. Profits are still in decline for the third quarter in a row. Given our market analysis research, projected sales after the new product release should rival the advent of the Gobstopper! Mr. Wonka has yet to comment on whether or not he will be discontinuing boat tours through the facilities during normal working hours. It's important to remember, though, we're not out of the woods yet. Should a worker strike materialize, however, any shot at a gradual recovery could be totally jeopardized. Things are looking up for Wonka! To combat these threats to our profits and public image, we will be launching a new product series next month. If revenue does not increase dramatically in the next few months, we'll be forced into closing down another factory in the Midwest. The new Wonka (De)Light-Bites offer a healthier snacking option that should help us compete more effectively within the crossover market share. Things are always darkest before the dawn. We are still receiving some bad rumblings in the press about the most recent occupational fatalities involving the chocolate river.

Chapter 11
Writing Style

Believe it or not there is no single, magic writing style. There is also no such thing as good style or bad style because style is the individual way *you write*. While there are some general practices that can make your writing more effective, you must decide when, where, and how to apply them.

You may have heard or been told some “easy rules” about writing style. Two of the more common theories are the CBS (clarity, brevity, sincerity) theory and the 4 C’s (clear, concise, consistent, coherent). While both of these theories provide easy-to-remember mnemonics, their usefulness is rather limited because, by their very nature, they limit style options and reduce style decisions to three or four steps. In practice, style is more complicated than a few simple steps.

Carolyn Rude has written a definition of style that is particularly useful and is a good starting place for style: Style is “the cumulative effect of choices about words, their forms, and their arrangement in sentences.” Her definition is helpful because it emphasizes the choices you make, as the writer. It also emphasizes words and sentences, which is the primary goal of talking about style in this course: to help you to start paying more attention to what you write.

While your style is your own, there are tips and techniques to make your personal style evolve into “good writing.” “Good writing” is effective writing, meaning that your ideas can be understood by your particular audience, for your particular purpose, and in a specific context.

When you are writing on the job, you must pay close attention to what you're writing and how you're writing. To get you started looking at your writing, let's break your writing down into three parts (see Figure 1).

Writing effectively (and ineffectively) begins with words then sentences and then paragraphs. Following are some suggestions to guide the development of your writing style.

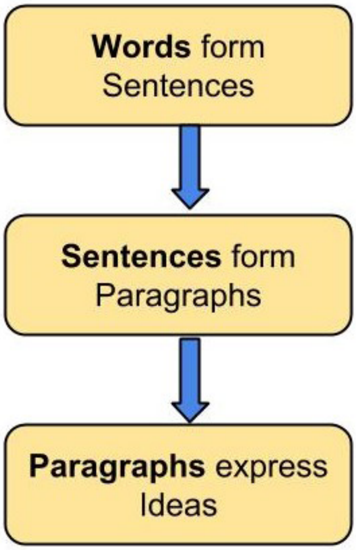


Figure 1. How Words Form Ideas

Words

Word choice is the basis of writing style. Careful word selection is vital to effective communication. Don't be shy about looking up definitions of words to make sure you are using the correct word and using it correctly. Especially when you are communicating to a technical or specialized audience, it's vital that you are using the terms and expressions the audience expects and is habituated to—and that you are using them in the right way at the right time.

Here are some additional considerations when selecting words:

- Use words that are appropriate for and/or familiar to the audience you are addressing
- Use active verbs (See Figure 2, the "Active vs. Passive Voice" infographic at the end of this chapter)
- Use concrete words that draw on the reader's senses and that the reader can experience or relate to in some way
- Put modifiers—adjectives, adverbs, participles—close to the word they modify
- Think beyond what a word denotes (its definition) to what it connotes (how it makes the reader feel, e.g., stubborn vs. persistent; or aggressive vs. assertive)

Sentences

Professional and technical writing emphasizes action—that is, your audiences *do* something with your writing after reading your work. It's important, therefore, to clearly communicate your goal with each sentence. In general, then, you will want to include one idea in each sentence. This is especially true when communicating complex ideas and information. When the level of sophistication of your overarching concept or goal goes up, it's especially important that your individual sentences are simple and direct. Your audience is asked to absorb one idea one sentence at a time, then you can use transitional words or phrases to establish relationships between ideas building toward the larger concept or goal.

Here are some words you can use to establish relationships between sentences:

- Addition: again, also, besides, and, equally important, finally, furthermore, in addition, likewise, moreover, first, second, third, etc.
- Clarification: clearly, evidently, of course, too.
- Comparison: likewise, similarly
- Contrast: after all, although, at the same time, but, however, in contrast, nevertheless, on the contrary, on the one hand, on the other hand, still, yet.
- Exemplification: for example, for instance, that is, thus.
- Result: accordingly, as a result, consequently, in short, therefore, thus, hence
- Summary: in brief, in conclusion, in short, to conclude, to sum up, to summarize.

And here are some additional sentence-level guidelines:

Eliminate wordiness

- Check the end of sentences for words and phrases that are unnecessary
- Look for strings of prepositional phrases

Construct sentences so they emphasize the important information

- Shift less important ideas or information to the front of the sentence
- Put the important information at the end
- Do not bury your main point in a prepositional phrase

Paragraphs

Paragraphs join the individual ideas of sentences together to make a point. Here are some general guidelines for paragraphs:

Paragraphs have points

- One main idea should be developed in each paragraph
- Order paragraphs logically (e.g., from general to specific, known to unknown, etc.—See the "Organizing Information" chapter)

Include topic sentences

- At or near the beginning of the paragraph
- Tell the reader what to expect from that paragraph

Use transitions between paragraphs for unity

- See tips on transitional language in the Sentence section

Make paragraphs cohere—within and between paragraphs

- Link information already presented to new information to show the logical connections between your ideas
- Begin paragraphs with ideas that are familiar to your readers then move toward new, less familiar or more complex ideas
- End paragraphs with a statement summarizing what the paragraph accomplished and identify how the paragraph fits into your larger idea or goal

Common Problems with Style

Writing in a new context—like a new field, workplace, or situation—is daunting. It's hard to write with confidence in your style when you are unsure of the conventions of the context or your abilities as a writer. Practice and experience will help you gain confidence and polish, but, while you are learning the elements of style that make your writing effective, it may help you to watch for these style problems common to inexperienced writers:

- Not enough action
- Too wordy
- Organization problems

Not Enough Action

When everything you write is in passive voice or you've buried your action in a whole lot of prepositional phrases or clauses, your writing lacks action. To combat this problem, take a look at the "Active vs. Passive Voice" infographic at the end of this chapter.

Too Wordy

Writers often end up with wordy sentences when they are unsure of the best way to say something, so they say it several different ways in separate sentences and hope one works. Hedging, passive voice, and extra prepositional phrases also add unnecessary words. Look out for sentences that are bogged down with phrases and superfluous language. Identify the words that absolutely have to be in a sentence for it to accomplish its purpose and dump the rest. For more help with concision, see the Purdue Owl on Concision[1].

Organization Problems

Organizational problems usually are associated either with not understanding the purpose of the document or not understanding what the audience needs. If you don't fully understand the document's goal or outcome, you don't fully understand what the audience wants from the document or how the audience will interact with the document, then you won't be able to effectively organize the information. To help you organize your information more efficiently, see the "Purpose," "Audience," "Design," and "Organizing Information" chapters.

Style Guides

Many large corporations or companies have in-house style guides that will help you make certain decisions—i.e. accepted variations of the company's name, standard abbreviations, placement of logos, capitalization, and information regarding size and placement of headings.

Some companies will use well-known style guides like Strunk and White or the Microsoft Writing Style Guide. Handbooks or style guides help you make consistent decisions about writing and are a ready reference if you get stuck on a technical detail. See the Wikipedia page on Style Guides[2] for a basic overview of style guides and their usefulness.

Following are examples of general style guides:

- Elements of Style[3] by William Strunk, Jr.

1. Purdue Owl on Concision, https://owl.purdue.edu/owl/general_writing/academic_writing/conciseness/index.html
2. Wiki Style Guides, https://en.wikipedia.org/wiki/Style_guide
3. Elements of Style, https://www.bartleby.com/141/

- Microsoft Writing Style Guide[4]
- Chicago Manual of Style *Online*[5]
- Web Style Guide[6] by Patrick J. Lynch and Sarah Horton

Here are some samples of in-house style guides:Wikipedia: Manual of Style[7], Corporate Style Guide: Blue Cross Blue Shield of Nebraska[8], and the USF Editorial Guide to Style & Usage[9].

Goodwill

Establishing good working relationships can help us secure the cooperation of the people we need to accomplish our tasks. If we delay building good relationships until we really need them, it will be too late.

—"Be a Social Worker," *Fast Company*, May 1999, p. 228

Goodwill in professional and technical writing means that you convey a friendly, helpful, and cooperative attitude in your writing style. Goodwill smooths the challenges of doing business and administrative work in a large and complex world filled with so many different personalities. Goodwill is important in internal and external documents. Companies have long been aware that treating customers well pays off in more sales and higher profits, and that treating employees well leads to a happy, productive work environment. Government organizations now realize that they need citizen support—goodwill—to receive funding. Plus, it's just generally a nice idea to be as nice as possible whenever possible. Engendering goodwill through writing style is both an ethically sound and financially wise practice.

Four ways to create goodwill are:

- You attitude

4. Microsoft writing, https://docs.microsoft.com/en-us/style-guide/welcome/
5. Chicago manual of style, https://www.chicagomanualofstyle.org/home.htm
6. Web style guide, https://webstyleguide.com/
7. Wikipedia: Manual of Style, https://en.wikipedia.org/wiki/Wikipedia:Manual_of_Style
8. BCBS Nebraska, https://www.nebraskablue.com/en/Style-Guide
9. USF editorial style guide, https://www.usf.edu/ucm/documents/usf-style-guide-may-2013.pdf

- Positive emphasis
- Tone
- Bias-free language

"You" Attitude

"You" attitude is a style of writing that looks at things from the reader's point of view, emphasizing what the reader wants to know, respecting the reader's intelligence, and protecting the reader's ego. As a stylistic practice, you-attitude focuses on reader benefits. What's beneficial to the reader is what's important, not what's beneficial to the writer or company.

Three ways to accomplish a "you" attitude are:

- Talk about the reader, not about yourself
- Refer to the reader's request, order, or issue specifically
- Don't talk about feelings except to congratulate or offer sympathy

> **GOODWILL**
>
> **Reporting Bad News**
>
> When you have to report bad news or limitations:
> **Avoid using you.**
>
> Instead:
> - Use passive verbs
> - Use impersonal expressions
> - Make reference to group names, rather than the names of specific individuals
>
> **Avoiding assigning blame and protect the reader's ego.**

Positive Emphasis

Positive emphasis refers to the practice of wording information in the positive, rather than the negative, even if you are conveying bad news. Multiple negative words convey a negative attitude, and decrease the readability of your message.

The following guidelines will help you achieve positive emphasis:

- Avoid negative words and words with negative connotations
- Focus on what the reader can do rather than on limitations

- Justify negative information by giving a reason or linking it to a reader benefit

- Put the negative information in the middle and present it compactly

- If the negative is unimportant, omit it

Tone

Tone is the implied attitude of the writer toward the reader, and it directly connects to both the you-attitude and positive emphasis. Tone is tricky because it is informed by and interacts with the power dynamic between a writer and reader(s). The desirable tone for business writing is businesslike but not stiff, friendly but not phony, confident, but not arrogant, polite but not groveling. Achieving the right tone is a challenge, but it will help you to understand that there is no one right tone. Understanding your reader—your audience—will inform your decisions about the appropriate tone to use to achieve your goal. For more information on audience analysis, see the "Audience" chapter.

The following guidelines will help you achieve the tone you want:

- Use courtesy titles for people outside your organization whom you don't know well

- Be aware of the power implications of the words you use

- Be straightforward when the stakes are low

- Consider hedging your statements when you must give bad news

Bias-Free Language

Bias-free language is language that does not discriminate against people on the basis of sex, physical condition, race, age, or any other category. Non-sexist language treats both sexes neutrally. Job titles are one of the most common areas into which sexist language creeps. See the examples in Table 1.

Table 1. Sexist to Non-Sexist Job Title

Sexist	Non-Sexist
businessman	specific job title (i.e. CEO)
chairman	chair, chairperson
waitress	server
policeman	police officer

Courtesy titles are another area that can cause problems with sexist language. Tips to avoid getting into trouble include:

- Use the standard “Mr.” and “Ms.” when you know the reader’s name and gender
- Use the professional title, unless told otherwise
- Use the full name, reader’s title, or general group if you do not know the reader’s name or gender

Non-racist and non-ageist language treats all races and ages fairly and avoids stereotypes. Never refer to someone’s race or age, except if it’s specifically relevant, and even then you should know how that person or group identifies. For example, if you are writing a report about older people’s Internet use, then you will have to refer to groups by age range. When describing a group, you need to refer to a group by the name they prefer.

Writing and talking about people with disabilities or diseases should typically **focus on the person instead of the condition**. For example, someone uses a wheelchair; they are not confined to it. However, for some people with disabilities, the disability is actually part of their identity so these audiences will not have a problem with being addressed by their condition. If at all possible, **ask users or audiences how they prefer to be addressed**. If you do not have access to the audiences then default to person-first language.

Revision

Learning how to revise is a fundamental writer’s skill. It’s not about fixing typos, it’s about making the best document you can that achieves its purpose and fulfills the needs of the audience.

Remember, there is no one right document. There is the right document for each job. How do you know what the job is? PAD. When you revise, review your document for purpose, audience and design.

Revision is a process in which you evaluate the draft you have to make sure you are achieving your goals and giving the audience what they need. Here are two techniques you can use to productively revise your document.

Self-Review

The first thing you should do is review your work based on the goals you have been given to make sure the document is achieving its purpose. In school, you can compare your document to a rubric or project description that has stated objectives or outcomes that your document to a rubric or project description that has stated objectives or outcomes that your document should achieve. In the workplace, you can compile any documents you have that state what the work you are creating should do or accomplish. Go through your document and make sure you can explicitly identify where and how you are achieving these goals. Also identify any goals or objectives that are not fully realized in your work. These areas should be a focus of your revision. Create a list of revisions you will make to ensure that you are addressing all necessary sections and developing your content so all goals are realized in your work.

Feedback

In writing classes, you often will get feedback on a draft of your work. However, in the workplace, feedback may be hard to come by. You may get informal feedback in a meeting or you may get brief notes or reminders. You may even get feedback from your target audience. Whatever type of feedback you get, you should consider it critically. Think about your evaluation of the purpose of your document, and think about what your audience needs. Take the feedback and align it with your goals. Envision what the suggestions will look like in your document, then make note of where and how you will integrate feedback into your work.

Revision Planning

After you have evaluated your existing work and identified--using self-review and feedback--areas you want to revise, it's time to plan your revision. This is where PAD comes in handy. List all the aspects of your paper that you've identified for revision and answer the following questions:

- Purpose: What aspects of the paper need to be revised in order to achieve the purpose of the work?
- Audience: How can I make my paper more useful for my audience? Where could I supply more information or revise the information currently included to tailor my work to the needs of the audience?
- Design: Is my document designed for readability and accessibility for my audience? Have I organized the work to achieve the purpose of the document?

Your PAD analysis can produce an outline of areas you want to revise and a list of what you want to do to those sections. Once you have a plan, you can revise each section. Revision is iterative. After you have revised, go back through the document as many times as necessary and repeat the steps until you are satisfied that you have achieved the purpose of the document for the target audience.

This is a global approach to revision, which means you are considering the work holistically. Revising based on the overall goals of a document ensures that your work will achieve its purpose for the target audience. The changes that you make as you revise will hone your work to accomplish the desired aims, making your work the best it can be.

Exercise

You just won tickets to that thing you love as a prize in a contest sponsored by Cool Ranch Doritos™ that you forgot you entered three months ago! Bummer, though, you have both class and work on the day of the thing. Now you have to write a bunch of emails, because there's no way you're going to miss the thing, if at all possible. Write an email to each of the following people:

- Your boss: You must get out of work!
- Your teacher: You are so not going to class, but your teacher is a total freak about attendance and pop quizzes and junk!
- Your buddy: You wouldn't dream of going to the thing without your buddy, but—oh, no!—your buddy is in class with you on that day. What do you say to your buddy? Will they write the instructor, ditch, or just not go to the thing? Email your buddy with a plan!

When you write your emails: imagine your boss, one of your teachers, and your best buddy. Try to imagine what you would say to each person in your email. Make your tone realistic for each situation. Once you have written the emails, compare the style you used in each:

- What general differences do you see?
- Can you identify words and/or sentences that characterize the different styles?
- Which email do you think would be the most effective? Why?

Appendix A. Active vs. Passive voice infographic[1]

1. https://examples.yourdictionary.com/examples-of-active-and-passive-voice.html

Chapter 12
Email

Email is a standard form of communication in many different situations. Email operates as a delivery medium that can convey information in and of itself (i.e., in the body of an email), or email can relay information (i.e., by transmitting attachments such as memos, letters, reports, etc.). From the standpoint of creating email, you may address one purpose and audience in the body of the email, and any number of other purposes and audiences in attachments. On top of that, an email's audience may be far wider than the person or group to which you send it. As you are aware, emails circulate widely within organizations, and emails exist as records of communication indefinitely, so, as familiar with you are with sending emails, you need to take care with their use.

The "Audience" chapter discusses in detail some audience assessment techniques that are useful when sending emails. However, one aspect of audience that is essential to effective emails has to do with context—or the lack thereof. Always remember that the recipient of your email gets no information about you or your intended meaning beyond what you write and how you write it. In the absence of informative cues such as your tone of voice, facial expression, or physical presentation, your email serves as a defining reflection of you. Especially when writing to someone you don't know, keep in mind that how you compose your email significantly informs the reader's perception of you and whether your message will effectively communicate your goals. And every word counts.

The first two items any reader sees in an email are the identity of the **sender line** and the **subject line**.

Sender Line

While you may be inclined to take your identity as a sender for granted, this information is significant. If you are emailing from an organization in which your identity is linked to an organizational email (i.e., bsmith@usf.edu), your name may appear as the sender. However, if the recipient has not received an email from you, or if you are sending the email from a non-institutional account, your email address will be included in the sender line. As such, you will want to make sure that your email address is appropriate for a professional message (e.g., use bsmith@gmail.com, not narwhalnutball123@gmail.com).

The sender name is important because it literally may be the first impression the recipient gets of you. As much as you might actually be nuts for narwhals, this is probably not the first thing you want the recipient to know about you. You will want to use a professionally appropriate email address when you send the email to ensure that the recipient forms their first impression of you when they read your message.

Additionally, be sure to use carbon copy, also known as a courtesy copy (CC), and blind carbon copy (BCC) appropriately. The CC field is used to send an identical copy of the same email to multiple recipients. People who are cc'ed in an email are not expected to reply, but may if relevant. CC does not hide the identity of any recipients. Adding an email address to the BCC field keeps the identity of that recipient private. Some acceptable uses of BCC are logging emails and sending external emails.

Subject Line

The subject line gives the recipient information about your professionalism, and also can influence whether or not the recipient even reads your message. Effective subject lines are:

Specific

Identify the topic of the message to a) be clear; and b) differentiate your message from others like it.

Concise

Shorten the subject line so that it will be a) viewed completely in a preview/browser window; and b) easily scanned by the recipient.

Appropriate

Satisfy the expectations of the recipient, the situation, and your organization.

Actionable

Include an action item, if appropriate (e.g., “Needs Response” or “FYI Only”).

Body

As the volume of email has proliferated within business environments, message recipients have to be very selective as to which emails they read and in what order. An appropriate sender address and effective subject line will help ensure that your email gets opened. However, once opened, you also should consider the following as you compose email messages:

Limit messages to a single topic

Asking for more than an action or response to more than one topic increases the odds that you will receive no action or response.

Keep the message focused and on-topic

Long and/or wandering emails ask much in terms of time and attention from your reader, increasing the chances that the reader simply will stop reading.

State your purpose up front

Don’t bury the lead. Communicate your goal and/or the action you are requesting at the beginning of the email—ideally within the first two sentences. Your reader does not have time to read through a long email to find your goal, and they may not get to the end of the message, if they have to hunt for your purpose.

Do not assume privacy

There is absolutely no guarantee that the email will be read by only the addressee(s). Information in an email you send to one person may be relevant to another person, who sends it to someone else, etc. Emails also accumulate long reply chains that are forwarded to along with a relevant message sent to additional recipients. Additionally, emails are fully discoverable in legal cases, and fall soundly under the Freedom of Information Act (FOIA). You simply can't ever be sure who is going to see your email correspondence, so think carefully what you include.

Do assume permanence

Once your message is sent, it is, in a very real sense, out there. You cannot take the message back or delete it.

Permanence works both ways with emails. On the one hand, when you send an email, you are permanently accountable for the message. It is recorded in the digital record forever. On the other, the recipient (and anyone to whom the message is circulated) is accountable for the content, as well. In choosing email as the medium of communication, you are creating a digital "paper trail." If you do not want your exchange to be a matter of permanent digital record, you may not want to choose email. If, on the other hand, you want to create a permanent record of your communication, email may be the best choice. In many cases, digital communication is functionally indestructible. This fact can be a liability or an asset, depending on your purpose and audience.

Check your distribution list

You've heard horror stories about the "Reply vs. Reply All" error? Don't let that happen to you. Always check your recipients before sending.

Be mindful of your tone

As mentioned above, you do not have the benefit of non-verbal cues to color your meaning. What you write can be taken literally or misinterpreted, or both—or worse. Make sure you mean exactly what you say *and* how are say it.

In general, familiar terms such as colloquialisms, vernacular, and emojis are inappropriate in professional discourse. Even if you know your reader well, remember that you cannot assume privacy, as noted above. The email may circulate far wider that the reader with whom you are familiar.

Also, if you are in the heat of the moment (e.g., anger, disappointment, frustration, etc.), take a step back from the keyboard and give yourself time to cool down. The reader(s) of your email probably will not be having the same moment, and your strong language may impact them in a way you might regret later. Also, as noted above, email communication is functionally forever. You will not be able to retract or erase your email.

Proofread

Proofreading errors tell the recipients of your emails that you didn't have time or care enough to send a polished message. It's like going to a job interview with dirty clothes. Proofreading communicates professionalism.

They're Not That Into You

Always consider the needs and the situation of the reader as you communicate your needs and situation in your message. If you make an email all about you, the recipient of your message may perceive you as demanding or insensitive to the reader and their time. When you ask someone for something, consider that they have a life and that they are taking time out of their day to accommodate you. Acknowledge in your message that you are aware of the consideration they are giving you.

The same thing goes for expectations of response times. Communicate realistic expectations and acknowledge your awareness that the recipient has other obligations. You don't have to add unnecessary length to the message to accomplish this goal. Often, limiting the number of sentences that begin with "I," or focusing on the project rather than you will do the job. (See *You-Attitude* in the "Style" chapter).

Replying to Email

When you hit reply, the email system will automatically create a subject line by appending "Re:"—as in "Regarding"—to the original subject line of the email. If your email directly replies to the subject of the original message, then you can leave the subject line intact, but if you are altering or redirecting the original thread, then you will need to edit the subject line to reflect the new topic of your email. You'll want to change the "Re:" subject line to a subject appropriate for your content. For example, "Re: Office Halloween Party Sign-Up" becomes "Office Halloween Party Costume Contest." The email would go to the same recipients, and it would still be about the party, but you are telling readers that you message addresses a different aspect of the party.

Most email systems will include the text of the original message in your reply, including all foregoing replies. Before you send your email, you need to review the previous message(s) to determine whether to include all the text or to delete parts of it. Removing parts of the previous email that do not apply to or are not appropriate for your response, including e-mail headers and signature files, removes the clutter and keeps the conversation on track with fewer misunderstandings. Lengthy threads can become large and long, with a lot of unnecessary information. Only keep what is useful and relevant to the conversation in which you are participating.

Using Previous Email for New Correspondence

If you want to initiate a new message on a completely different topic, do not hit reply to a previous email and start typing about a completely new subject, even if that previous email is addressed to a recipient with whom you want to communicate. There are several significant problems with this practice:

- The subject line of the reply email will not match the actual subject of your message. Your message may not get opened.

- The content of the message will be unrelated to subject line or the attached reply content, and your reader may misunderstand, be confused, or become frustrated by your message.

- The practice of replying instead of starting new messages gives the perception of laziness and a disregard for the reader. You do not want ill will on the part of your recipient (See *Goodwill* in "Style").

Instead, you should always start a new email with a new subject and add the desired recipient(s).

Attachments in Email

Email is especially useful as a means of exchanging documents. In many cases, reports, proposals, and other pertinent documents are sent within the organization and outside of the organization as attachments to emails. When you send attachments, keep in mind the following considerations.

Only send attachments requested by or relevant to the recipient

Do not spam your recipient with documents they may or may not need. Send the document(s) most necessary to your subject.

Watch email account capacity limits

While some email systems allow attachments up to 20MB, to ensure delivery to all email systems, 10MB remains a reliable standard for maximum attachment size. However, email systems add metadata to each message, so, to be on the safe side, you may want to limit attachments to 7MB. If you need to exchange files larger than 10MB, you'll want to use a cloud-based file sharing system, such as Google Drive or Dropbox. Take into consideration that emails with very large attachments may take longer than normal to deliver.

Check file type you are attaching

The file type determines whether the recipient will be able to open the file, and also whether they will be able to manipulate the file, as necessary. Some file types require special software (i.e., In-Design or Photoshop). If you are sending these file types, make sure the recipient has the necessary software, or convert the files to a more accessible format. Additionally, consider whether the recipient needs to edit the attachment, and choose the right file type based on the need to edit, or the need only to view the attachment.

Ensure that your attachments do not have viruses

If there is any doubt that your files are safe, scan the attachments for viruses/malware before sending.

Use consistent and intuitive file naming conventions

A filename that is useful to you may be useless to your reader. Sending a file called "CFP.doc" or "costsheets.xls" does not give the recipient sufficient information to distinguish the attachments from others they receive or to clearly identify the content/purpose of the document. Think of file names like subject lines of emails: They should be specific, short, and descriptive in order to clearly identify the content of the file and the origin of the file. For example:

- Instead of "CFP.doc," use "Proposal_TampaAirport_V1_May2018." This file name tells recipients that the document is a proposal for the Tampa Airport, that it's the first version/draft, and that it was produced in May 2018.

- Instead of "Coverletter.doc," use "Serro_CoverLetter_June2018." This file name tells recipients that the cover letter is from applicant Serro and was sent June 2018. Putting the sender's name first makes sense because the recipient most likely is getting multiple cover letters. When saved, the letter will sort by last name, rather than document type.

Signature Lines

Your email message should also include a complete signature line that contains all your pertinent contact information, including your name, title, organization, and contact options (e.g., address, phone/fax, office number, etc.). An informative signature is especially important when sending emails to those people who do not know you well.

Be careful about including quotations and sayings in your signature block. Remember that you are crafting a professional persona for readers who may not know you at all, and your readers may not be well known to you. Obviously don't include anything that has potential to be offensive or misunderstood, and when dealing with unknown audiences, consider that almost everything may be misinterpreted. Think about the impression your message sends to someone who doesn't know you.

When to Avoid Email

Email isn't always the right medium for the job. Email is good for quick, succinct exchanges of information and files. However, other types of exchanges are best done using other media, including face-to-face conversation. The following are examples of communication best had by means other than email:

- formal correspondence
- lengthy discussions
- sensitive or protected information
- personal or private communication

Exercises

1. You are the sales manager at Mystery Bags, Inc., overseeing a sales department of 50 employees. Sales have decreased 25% total over two consecutive quarters at your business. Gross sales are down from $50,000 to $37,000 per quarter. The chief financial officer, Mitchell McBaggins, has instructed you to inform your sales team that their base pay and commissions will be reduced by 15% effective at the start of the next quarter. Write an email informing your sales team of the changes to their pay.

2. You are the brand manager at Mystery Bags, Inc. The chief operating officer (COO), Johansson Jobinger, has tasked you with increasing the visibility of Mystery Bags among the new mother demographic. After working with your team for a month, you and the team have concluded that accomplishing the COO's goal will require a $5000 increase in the branding department's budget. You and your team would like to meet with the COO to discuss the request and a proposal you and the team have created justifying the $5000 request. Write an email to the COO asking the COO's availability for a meeting that succinctly, but persuasively, outlines the need and justification for the $5000.

3. You are an advertising associate at Mystery Bags, Inc. For the last six months, you have been looking forward to a promotion to advertising team lead. You have been told repeatedly by your supervisor, advertising manager, Audrey McAddie, that you are first in line for the position. Today, you learned that you have been passed over for the promotion. From your perspective, the person who was promoted, Kit Jellison, has not been with the company nearly as long as you have, does not have your experience or consistent outcomes, and does not work collaboratively as well as you do. In light of your work record and what was said to you leading up to the appointment of the new team lead, you feel that your advertising manager owes you an explanation.

a. Create an outline of the points you would like to raise with the advertising manager that communicates your position on this situation.

b. Considering the points you list in your outline, draft an email communicating your position.

c. Which points in your outline did you include, and which did you leave out. Why did you make these choices?

d. Would you send this email? Why or why not?

e. What other ways could you communicate your position? What are the advantages and disadvantages of communicating in another way?

Chapter 13
Letters

Letters are used when communicating with people outside your organization. Letters are more formal documents that establish or transmit information. Although more formal, letters are considered more personal because of the greeting, tone, and signature, and the fact that it's the old fashioned, which takes time to print, sign, and mail. While admittedly, letters largely have been replaced by other forms of communication in the workplace, you do need to be aware of the conventions—because, when you do have to write a letter, you'll want to make it count.

Letters are one of the oldest forms of business communication and, because of their long history, readers have certain expectations about the form. Writers have been taught to follow certain guidelines.

Uses

Letters are generally used for the following purposes:

- Requests or inquiry
- Introductions or personal recommendations
- Claims
- Adjustments
- Orders

- Sales
- Credit
- Collections
- Goodwill
- Announcements
- Records of agreement
- Follow-up to telephone conversations
- Transmittal of other technical documents
- Job applications

Some of these uses often are handled by email or memos, but you may attach your letter to an email. It all depends on your organizational setting, your purpose, and your audience.

Format

Letters differ from memos in a couple of important ways. First, letters have a salutation and a signature at the end. At the top of a business letter you need to include the following:

- Date
- Your address
- Recipient's name and address
- Subject line (when applicable)
- Salutation

However, when writing a letter on the job, your address is probably omitted since the company you work for will have standard letterhead that includes this information in another format (See Figure 1).

Stratus Consulting Inc.
Environment and Energy Research

P.O. Box 4059, Boulder CO 80306-4059
1881 Ninth Street, Suite 201, Boulder, CO 80302
(303) 381-8000 phone / (303) 381-8200 fax

1920 L Street NW, Suite 420
Washington, DC 20036
(202) 466-3731 phone / (202) 466-3732 fax

January 15, 2009

Mr. Ross Micham
UIC Branch (WU-16J)
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3590

Figure 1. Sample business letter format.

Letters have a more formal structure than memos. The organization sections that follow should help you understand the format.

Organization for Good News

Good/neutral news letters are typically written in three parts:

- Why: a statement of context and purpose
- What: description of the issues
- Action: a request that some action be taken.

Why

In the first paragraph, you must set up your context and purpose. You will present any good news up front in this paragraph.

What

The second part of the letter presents your objective. Are you trying to persuade, to inform, to advise, and/or to get your reader to act? In this section, you describe the situation that contextualizes your objective. You should also explain how your news benefits the reader (see "You" Attitude in "Style"). Be specific and address all questions you think the reader may have. Depending on the situation, you may have one body paragraph or several. Typically, persuasive letters require several body paragraphs so that you can clearly establish the situation necessitating action, what the necessary action is, and why it's important to the reader to act.

Action

Your final paragraph should establish goodwill (see Goodwill in "Style"), include a call to action, and provide a way for the recipient to get back to you. Sometimes the action will be substantial (e.g., to write a recommendation or fix a problem), and sometimes all you will ask for is follow-up with questions or read an attachment. Whether the action is big or small, you always want to make yourself available to the reader if they require assistance or have questions. In other words, when you close your letter, you want your readers to feel good about you and your message, to know what you need them to do, if anything, and to be able to contact you via phone or email, if they want to follow up.

Organization for Bad News

Bad news letters are typically written in three parts:

- Common ground or buffer
- Why: the reasons/justifications
- What: the bad news
- A goodwill ending

Common Ground

Because you want your audience to read your entire letter, including the reasoning behind the bad news, you need to begin with a neutral statement. This statement will establish "common ground" between you and your reader. In other words, it will be a statement that you and your readers can agree upon—a shared priority or common goal, for example—but must not mislead your readers into thinking that you'll present good news. The goal is to make a connection with the reader, not to obscure the facts or minimize the significance of the situation.

Note: Some writers choose to omit the buffer statement. In some situations and/or organizations, a buffer statement might be seen as condescending or trite. You must know your audience and practices of your organization to design an effective letter that accomplishes your purpose.

Why and What

You need to tactfully present the justification for and/or reasoning behind the bad news. Begin with pertinent, favorable information followed by more unfavorable facts. Because you are trying to prepare your readers for the bad news, the bad news should come after the justification/reasoning section so it is clear how the bad news is related to circumstances that actually happened. You are presenting the justification/reasoning first so that it doesn't appear to your reader that the bad news is coming out of nowhere. You also will want to state the bad news as positively as possible to maintain the goodwill of your readers. This section could be several paragraphs in length, depending on the situation.

Goodwill Ending

You want to end on a positive note because, even if you have given bad news, you want your reader to see you positively. You could choose to share any of the following with your reader: appreciation, invitation to future action, alternative to the current circumstance, clear statement of change or improvement, or willingness to help. Your goal is, as much as is appropriate in the situation, to establish reader benefit and close the letter with a feeling of goodwill.

Style

When writing a letter, many of the business communication conventions discussed in the "Style" chapter apply, including the following:

- Use direct language
- Incorporate “you” attitude
- Avoid exclusionary or sexist language
- Be careful of your tone
- Build goodwill

Exercise

Find some examples of differnt types of letters. Review them and then address the following:

1. Describe each letter’s strengths and weaknesses in terms of the following:

a. Format
b. Organization
c. Style

2. Identify the most effective and least effective letter, and explain why you picked the ones you picked.

3. Choose one letter and rewrite it so that it more effectively accomplishes its goals.

Note: You also may find your own example(s) to examine.

Chapter 14
Memos

Memorandums (memos) are standard forms of in-house business communication. Because they are used for internal communication, memos may be deployed differently in different organizations, but all memos can be categorized as an information delivery system.

Memos are identified by a standard, general format that will be discussed in this chapter. The memo format is so pervasive that the header of an email—To/From/Subject—mimics the memo header format. You may also see the body format of the memo employed in the body of an email.

The similarities in purpose between the memo and the email, coupled with the speed and ease of email circulation, mean that in some cases and in some organizations, the function of the memo is performed by email. However, not all emails are memos, and not all memos are circulated via email.

This chapter discusses memos as a distinct genre of business writing independent of the medium of circulation (i.e, hard copy vs. digital communication), because, whether distributed physically or digitally, memos are an indispensable means of business communication. They are the most common form of a short report used in business.

Purpose

Memos come in many shapes and sizes, but, usually, memos are used to report information, give updates, or respond to specific situations. You'll notice that supplying information, updates, and responses are all forms of reporting. Memos and reports serve the same purpose, but, as noted above, memos usually are short—for the most part, no longer than two or three pages. You may hear memos referred to as "memo reports."

Common types of memos include the following:

- Informational reports
- Progress reports
- Status reports
- Field studies
- Proposals or recommendations (in memo format)

You'll notice that all of those types of documents can also be report-sized too. If the document is longer than a few pages, it is no longer a memo. It is a full-fledged report.

Audience

Memos are formal, organizational documents. Like email, you can't assume privacy. Memos can be, and often are, circulated widely throughout an organization. Even if you are writing a memo for one person, it's safe to assume that the document will be shared with any number of people within your organization. As such, your tone should be professional and formal. You are writing as the organization for/to the organization.

Memo Format

Memos are formatted for easy navigation and scannability. Your readers should be able to quickly and efficiently find the sections and content they need with a quick skim.

Header

The header of a memo includes the following information:

- Date

- To
- From (If printed and delivered in hard copy, you need to initial after your name)
- Subject

The following information may be included, as necessary:

- CC (Can go at the top or the bottom.)
- Attachment (Always positioned at the bottom of the memo.)

Figure 1 shows standard header information for a memo. Memos do not include a salutation nor do they include a signature. Memos distributed hard copy should be initialed by the person who creates it (i.e., the "From"). Figure 1 shows an electronic initial.

Date:	June 14, 2008
To:	The USF English Department
From:	Tanya Zarlengo *TPZ*
Subject:	PTC Curricular Expectations

Figure 1: Sample of Header Format for Memos

If your organization's culture specifies that you send memos electronically, this information will be included in the email header. However, you may also see the header information repeated in the body area of the email.

Body

To facilitate access to information, the body of the memo uses headings for specific sections. Memo text should feature bulleted lists whenever appropriate. Figure 2 shows the use of headings and bullets.

Incentives

We have employees who go above and beyond in their work. We acknowledge the extra efforts made by these employees by offering an Employee Appreciation Discount.

The Employee Appreciation Discount may be earned through one or more of the following:

- The recommendation of a supervisor
- Three positive comments from customers in one week
- Working hours at least 25 percent in excess of the required work week for a pay period

Employees who earn the Employee Appreciation Discount may select one of the following awards applicable for one pay period:

- Regular priced merchandise purchase increase from one to three
- Discount on regular-priced merchandise increases from 25 percent to 35 percent
- Discount on clearance/closeout merchandise increases from 10 to 20 percent

Figure 2: Use of headings and bulleted lists

The body of memos is usually written in either block format (see Figure 3) or modified block format (see Figure 4).

Block format means that the text is single spaced, the left margin is justified, the right margin is ragged, and there is an extra space

Attached please find the Harvard Business School Case "McGregor's Ltd." This case significantly informs our approach to the proposed changes to the employee discount program discussed in the May 15, 2008, staff meeting.

Using the Harvard Business School strategy, we will be implementing changes to the employee discount program as detailed below.

Figure 3: Example of block format

between paragraphs.

Modified block format means that text is single spaced, the first line is indented, the left margin is justified, right margin is ragged, and there is no extra space between paragraphs.

> Employees now will receive discounts a maximum of once per pay period on regular price, currently stocked merchandise, to include returns and exchanges. The discount for these purchases will not exceed 20 percent.
> No limit is placed on employee purchases of merchandise on clearance or closeout. However, the employee discount rate will not exceed 10 percent.

Figure 4: Example of modified block format

Organization of Content

The structure of memos can vary significantly among organizations and depending on purpose. In general, though, information is communicated following a logical format:

Overview

A paragraph that summarizes the memo: purpose, content, problem, task/action, conclusion, etc. While the content will vary based on purpose, you should provide a brief, but complete overview of the memo. You are telling the audience why they should read the memo and what they will get out of it.

Context

Background and/or details of the issue, event, circumstance or problem you are addressing. Tell your audience what they need to know to contextualize/understand the information your are communicating.

Task/Action/Recommendation

After supplying the content/background surrounding a problem or circumstance, you will discuss what has been or is being done to address the problem, or you will make a recommendation regarding what should be done. The purpose/problem/issue you identified previously must clearly and directly relate to the task/action/recommendation you describe in this section. You may discuss the outcome or potential outcomes here or save this work for separate sections. You also may wish to request specific action from your audience, or you can do this in a separate section as well.

Each of the above sections may have subsections and unique names, as the topic requires. You may also want to include the following additional sections:

- Discussion of results or implications of actions or policies
- Summary of what the memo has covered
- Closing statement that asks for a specific action from the audience; requested actions can be as simple as a response or attendance at a scheduled meeting to discuss the memo's contents, or they may be specifically related to the content (e.g., based on the information in the memo, write a formal proposal, or perform a detailed technical analysis)

The above describe a very general organization for a memo. Your memos will be structured and organized based on

- Purpose
- Audience
- Organizational conventions

In all cases, however, keep in mind that a successful memo is clear, focused, well organized, and professional. Communicating the information directly with clarity and coherence is your primary concern.

Style

As previously discussed, your tone in a memo should be professional and formal. Remember, you are writing as the organization for/to the organization.To help you achieve a professional tone in a memo, consider the following style tips.

The "You" Attitude

As you write your memos, keep in mind that it should always be clear to your readers that the information being conveyed is important to and/or directly impacts their work. To do this, you can represent a "you" attitude in your text. As you compose, focus on your audience: What do they need to know to do their jobs? How and why does this information matter to them? Answering these questions will help you select relevant content and orient your writing toward your audience's needs.

Appropriate Language for Your Audience

As previously stated, your text should be clear, concise, and focused on the topic. In addition, think about your lexicon—the words you choose that communicate to a specific field, discipline, technical specialization, or area of expertise. A memo oriented toward engineers will use different language than a memo oriented toward organization executives, even if the subject matter is the same. Make sure that you are choosing terms and expressing concepts that are meaningful to and useful for the audience.

Direct vs. Indirect Approach

In general, memos employ a direct approach to organizing and presenting information. This means that the main idea is directly stated and presented up front in the document, as discussed in the "Organization" section of the chapter.

Sometimes, however, you will need to report negative outcomes or bad news. If you are tasked with writing a memo that presents negative information or information toward which the audience will not be favorable disposed, the direct approach may be perceived as abrupt or insensitive. In these more delicate situations, you may want to consider an indirect approach. The indirect approach leads up to the main idea, rather than stating it up front.

For example, a direct approach supplies the main idea clearly at the beginning of the memo, and then develops in more detail the information, events, circumstances, and/or research that informed a conclusion or action. An indirect approach would explain the information, events, circumstances, and/or research informing negative conclusions or actions prior to stating those negative conclusions/actions.

By explaining the information leading to the main idea, the indirect approach works to "soften the blow" of negative news by communicating why or how negative conclusions were reached. But the indirect approach is harder to follow than the direct approach, which tells readers what to expect from the start, and some readers may stop reader or skip to the end of the memo to get to the point, so you should consider carefully whether the indirect approach would be effective for your memo's purpose.

Note (on international audiences): American correspondence generally uses the direct order with the occasional exception of bad news. International communication often follows some sort of indirect order. As you are considering your readers, pay special attention to the customs of your international audience when making order decisions.

Exercises

1. Find at least three examples memos and analyze/compare them based on the following criteria:

a. Identify the purpose and audience for each memo. How do the purpose and audience inform decisions about:

- **i. Content** (What information is included?)
- **ii. Organization** and design (How does the organization accomplish the memo's purpose?)
- **iii. Style** (How is the language tailored to the target audience? How is the text crafted to accomplish the memo's purpose for the target audience?)

2. You may remember this scenario from the "Email" chapter:

You are the sales manager at Mystery Bags, Inc., overseeing a sales department of 50 employees. Sales have decreased 25% total over two consecutive quarters at your business. Gross sales are down from $50,000 to $37,000 per quarter. The chief financial officer, Mitchell McBaggins, has instructed you to inform your sales team that their base pay and commissions will be reduced by 15% effective at the start of the next quarter.

In the "Email" chapter, you were asked to write an email conveying this information. For this exercise, write a memo based on this scenario.

Chapter 15
Resumes

The resume gets you the money, so it's is one of the most important professional documents you will ever write. But many people mistake the basic purpose of the resume. A resume by itself does not often lead directly to getting hired. Instead, the purpose of the resume is to get you an interview. A well-written, well-organized resume should give an employer enough information to put you on a list of people they would like to know more about. Hiring decisions are almost always made only after the employer has met with the top candidates. So a resume's job is to get you in the door.

Another mistake people make about resumes has to do with completeness. For most people and for most jobs, it isn't necessary or appropriate to list every job you've ever had, every organization you've ever been a member of, every extracurricular activity you've ever participated in, or every award you've ever won. A resume is a summary of your most impressive experiences and accomplishments. What does "impressive" mean? It depends on the job, the employer, the field, and on your own sense of what makes you the best candidate. In other words, it depends on PAD. The purpose of the resume is to get you an interview, but what that looks like–the design and content–is dependent on the employer's–the audience's– needs, expectations, and values, as well as the conventions of the field. The more you know about your prospective employer and the work you'll be doing, and the more you know about yourself—who you want to be at work—the easier it will be to determine what makes it into the resume.

Reading the Job Ad

The first place you're likely to look in a job ad is the job qualifications section. Job advertisements can be daunting. A typical job ad will list what kind of skills, experiences, proficiencies, and personal qualities the employer is looking for in the prospective hire. For example, here is a passage from a job ad for an environmental engineer:

"The ideal candidate will have experience in the following areas: managing remediation and hazardous waste abatement projects (e.g groundwater, soil); Knowledge and experience managing solid PCB remediation projects (sealants, caulk, and coal tar); Negotiating permits, cleanup objectives, and site closures with regulatory agencies including EPA, California Department of Toxic Substances Control (DTSC), Regional Water Quality Control (RWQCBs) and CUPAs (Certified Unified Program Agency)."

An easy way to tell if you are a good fit for this job is whether or not you are familiar with all of these terms. Are words like "abatement" and "remediation" meaningful to you? If not, you may want to keep looking.

On the other hand, many people pass over certain job ads because they don't have every single one of the requirements listed. For example, you have years of experience with all the duties listed in the ad, but you haven't worked with the agencies specified. That doesn't necessarily disqualify you from the job. Some job ads are written by committee to include every possible requirement they can think of. It's entirely possible that no candidate will meet all the qualifications and having the job qualifications isn't all it takes to get a job. If you think you have a chance, apply for the job—especially if you have other qualifications not listed in the ad that you know are valuable in your field. Let the employer be the one to decide if some misalignment between stated qualifications and what you have is a deal breaker.

Keywords

Keywords are words in the job ad that convey useful information about the employer and/or what they are looking for. You will key in on some obvious ones, like minimum qualifications, salary, and job duties. Those are important words to note, but they are not the only keywords you can use.

Consider this job for a Library Assistant with a county library. The job qualifications are a highschool diploma or GED and one year of clerical experience, but look at all the information they give you about what they want in a successful applicant:

> Hixon County Government provides employees with careers that are both professionally and personally rewarding. With a wide range of independent agencies to choose from, the opportunities within Hixon County Government are endless! You are not just an employee within the government, you are an ambassador and business partner making a huge impact within our community that helps shape our future.

Figure 1. Library assistant job ad keywords

In this passage (Seen in Figure 1), the employer is making statements about how employees are viewed, but they say more about how the library manifests its values and sees its role in the community. These keywords communicate values that the library expects its employees to share. This employer pushes hard against the stereotype of an impersonal government employee. They also value enthusiasm; it's unusual to see an exclamation point in an ad for a government job. The keywords convey that the successful applicant is deeply invested in their community and enthusiastic about using library resources to positively influence people and the future. And has a high school education.

Remember almost everyone who applies for the job is going to have the qualifications specified by the employer. Those qualifications are crucial, but alone they will not get you the job. What employers are looking for is what distinguishes you from other applicants, and what clearly identifies you as a good fit for their organizational culture. The keywords they use in their ad can tell you a great deal about how the employer sees itself and what the employer expects to see in an employee.

When you sit down to create your resume, use the information you have learned from the ad to present yourself as their ideal employee, but also, use the keywords themselves. It stands to reason that the employer put some thought into the words they included in the ad. Using their words in your resume tells them you align with their goals and can fulfill their needs. For example, if you want to be Hixon County Library's new library assistant, you bet you want to use words such as "community," "impact," and "future." You want to represent real enthusiasm for working with people to make the world a better place, and, if you ever represented an organization or group in any capacity, you know you were an "ambassador." Job ads afford a view directly into employers' expectations, and keywords are the windows. The trick is to look closer than salary and minimum job qualifications.

Using keywords from the job ad is also a good idea in regards to technology. Many employers use resume screening software to narrow their applicant pool. This software assigns your resume a relevancy score based on occurrences of a given set of desired keywords. If you have made an effort to include those keywords in your resume, you increase your chances of getting an interview with the employer.

Going Beyond the Job Ad

The job ad is an invaluable source of information, but there is more you can do to gain insight into your audience and design an effective resume.

Employer Research

In addition to reading the job ad closely, there are many other places to find information about a given job and organization:

- Look at the company website
- Contact the company directly (e.g., public relations, or a specific department)
- Research company personnel

The Company Website

Almost every company has a website where they tell you a little about who they are and what they do. Most companies even include some sort of mission or value statement that describes the corporate philosophy or guiding principles. "The Toyota Way," for example, which explains how Toyota employees view the work they do. If this view is important enough to Toyota to put it on their corporate website, you can be sure they expect to see this view in you, as a prospective employee. And you might think that all major automobile manufacturers are alike, that working for one will be like working for another, but if you read "The Toyota Way[1]," you'll see that Toyota definitely believes they are unique. Using ideas and keywords from their corporate philosophy (like the concept of "continuous improvement") can help demonstrate how your goals and interests align with theirs.

Contact the Company

Another way to get more information is to contact someone within the company and ask questions. A phone call or email that begins, "I was interested in applying to this position and was wondering what else you can tell me about it," can yield more insight into what the employer wants—things that aren't in the ad. Direct contact also demonstrates a level of interest in the job that other candidates might not be showing. In fact, some people get interviews simply because, out of all the similarly qualified candidates, they were the one who reached out to the company for more information.

EMPLOYERS SNOOP

The Internet makes it easy to examine an applicant's personal life.

Whether you agree with this practice or not, it is extremely common and it is entirely likely you will be snooped during the hiring process.

Make sure your own social media accounts don't reveal any information you wouldn't want a potential employer or coworker to see.

1. The Toyota Way (2020). https://www.toyota-europe.com/world-of-toyota/this-is-toyota/the-toyota-way

Research Company Personnel

Just as you can research a company, you can also research specific people in that company. If you know who will be making hiring decisions for the position, try to find their resume online. What experiences did they list? What is the structure of their resume? Do you have any connections or common experiences. These insights are things you can emphasize on your resume, and then talk about in the interview.

While it might seem weird to go looking for your potential employers online, remember that, odds are, they are also researching you. In the hiring process, you are evaluating each other. A good hire is a good fit for both you and the employer. Companies invest significant time and resources in hiring, and they really want to hire the right person. The research you do is the same: you invest significant time and resources in finding the right job and you want to maximize your return on your investment in the application process.

Designing Your Resume

Resumes are almost always one-page documents. For most fields, no matter how experienced you become, your resume will be one page. That means the hiring manager will take in your entire resume at a glance. As you probably are aware, sometimes a glance is all you get before your resume ends up in a “yes” pile or a “no” pile. Research from TheLadders job-matching service finds that recruiters spend an average of six seconds reviewing a resume. Do you know how much reading you do in six seconds? Not much. But you can do a whole lot of looking. When you sit down to create your resume, there’s one very important idea you must keep in mind: **resumes are visual arguments as much as they are textual arguments.**

To have a chance at passing the six-second test, your resume needs to be:

- Appropriate for your field
- Organized effectively
- Skimmable

- Visually engaging

Research Resumes in Your Field

To create your resume, one of the first things you should do is research what resumes look like in your field and for your job type. Use Google to find as many examples as you can of field- and job-specific resumes. Note whether the examples are good or bad. Note what you like and don't like.

As you review the resumes you find, make sure you analyze both text and visual elements, and the resume's organization. Ask yourself the following:

- Do resumes in my field/job use objectives? If not, what replaces the objective?
- What sections are commonly included?
- What are the trends in organization of sections?
- What types of job duties and skills are emphasized?
- What do the resumes look like (e.g., color use, sidebars, shapes, pictograms, etc.)?

Find a few resumes you think are appropriate not only for your field/job, but useful to you based on your qualifications and level of experience. You might also want to make a list of other elements you saw in the resumes that you think might be good for reference. All these resources will help you make informed and effective design decisions.

There is no one right way to make a resume. The sections you include, the order in which you present them, the experience you list, and the design of the document will be specific to the field, job, employer, and your qualifications. However, there are some general sections that you can consider for inclusion:

- Objective: statement of your future professional goals
- Professional profile (or summary statement): provides a ca-

reer summary or description of your most relevant attributes and accomplishments

- Experience: your work experience with duties
- Skills: a breakout of the skills and abilities you've acquired
- Education: your educational experience
- Coursework: a list of relevant coursework
- Certifications: professional certifications you have earned
- Organizations: professional associations of which you are a member
- Awards: awards you have received in recognition of service or excellence
- Volunteer work: organizations for which you've volunteered
- Extracurricular activities: clubs and sports, etc.

References Available on Request

- Not in common use anymore
- Arcane convention
- Wastes space

Most companies ask applicants to use a human resources management system that would include a form or textbox for supplying reference information.

This list isn't exhaustive, and your field may have specialized section heading that are industry standard. As always, let your research be your guide. The people working in a field know best how that field's resumes should look. It is certain, however, that you will not include all these sections in your resume. Even if you have all these experiences, they do not all belong in your resume. Remember, you only get one page. Absolutely everything on that page must work to present you as the right applicant for the job. The only information that belongs on the resume is the information that gets you the interview.

Organization

Resumes are not designed to be read; they are designed to be skimmed, so organization plays a significant part in the success of your resume. Decisions about resume organization encompass the following:

- What to include
- Where to put it

When you organize your resume, you are making decisions that prioritize the information the reader sees about you. You want the most persuasive information up first, with subsequent information presented in order of decreasing significance. Perhaps you are acquainted with the traditional resume organization:

- Objective
- Education
- Experience
- Activities

While these sections remain in use, this organization is no longer standard. The availability of desktop publishing software has empowered job seekers to explode the genre conventions of the resume in their efforts to distinguish themselves as prospective employees and embody the expectations of their fields in their designs. Certainly you can use this organization if you feel it's appropriate for your job and field, but you are not limited to it. The list of sections above is like a store of options. Shop those sections and choose the ones that best showcase your strengths as an applicant and highlight why you are the best person for the job. Then organize those sections from most to least important to give the employer a persuasive and skimmable overview of how perfectly you fit into their organization.

To help you make organizational choices, consider the following guidelines.

Objectives vs. Professional Profiles

OBJECTIVE VS. PROFESSIONAL PROFILES

Objective: States goals for employment
- **Pro:** Frames resume based on future goals that can be tailored to a specific job.
- **Con:** Formulaic waste of space. Of course you want a good job that allows you to use your good skills well.

Professional Profile: Summarizes career achievements or highlights skills and outcomes.
- **Pro:** Impactfully introduces you based on accomplishments that can be tailored with keywords.
- **Con:** Unconventional, and may be inappropriate in some fields.

One of the first decisions you'll need to make is whether you want to start your resume with a traditional objective statement or a more unconventional professional profile or summary statement. As you make the decision consider that the objective might be useful for less-experienced applicants without many career highlights, but it is highly formulaic and tends to state the obvious: that you want the job. Professional profiles, on the other hand, are excellent for summarizing your accomplishments. They are a practical way to introduce yourself to the employer up front. However, they are not acceptable in all fields and may not be effective for applicants who don't have career highlights yet. If you do decide to include a professional profile, emphasize concrete outcomes whenever possible (e.g., total sales in a year or [x] number of ducks rescued).

Experience

Most likely, this will be the section in which you foreground the evidence that you meet the employer's main qualifications. In many resumes, especially for people who are established in their careers, this section takes up the bulk of the page as you list jobs and duties. When you supply that information, you should keep in mind the following:

Be concise:

- Avoid extra words
- Avoid personal pronoun "I"
- Avoid contractions
- Never use complete sentences

- Break up blocks of text into bulleted lists
- Use action verbs and parallel structure

Getting a Job with No Experience

Everyone starts somewhere. Not everything you know, you learned on the job:

- Volunteer work
- Skills from coursework
- Leadership roles
- Awards for excellence

Jobs aren't the only roles you fill that require duties and responsibilities.

Format your other relevant roles as you would jobs.

Highlight other experience you have that makes you right for the job.

Just because you didn't get paid, doesn't mean it didn't matter.

However, the "Experience" section doesn't have to be your main section. If you are new to your field, you wouldn't want to highlight job experience because you don't have any—at least not any that will get you the job. And you don't want to include irrelevant experience that could distract from the goal of getting you the job. So what to do? Consider that the "Experience" section describes the jobs you've had, but there are many different types of experience (e.g., volunteer work, coursework, clubs, extracurricular activities, etc). While experience generally should be included in your resume, you can organize your sections to emphasize other types of experience, placing job experience in a less central position.

A note about internships: Internships can be listed under work experience. You especially may want to include them in there if you have no other relevant work experience. However, if you are listing other working experience (relevant or less relevant), you may want to highlight your internship(s) with a special section—especially if they represent your most relevant experience. In this case, you can list internships separately under a section heading like "Internships" or "Internship Experience." Giving internships their own heading will keep them from getting lost among your other jobs. If you do give them a section, you probably want organize internships ahead of your regular work experience to emphasize the internship's importance.

Skills

Listing your skills (i.e., software, language, technical abilities, etc.) in a separate, bulleted section is a good way to isolate and highlight the proficiencies you would bring to the job. The Skills section may be especially effective for inexperienced applicants because it tells the employer you know how to do things, even if you haven't yet done them in a professional workplace. However, the skills you list should be concrete and specific:

Instead of

- Excellent Computer Skills

Try

- Microsoft Office 360
- POS Software (Lightspeed, ShopKeep)
- Quickbooks

The qualifier "excellent" doesn't sell your excellence like a list of the specific software you can use.

Education and Coursework

Education is a standard section almost always included in every resume you write. At a minimum it functions as

- A credential
- A statement that you can see an arduous task through to completion

Graduate degrees communicate specialization and a commitment to your field. However, when you're just starting out, school often might be the most relevant experience you have. If this is the case, you may want to consider listing coursework. If you do, focus on skills and outcomes, just as you do in the Skills section. It doesn't impress the employer that you took Environmental Engineering, it was part of your degree program. What matters is what you learned in Environmental Engineering that you will apply on the job. What you are doing by including coursework is telling the employer that, in lieu of conventional job experience, these courses gave me experiences I can bring to your company. If you choose to include coursework in your resume:

- Include only the courses directly related to the job you want.
- List courses by name, not course number.
- List the concrete skills you acquired in the course, as you do in Skills (e.g., "Experience with" then list the things you learned to do, software you worked with, etc.)

Think carefully about the implications of foregrounding your education to the employer, to include coursework. If it's the most relevant experience you have, then absolutely highlight it, but consider that highlighting scholastic experience may define the you as "student" rather than "professional." If you are applying to graduate school or for an internship, they know and expect you to have a student's identity. In fact, they are looking for evidence that you are a good student to confirm that you are the right candidate for the position. However, being a student does not carry as much persuasive weight in the professional world. When you include your scholastic experiences, work to present them as professionally as possible. You know that being a student is a job, and a hard one. The way you design and present information about your work as a student can impress on the employer that you took your job as a student seriously—as seriously as you will take your job with their organization.

When you format your Education section, follow the same style you use for listing jobs as you list the school, location, years attended, major/minor, degree earned, etc.

Certifications, Organizations and Awards

The Certifications, Organizations and Awards sections are a testament to your commitment to and success in your profession. Awards, and organizations, also can attest to your character. Organizations and Awards may not be high priority information, but they speak to your integrity and quality as a professional and a person.

Certifications, though, can be very persuasive for an employer—especially if the certifications are rare or hard to get.

When you are selecting which certifications, organizations and awards to include, the same rules of relevancy apply. For example, maybe don't include your 5th grade soccer trophy. Whatever you choose to include, keep in mind the following:

- Spell out acronyms when it would be unclear to the reader what they stands for
- Include dates of validity for certifications
- Consider providing a brief description if an organization or award could be unknown to the reader
- Consider including any titles or roles you held within organizations

Tips for Including Scholastic Achievements in Your Resume

- Don't include high school after you have a BA/BS
- Only include your GPA if it is persuasive (i.e., 4.0)
- Format all academic content professionally

Show the employer that you treated school as a job (design and content)

Volunteer Work and Extracurricular Activities

Volunteer work and extracurricular activities speak to character traits like values, drive, and commitment. They may not be relevant or you may not have room for them, but if you do and if you need them, they say something to the employer about who you are and what matters to you. Time is precious for everyone. If you've given your time to causes about which you care, it matters. Also, if you have held positions of authority, you should list them.

In terms of priority, volunteer work can be very useful. For example, if you are applying to be dog walker and you have volunteered at an animal shelter, that says something about your commitment to animals. Additionally, and especially for an inexperienced applicant, you can structure volunteer work as you would a job, with titles and duties. Volunteer work is still work experience, it's just unpaid.

Visual Design

Considering the relative standardization of the resume's purpose and general section headings, the design of the resume is stunningly variable. As noted above, research is the key to honing in on a design that is right for you and your job. As a guiding design principles, however, your resume should

- Conform to the expectations of your field
- Consider the culture of the organization you have in mind
- Distinguish you among dozens or even hundreds of other applicants

To create your resume, you have two options:

- Make your own
- Use a template

Making your resume requires design skills and access to software. Resume templates are ubiquitous and readily available. As you decide whether to use one, consider the pros and cons:

Pros

- Efficiency: Templates save time.
- Appearance: If you don't have strong design skills, you can create a resume with a template that looks better than you could make yourself.
- Organization: Working with a template can give you a starting place from which to work as you begin to make decisions about what sections to put where, what to include, and what types of visual elements to use.

Cons

- Saturation: Everybody's using them. Your resume may look just like any number of other resumes in the pile.

• Standardization: Templates make decisions for you about what to include and where to put it. This constrains your ability to make a resume that most persuasively represents you.

• Laziness: Hiring managers who've looked at plenty of resumes know how to spot a template. If you use a template and the reader notices, it may communicate a lack of effort or low investment in your work.

If you choose to use a template, make sure you customize it significantly. And also make sure that the template's ease of use—the way it makes decisions for you—doesn't lead to complacency in your decisions about tailoring the resume to suit you. This is your resume. The template doesn't care if you get the job. On the other hand, if you think about the importance of getting that big, perfect job—what it will mean to you to realize a dream and the money you'll make—it might be worth it to learn how to make a resume that uniquely positions yourself among applicants. Templates can get you started, and, if you're just getting started, templates can help, but as the stakes go up the amount of effort you put in to getting the job should go up, as well. And if you work in a field that has anything at all to do with design, you definitely will want to make your own resume.

Whether you choose to work with a template or create your own, there are a few design principles that that are good general practice:

Figure 2. Quadrant example

Quadrants

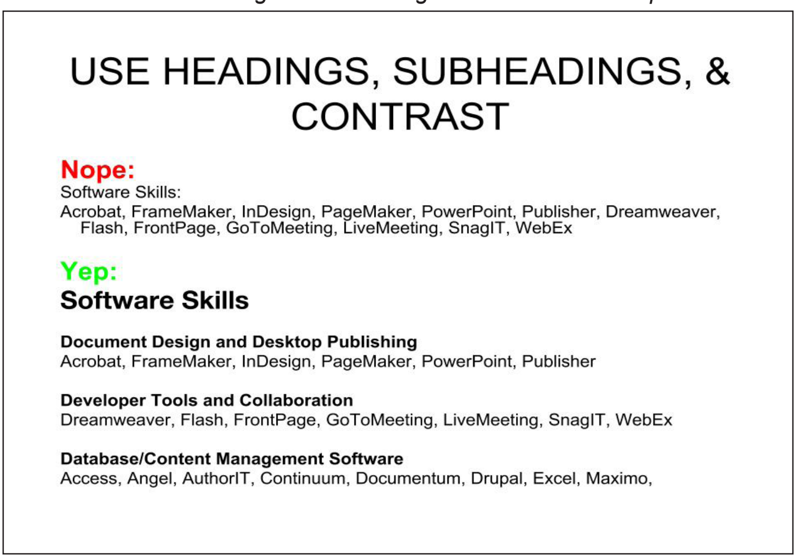
You can break up the page into four equally sized rectangles called quadrants. Effective use of quadrants—the way you place text and graphics within quadrants—organizes information while creating a strong vertical and horizontal alignment. Thoughtful use of lines within quadrants creates a flow that tells the reader how to move through the document. Lines (including shading) also parse content visually so it’s easy for the reader to access and skim.

Page Layout

The following are good, general design principles for positioning elements on the page (See “Design” for more information):

- Avoid excess or trapped white space
- Hard skim for the reader
- Hard to consistently format for you
- Use text effects judiciously to highlight relevant information in a line (i.e., instead of tabs/whitespace)
- Use headings, subheadings and contrast to parse types of information and increase skimmability

Figure 3. Headings and contrast example



Color and Graphics

The two most significant developments impacting the genre of resumes are:

- Design software
- Digital circulation

Software like Adobe's InDesign and Photoshop, and even Microsoft Word, provide users with robust design utilities that create visually dynamic documents with little training. Couple this fact with the fact that most resumes now are submitted and circulated digitally, and it becomes clear why today's job markets are flooded with so many design variations. Digital circulation also explains why color is so common in resumes.

When you are deciding whether and how much to use fancy design elements and/or color, consider the following:

- Is it appropriate for your field/job? Your research should be your guide.
- How much is too much? Your resumes should be engaging, not distracting or annoying.
- Can it be viewed digitally and in hard copy? Much like checking a website to make sure it's mobile friendly, the visual elements in your resume should be printer-friendly.

JOSH EVNIN
HTTP://JOSH.EV9.ORG/
901 E. 10TH STREET, OFFICE 313
BLOOMINGTON, IN 47408
812.345.9833
JEVNIN@INDIANA.EDU

EDUCATION
Master of Science, Human-Computer Interaction (May 2006)
Indiana University Bloomington, School of Informatics (Cumulative GPA: 4.0/4.0)

Bachelor of Science, Cognitive Science (June 2004)
Specialization: *Human-Computer Interaction*
University of California San Diego

SKILLS
HCI/Design Theory: Cognitive Ethnography, Cognitive Ergonomics
HCI/Design Practice: Prototyping, Cognitive Engineering, Multimedia Design, Graphic Design
Development & Scripting: PHP, ActionScript (Flash), JavaScript, Perl, CGI, Python
Web Design: XHTML, CSS, Macromedia Studio, Adobe Photoshop
Databases: Structured Query Language, MySQL, Oracle

WORK
User Centered Design Intern, ***Intuit***, User Centered Design Group (May-July 2005)
» Conducted exploratory research considering the application of instant messaging capabilities to TurboTax.com and SnapTax.com for young tax filers
» Created and implemented an internal software to aid team communication
» Developed a promotional video for the Intuit Internship Program

Associate Instructor, ***Indiana University*** course on Introduction to Human-Computer Interaction (August 2004-Current)
» Instruct students in lecture-style class and one-on-one setting in HCI undergraduate survey course covering user-centered design and usability

Technical Information Intern, ***Southern California Edison Electric Company***, Transmission and Distribution Business Unit (June – September 2003)
» Researched and created technical documents for new Lineman Training Course
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» Led team-building exercises for groups of 10 to 20 children
» Instructed children through the use of low element (0-15 foot elevation) and high element (20-55 foot elevation) activities
» Set-up, maintained, and managed a high element wilderness ropes course
» Entertained, managed, and resided with groups of 8-12 children in cabin setting

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Finalist, ***SIG CHI 2005 Student Design Competition*** (April 2005). ECHOES project details available at *http://design.informatics.indiana.edu/echoes/*
Co-Founder, ***Iota Nu Phi National Informatics Honors Society*** (November 2004 – Current)
Co-Founder, ***Design Club***, Indiana University (January 2005 – Current)
Informatics Department Representative, ***Graduate & Professional Student Organization***, Indiana University (September 2004 – Current)
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RESUME V. 6.2 (OCT 2005)

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Grand Rapids Information Network
Grand Rapids, MI, January-June 2013

INTERN
Facets Multimedia
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ILLUSTRATOR
FINAL CUT
MICROSOFT OFFICE

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Study/Intern Abroad

AWARDS & GRANTS
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Leadership Award
2012, 2013, 2014

Young Michigan Filmmakers Festival
Best Comedy- 1st
Best Film- 2nd
Audience Choice- 2nd
2014

GVSU Production Grant
Writer/Director
2013, 2014

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Figure 4. Sample resumes

The resume on the left is for a computer science position, and the resume on the right is for film production. As you can see, both resumes use graphic elements, but they use them differently and in different amounts. Both of these resumes appear professional and contemporary, but the computer science resume is more traditional, while the film production resume is more creative. Figure 4 illustrates how the visual appeal of the resume should manifest the expectations of the reader while distinguishing the applicant. What that looks like in your resume is specific to your field, your job, and you.

Graphically inventive, colorful resumes are visually engaging, but whether and the extent to which you use these elements—unsurprisingly—depends on your field, your job, and your persona as an applicant. When you add graphic elements, always be mindful of whether you've got from appealing to appalling.

An effective resume is a highly tailored document in which your rhetorical choices are shaped by a detailed PAD analysis that takes into account how you craft your image, what your employer needs, and what the document should look like based on your professional identity, the prospective employer's expectations, and the conventions of the field. Using PAD to help you make these choices with go far in assisting you as you work to get the interview.

Chapter 16
Presentations

Like all communications, presentations need to have a clear purpose and be adapted to your audience. What distinguishes presentations is that you are communicating directly with a live audience—an audience that, for the most part, will not be able to ask you to repeat things or ask questions until the end. Presentations ask your audience to pay attention and follow your information in real time. Unlike an audience of readers, your audience will have to follow what you say when you say it. Visuals such as slides are vital to helping them stay with you, assuming you have the option of including them.

Presentations, then, constitute a complex rhetorical situation that challenges your audience to simultaneously process information aurally (hearing) and visually in the form of sound, text, *and* images. It is your job as the speaker to help your audience accomplish this taxing feat. Doing so requires a robust analysis of the PAD of your presentation. You will need to think carefully about what you want your audience to take away. And you will need to imagine what your audience would experience when they watch you speak.

Presentations generally have three primary purposes:

- Information: inform or teach the audience
- Persuasion: motivate the audience to act, believe, buy, etc.
- Goodwill: entertain and validate the audience

Once you know your primary (and secondary purposes), you need to prepare the content and deliver the presentation. Most presentations are accompanied by visual aids, generated in applications like PowerPoint, Google Slides, and Prezi.

Prepare the Content

When preparing the content for your presentation, you should:

- Write a clear and direct purpose to guide you in developing your presentation
- Use an appropriate organizational strategy to foreground your purpose throughout the presentation
- Determine the most important points you want to make
- Limit your major points to three to five, depending on the length of your presentation
- Link your content to the audience's existing knowledge
- Show how the audience will benefit

If you are creating the presentation from a document that already exists (e.g., a report or proposal), you will be adapting content you have from one format to another. When you do this, odds are you will have more content in the original document than you can or should include in the presentation, so you should consider carefully what content to present. The content you choose should:

- Relate most directly to your main purpose/goal
- Be useful and relevant to your audience

You may have to leave out much of the information in the original document. Keep in mind that the outcome of a successful presentation is an informed and interested audience. If you pack in more information than your audience can follow, and the presentation loses its audience, you have not achieved this outcome. With presentations, less often is more. And you may have the option of distributing the full document to interested parties after your show.

If you are creating content from scratch, and no parent document exists, then you do not have to worry about adapting information from one format to another or making hard choices about what to include and exclude. You can generate the content of your presentation by focusing exclusively on your goal and your audience, and craft the content and delivery of your presentation focused exclusively on your specific audience and the rhetorical situation of your presentation.

Deliver the Presentation

A presenter can (and often does) make or break a presentation. You, as the presenter, are the mediator between the information and the audience. You are the dominant factor determining whether your carefully crafted content makes it into the minds of your audience. No pressure. Not to worry, though, there are several very simple strategies you can learn to help be an effective advocate for the important information you have to provide:

- Introduce yourself
- Pace yourself
- Speak slowly (remind yourself to do this during the presentation too)
- Incorporate gestures and movement
- Make eye contact with the people in the audience
- Speak clearly and alter your voice patterns

Additionally, for most business presentations, you need to make sure your appearance is appropriate.

Create a Strong Opening

The opening is how you get your audience's attention. The opening needs to be strong, interesting, and engaging, because you want the audience to want to listen.

Several methods for generating strong openings are:

- Startling statement: a statement that on the surface looks to be untrue or shocking

- Anecdote: a personal story of interest
- Question: a series of questions to get the audience thinking
- Quotation: an engaging quotation that directly leads into the material

When you choose an opening, there's something important you must consider: you have to say it. Audiences want to listen to speakers they like. This is part of goodwill. When you open your presentation, you're really establishing goodwill. So whatever it is you choose as your opening—even if it's just, "Hi. I'm [whoever you are]"—it should be something you feel confident saying and offering to the audience as a handshake. Because that's what you're doing with the opening. You are saying, "It's nice to meet you," and extending your hand.

Incorporate Repetition of Key Points

The audience remembers your key points after an effective presentation or speech. To help your audience remember key points, you need to repeat them. You should summarize your key points in the opening, the introduction, and the conclusion. You also should summarize each individual point before you move on to the next point, and display key points as titles on your slides.

Use Signposts

Signposts are clear verbal or visual statements that indicate to the audience where you are or where you are going next in your speech. Like headings in an outline, signposts orient the audience to progression of your key points, and tell the audience when you are moving forward. For example, numerical markers like "first" or "second," or consequential markers like "next" are good signposts for the audience.

You can also combine signposts with repetition. For example, "Now that we've discussed last year's sales figures, next we're going to go over strategies to improve sales figures for this year." In this example, you've repeated or summarized the topic you've just covered (last year's sales figures) and then used a signpost (next) to indicate that you've changing topics.

Create a Strong Closing

The closing is the last impression your audience will have. Because of this, it is the most impactful impression you make. The way the audience feels about your topic when you close will inform how they talk about your subject with other audience members, and how—or whether—they do what you ask them to do in response to your presentation. Strong closings are contingent on two factors:

- Connecting back to the opening
- Summarizing your key points

A clear and organic link back to the beginning of your presentation brings the audience full circle. Not only is this feeling of completion satisfying to your audience, it shows the logical cohesion of your ideas. You evidence to the audience the coherence of your argument when the last idea ties precisely into the first idea.

Summarizing your key points ensures that your audience remembers them. It's not enough that the audience has strong positive feelings about your presentation, they need to remember why they feel good about it. At the end of the presentation, a summary that highlight the key points (and only the key points) will stick those points firmly in the minds of your audience for later discussion and action.

Questions

Good presentations will allow time during or after for questions about the material. Being prepared will help you deal with most questions, but you should also:

- Listen carefully to the questions without nodding, moving, or seeming impatient

- Start your answer by rephrasing the question
- Admit if you don’t know the answer to a question

People like to be heard. Be attentive to the people who ask questions, and make sure you answer the question that was asked. And no one knows everything. Never be afraid to admit you don’t have an answer. Questions that don’t yet have answers start research that leads to more and better answers. You can note the question and offer to respond after you have done some research, if that’s appropriate.

Anxiety

If you’re not a natural in front of a crowd from the beginning, don’t stress. It’s true what *everybody* says about *everything*: practice, practice, practice. In this case, that means practice your presentation often and in front of people before you do it for real and, also, that the more you do presentations the more confident you become. It’s a true fact. People get used to talking to people if they do it enough.

Before the presentation begins, you can calm anxiety by doing the following:

- Take some deep breaths (slowly, for a least a minute). You can get mindfulness apps on the phones these days. They help.
- Take a walk. Physical activity alleviates anxiety.
- Listen to music. Pick songs that represent the way you want to feel when you give your speech
- Remind yourself that you know the material

It’s easy when you’re nervous to focus on the negative. Words, as you know, have power. Tell yourself to focus on the positive, instead.

And remember, less is more in presentations. You do not need to bring down the house to have a successful presentation. If you get up there and do a crazy song and dance complete with rubber chickens and pyrotechnics, the information you're there to provide will be drowned out. No need to make it a production. Just speak slowly and clearly, and focus on the content. The content is the star of the show. You can take confidence from the fact that the audience isn't really there to see you, anyway. Your purpose is to help the content make it into the audience's brains.

Making Group Presentations

Group presentations require additional planning. The easiest way to develop and deliver a group presentation is:

- Divide the topics among group members
- Delegate one member for the opening and closing
- Designate someone to control the technology or switch out visuals
- Create the presentation together to ensure consistency

When you divide your presentation, be sure to:

- Plan transitions
- Enforce time limits
- Coordinate visuals
- Practice presentation together

Don't forget, also, to play to team members' strengths. If you have a particularly enthusiastic team member who's comfortable with public speaking, they could do the opening and/or closing of the presentation. If a team member is particularly good with numbers, let them do financial information. The same goes for technical experts, etc. The advantage of team presentations is that more people means more skills to bring to the table. Leverage those skills for a stronger presentation overall.

Use of Visuals

Effective visuals have a significant impact on your audience, and on the overall success of your presentation. Visuals are:

- Interesting
- Impactful
- Persuasive

As discussed in the "Design" chapter, visuals engage the audience immediately and viscerally. They will make your presentation memorable, which can increase its persuasive power. They also provide an anchor for your audience, as with signposting. A slide, for example, can display words and/or images that remind the audience:

- Where you are in your presentation
- What's currently being discussed

Visuals in a presentation further present you as polished and prepared, and evidence your goodwill by showing the audience that you have invested time and effort in helping them follow along with what you are saying.

Visuals in a presentation come in many forms:

- PowerPoint slides (or other slideware)
- Handouts and posters
- Screen annotation software and overheads

The decisions you make when you design visuals will be significantly informed by the expectations of your audience (See "Audience"). You will have to take into consideration the audience's level of expertise and interest, expectations about formality, and the audience type(s) in attendance as you design your visuals. In general, however, remember that your audience will be looking at your visuals while they are listening to you talk, so simplicity is vital in terms of both content and design. To that end, consider the following guidelines:

- Make only one point with each visual
- Limit the amount of information on a visual
- Use a consistent visual theme, but vary visual format to keep visuals interesting
- Combine words and images to engage the audience logically and viscerally

In terms of pacing, don't put your visual up until you're ready to talk about it, and make sure what you are talking about is the focus of the visual being displayed. It's very distracting for the audience to be looking at a visual about one topic when you are discussing a different topic.

When designing visuals, you should:

- Use large, legible fonts so they can be read
- Use signposts
- Use bulleted lists
- Emphasize important information with text effects
- Be concise

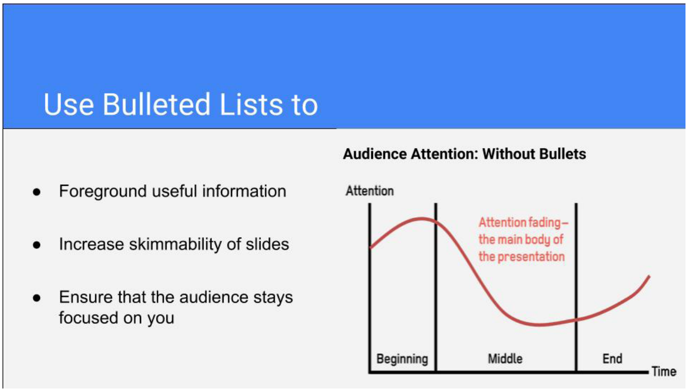


Figure 1. Use Bulleted Lists

The text in visuals should be very concise. You only want to ask the audience to read short phrases and important words. Also, always use parallel structure in your bulleted lists (See Figure 1), and never include large blocks of text in a visual (See Figure 2). Reading requires a great deal of focus. If the audience is reading, they are not listening to you.

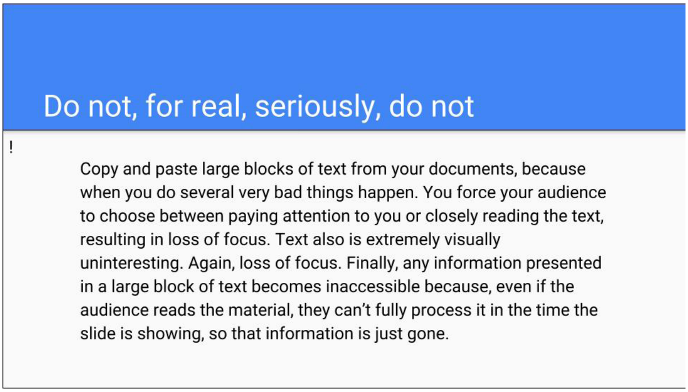


Figure 2. Too Much Text

Using images or graphics in your visuals engages a different part of your audience's brains than text. Varying and combining use of images and text helps keep your audience attentive and engaged (See Figure 3).

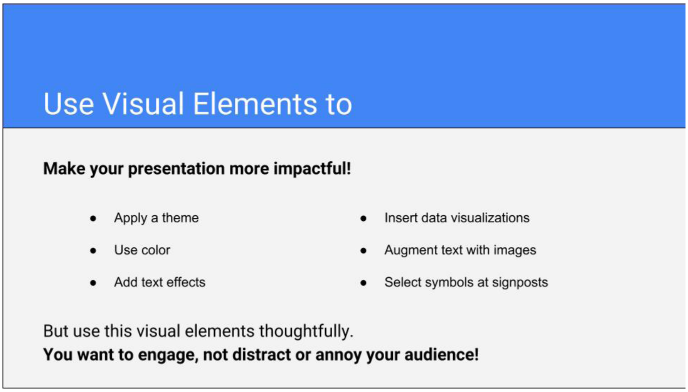


Figure 3. Use Visual Elements

Including data visualizations like charts and graphs is useful because these graphics communicate numerical information more quickly, effectively, and persuasively than lists of raw data. However, avoid overly complex data visualizations. As with text, close reading of complex graphics requires more focus than you should ask of your audience.

When you are selecting images to include, make sure they are appropriate for your audience. If you are giving a professional presentation, your images should be professional. You also want to be careful when selecting images that refer to pop culture or when you make jokes. You will lose your audience if you make a reference some people don't get, or if your humor is offensive to your audience, or just plain not funny. And, of course, you need to make sure that you have permission to use all your images.

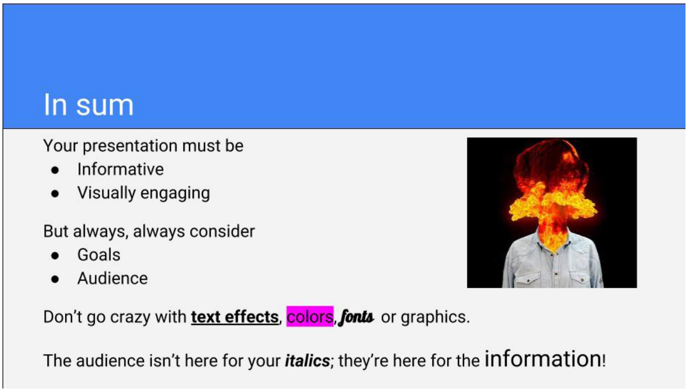


Figure 4. Signposting

As with all visual elements, they bring to your presentation a strong visceral appeal that happens instantly and unconsciously in your audience. Even color and font design creates mood. When you are selecting visual elements for your presentation, make sure you've considered who your audience is and how you want them to feel about your presentation. Your presentation reflects the context in which you present it, but, because it is a live event, it also creates context, too. You can shape the impression you make on your audience in the moment with the design of your presentation materials.

For more information about graphics and images, see the "Visual Design" chapter.

Exercises

1. Individual: Create a PowerPoint or Google Slide presentation that illustrates a process, theory, or practice common in your field or major. The presentation must be three to five minutes, and it must include terminology specific to your field. Your audience is a group of high school seniors considering a career in your field. Design a minimum of five slides: a cover and a closing slide, along with at least three content slides.

2. Group: In groups of four or five, find a recent news story covering a development or problem in a field that interests all of you. Research the following:

- Background on the story
- Technical details of the development or problem
- Plans to use the development or solve the problem

Develop a presentation that explains each of the components of the story you researched. Conclude by advocating for a specific application of the development, solution to the problem, or protocol for ensuring that the problem doesn't occur again, as your group decides is appropriate.

Distribute research, presentation design, and presentation roles among your group members. You can use any slide application you choose, including Google Slides, PowerPoint, Prezi, etc. Presentations must be nine to 11 minutes in length.

Chapter 17
Instructions

Instructions instruct. The goal of instructions is to take the user/reader/audience from wanting to do something to doing the something. Within the broader category of manuals or instructions, there are a variety of sub-genres such as quick reference guides, how-to books, troubleshooting guides, and others. Instructions not only have sub-genres, but they also come in many different shapes and sizes and can range from a single page to hundreds of pages. They can be provided online or as hard copy resources using video, images, text, or a combination of all three. Instructions can present a basic outline of steps or provide more detailed information such as history, theory, or technical specifications. No matter what form they take, instructions gain cultural force by moving writing from simply communicating information to the participatory role of problem solving. Instructions, in effect, are designed to help a non-specialist become a specialist.

An important point to remember about instructions is most of your readers will not read the entire set of instructions.

Most of us have experienced the trauma of bad instructions, and many of us have felt we could write better instructions. From the PAD standpoint, the purpose of instructions is relatively straightforward—it's what you want your reader or user to do. The audience part, however, can be very difficult. An effective set of instructions requires very careful attention to audience. As with our previous discussions about audience, you need to determine how much the reader already knows about the activity or subject itself, and how much detail they want you to give them. An important point to remember about instructions is that most of your readers will not read the entire set of instructions. Because your audience is likely to get what they need and get out, you must think about how to design and organize your instructions so that your audience(s) can easily access the information they need.

With that said, the instruction's overview has three important components:

- Parts of instructions
- Writing style
- User testing

Part of Instructions

No matter how long or how short or what kind of instructions you are writing, instructions will always have at least three parts:

- Title
- Introduction
- Steps

However, in most cases, especially in longer documents, instructions will have the following sections:

- Title
- Introduction
- Technical background or theory of operation
- List of Materials and Descriptions
- Warnings

- Steps
- Other

Title

Your title should be very clear, descriptive, and limiting:

- Identify the exact thing you're focused on (e.g., the specific shelving unit, the video game, knitting, etc.)
- Identify exactly what you are going to do with or to the thing (e.g., assembling the shelving unit, taking down the big boss at the end video game Level 1, knitting a hat that looks like a turtle head with googly eyes)

Introduction

- Introductions can be a single sentence or an entire section. The length and complexity depends on your purpose and audience. Following is a list of items to include in an introduction.
- Include a purpose statement that explains what the set of instructions is about (subject)
- Identify the outcome of the procedure described in your instructions
- Identify your intended readers (beginners, experts, etc.)
- Tell the range of information covered by the instructions
    - What they cover
    - What they don't
- Describe briefly the way the instructions are organized (how readers find what they need)
- Add recommendations for using the instructions efficiently and effectively

- Consider including a reference to any design conventions you will be using in the instructions (e.g., all safety warnings in red, or a yellow triangle with an exclamation point in it to tell the reader to take extra care with a step)

- Think about including a motivational statement meant to encourage your readers to read the instructions completely

1 INTRODUCTION

1.1 Purpose of the CT Study Instruction Manual

The purpose of this instruction manual is to help you complete original and revised CT studies for your treatment plant using the CT Template.

1.2 What Systems Can Use the New Automated CT Study Template?

The Template is primarily intended for small and medium size treatment plants. The template is designed for treatment plants with no more than 10 disinfection zones, each zone consisting of no more than 10 treatment units. If your plant does not meet these requirements, your CT study will need to be completed manually.

1.3 How Is This Instruction Manual Organized?

Table 1-1 gives a summary of the chapters in this manual and what they cover.

Table 1-1: CT Study Template Guidance Manual Chapters

Chapter	Topics
1	**Introduction** This chapter describes who is eligible to use the new Template and discusses how to use this guidance manual.
2	**CT Studies and the CT Study Approval Letter** This chapter details the concepts used in the preparation of a CT Study and the subsequent approval process. A firm understanding of the background presented here is critical to the preparation of an accurate CT Study.
3	**Describing Your Treatment Plant** This chapter presents the guidelines you will use follow in writing a narrative description and preparing a plant schematic.
4	**Describing Your Disinfection Zones** This chapter takes you through the steps involved with customizing the Template to accurately reflect the number of disinfection zones and treatment units in your treatment plant. This chapter outlines the information you must enter to characterize your disinfection process.
5	**Evaluating Your Disinfection Protocol** Chapter 5 describes the Calculator worksheet of the CT Study Template and the information you must provide to determine whether your disinfection process provides adequate disinfection.

Figure 1. Sample Introduction to Instructions

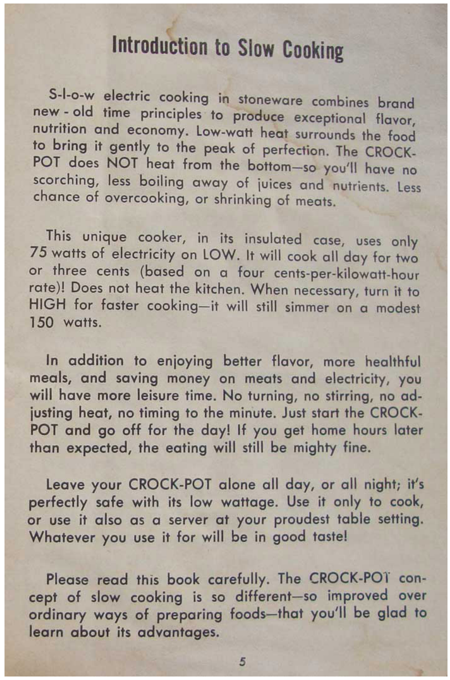
Again, not every item listed here—except the first—will be included in every set of instructions. But this list provides a snapshot of broad issues introductions should address. See Figure 1 for an example.

Technical Background and Theory of Operation

Longer instructions, or manuals, will often include a technical background or theory section to provide context on the development and use of the subject of the instructions (See Figures 2 & 3).

List of Materials and Description of the Equipment (If Applicable)

List all the materials needed before you begin your instructions. Use this only if you believe the equipment will not be thoroughly familiar to your readers. Also include a description of the function of the



Introduction to Slow Cooking

S-l-o-w electric cooking in stoneware combines brand new - old time principles to produce exceptional flavor, nutrition and economy. Low-watt heat surrounds the food to bring it gently to the peak of perfection. The CROCK-POT does NOT heat from the bottom—so you'll have no scorching, less boiling away of juices and nutrients. Less chance of overcooking, or shrinking of meats.

This unique cooker, in its insulated case, uses only 75 watts of electricity on LOW. It will cook all day for two or three cents (based on a four cents-per-kilowatt-hour rate)! Does not heat the kitchen. When necessary, turn it to HIGH for faster cooking—it will still simmer on a modest 150 watts.

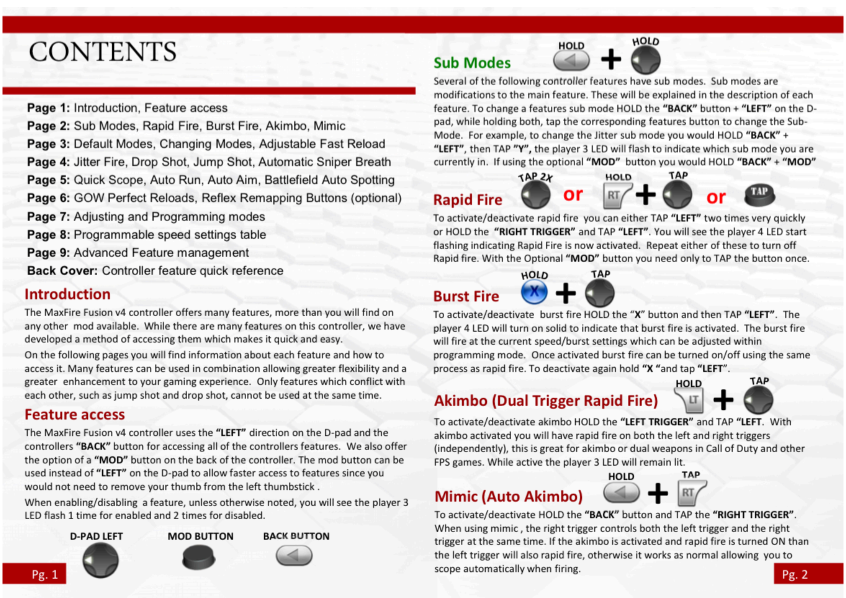
In addition to enjoying better flavor, more healthful meals, and saving money on meats and electricity, you will have more leisure time. No turning, no stirring, no adjusting heat, no timing to the minute. Just start the CROCK-POT and go off for the day! If you get home hours later than expected, the eating will still be mighty fine.

Leave your CROCK-POT alone all day, or all night; it's perfectly safe with its low wattage. Use it only to cook, or use it also as a server at your proudest table setting. Whatever you use it for will be in good taste!

Please read this book carefully. The CROCK-POT concept of slow cooking is so different—so improved over ordinary ways of preparing foods—that you'll be glad to learn about its advantages.

5

Figure 2. Context example



CONTENTS

Page 1: Introduction, Feature access
Page 2: Sub Modes, Rapid Fire, Burst Fire, Akimbo, Mimic
Page 3: Default Modes, Changing Modes, Adjustable Fast Reload
Page 4: Jitter Fire, Drop Shot, Jump Shot, Automatic Sniper Breath
Page 5: Quick Scope, Auto Run, Auto Aim, Battlefield Auto Spotting
Page 6: GOW Perfect Reloads, Reflex Remapping Buttons (optional)
Page 7: Adjusting and Programming modes
Page 8: Programmable speed settings table
Page 9: Advanced Feature management
Back Cover: Controller feature quick reference

Introduction

The MaxFire Fusion v4 controller offers many features, more than you will find on any other mod available. While there are many features on this controller, we have developed a method of accessing them which makes it quick and easy.

On the following pages you will find information about each feature and how to access it. Many features can be used in combination allowing greater flexibility and a greater enhancement to your gaming experience. Only features which conflict with each other, such as jump shot and drop shot, cannot be used at the same time.

Feature access

The MaxFire Fusion v4 controller uses the **"LEFT"** direction on the D-pad and the controllers **"BACK"** button for accessing all of the controllers features. We also offer the option of a **"MOD"** button on the back of the controller. The mod button can be used instead of **"LEFT"** on the D-pad to allow faster access to features since you would not need to remove your thumb from the left thumbstick .

When enabling/disabling a feature, unless otherwise noted, you will see the player 3 LED flash 1 time for enabled and 2 times for disabled.

D-PAD LEFT MOD BUTTON BACK BUTTON

Pg. 1

Sub Modes HOLD + HOLD

Several of the following controller features have sub modes. Sub modes are modifications to the main feature. These will be explained in the description of each feature. To change a features sub mode HOLD the **"BACK"** button + **"LEFT"** on the D-pad, while holding both, tap the corresponding features button to change the Sub-Mode. For example, to change the Jitter sub mode you would HOLD **"BACK"** + **"LEFT"**, then TAP **"Y"**, the player 3 LED will flash to indicate which sub mode you are currently in. If using the optional **"MOD"** button you would HOLD **"BACK"** + **"MOD"**

Rapid Fire TAP 2X or HOLD + TAP or TAP

To activate/deactivate rapid fire you can either TAP **"LEFT"** two times very quickly or HOLD the **"RIGHT TRIGGER"** and TAP **"LEFT"**. You will see the player 4 LED start flashing indicating Rapid Fire is now activated. Repeat either of these to turn off Rapid fire. With the Optional **"MOD"** button you need only to TAP the button once.

Burst Fire HOLD + TAP

To activate/deactivate burst fire HOLD the **"X"** button and then TAP **"LEFT"**. The player 4 LED will turn on solid to indicate that burst fire is activated. The burst fire will fire at the current speed/burst settings which can be adjusted within programming mode. Once activated burst fire can be turned on/off using the same process as rapid fire. To deactivate again hold **"X"** and tap **"LEFT"**.

Akimbo (Dual Trigger Rapid Fire) HOLD + TAP

To activate/deactivate akimbo HOLD the **"LEFT TRIGGER"** and TAP **"LEFT**. With akimbo activated you will have rapid fire on both the left and right triggers (independently), this is great for akimbo or dual weapons in Call of Duty and other FPS games. While active the player 3 LED will remain lit.

Mimic (Auto Akimbo) HOLD + TAP

To activate/deactivate HOLD the **"BACK"** button and TAP the **"RIGHT TRIGGER"**. When using mimic , the right trigger controls both the left trigger and the right trigger at the same time. If the akimbo is activated and rapid fire is turned ON than the left trigger will also rapid fire, otherwise it works as normal allowing you to scope automatically when firing.

Pg. 2

Figure 3. Technical background example

materials or equipment. You will normally list this information incorporating visuals and extended descriptions when necessary.

Warnings

Include general warnings in a separate section or you can add these within the body of the instructions at appropriate places. You may wish to use an icon or pictogram to communicate warnings with immediacy to a broad audience.

Steps

Write each direction for rapid understanding:

- **Give one action per step**
- Present the steps in a numbered list
- Begin each step with an active verb (See “Writing Style”)
- Highlight keywords

Help your readers locate the next step quickly:

- Number the steps
- Put blank lines or spaces between steps
- Put step numbers in their own columns
- Distinguish actions from supporting detail or information

Other considerations when writing instructional steps:

- Group related steps under action-oriented headings that begin with verb participles (e.g., Installing, Converting, etc.)
- Use as many visual aids as necessary to tell readers where things are, how to perform steps, and what the result should look like
- Present branching steps clearly if there are alternate courses of action
- Explain what to do in the event of a mistake or unexpected

result

Optional Sections

You may want to include other sections at the end of the document:

- Tips
- Troubleshooting
- Glossary
- End user licensing agreement (EULA)
- Other legal disclaimer(s)

Writing Style

Usable instructions rely on effective writing that makes your documents readable and accessible. Readable means using certain writing techniques and accessible means incorporating document design and graphics that make the instructions effective for your audience(s) (See "Usability" and "Accessibility").

Tips for making your documents readable:

- Use direct address (speak directly to the audience), active voice (the subject/the audience acts), and imperative mood (a command/request). For example, Remove the jack from the trunk.
- Use short and logical sentences
- Use parallel structure. For example, (1) **Remove** the hubcap; (2) **Fit** the lug wrench onto a lug nut.
- Phrase instructions affirmatively
- Use transition words to mark time and sequence (e.g., first, second, third)
- Order steps logically

- Incorporate appropriate level of technicality (as determined by audience)

Tips for making your documents accessible:

Visuals

- Illustrate any step that might be hard for users to visualize
- Parallel the user's angle of vision in performing the activity or operating the equipment
- Avoid illustrating any action simple enough for users to visualize on their own

Effective Design

- Provide informative headings
- Arrange steps in a numbered list
- Separate steps visually
- Make warning, caution, and danger notices highly visible
- Keep the visual and the step close together
- Consider a multicolumn design
- Keep it simple

In addition, you need to keep in mind the following:

- Write in complete sentences
- Use verbs, active ones
- Be concrete
- Avoid this, that, these, those
- Avoid elegant variation

- Look at your words
- Be clear

Usability

Usability relates to the impact a product has on its end-users. In general it refers to the efficiency with which a customer can do their tasks with the product, and their overall satisfaction with that process. Usability should be considered from a systems perspective, including the hardware and software interfaces, documentation, packaging, and any other component of the system and processes surrounding it that affect the user. Usability is a key design and marketing concept meaning the extent to which a product is safe, comfortable, effective, and efficient. Usability can be measured objectively:

- Can your users *do* what you want them to do from what you've *written*?

Usability should be an important part of the design process, and many corporations realize that testing during development can save thousands of dollars. User testing should find the problem(s) with whatever it is you're producing and correct the problem(s) before the "thing" is released. You want your users to be able to:

- Locate the information they need easily
- Understand the information immediately
- Use the information successfully

Usability testing applies to print and online documents. To be able to accomplish the goals listed above you need to go through following the testing process. Once you've completed the steps of a user test, you need to report the results to the appropriate people or you make changes based on the results of the test.

Testing Process

Determine the types of testing:

- Quantitative testing
- Qualitative testing
    - Focus groups
    - Protocol analysis

Set up guidelines for testing:

- Identifing the document’s purpose
- Learning the facts
- Mastering concepts or theories
- Following directions
- Navigating a complex activity that requires decisions or judgment

Identify the human factors:

- Users’ abilities/limitations
- Users’ attitudes
- Users’ reading styles
- Workplace constraints
- Possible failures

Design the usability test:

- Content
- Organization
- Style
- Design
- Ethical, legal, and cultural considerations

- Record results

Administer the test:

- Range of responses
- Independent responses
- Reliability
- Group consensus
- Thoroughness

For more information about usability and usability testing, see the “Usability” chapter.

Exercises

1. Find two examples of instructions.
2. Look through the examples you found and nalyze them for audience and design. What design elements stand out most to you in each set of instructions? Think about the medium (i.e., video, text only, visuals only, a combination). Think about graphics and language. Look at style. Who do you think the target audience is for the instruction? Why? What characteristics of design tell you about the audience?
3. Think of something you can do that not everyone can (e.g., sports, dance, music, cars, a hobby, etc.). Pick a specific action, something you do as part of the activity, and write an instruction set. Include visuals, as appropriate. Once you have your instructions, give them to at least one, preferably three people—in class, not just with your friends. Watch them follow the instructions. Analyze where they succeed/fail in helping your user. Revise them and give them to somebody else. Did the instructions improve?

Chapter 18
Proposals

A proposal outlines a specific plan or idea intended to address a problem, improve a process, or introduce a new initiative. It typically includes a clear objective, detailed strategies, anticipated outcomes, and a request for approval or support from relevant stakeholders. While often a document, a proposal can take many forms depending on the audience and purpose—including a presentation or pitch. The proposal is one of the most challenging writing tasks because a proposal educates and persuades the reader at the same time. An effective proposal makes it clear that the future benefits of carrying out the proposed plan will outweigh the costs associated with that activity.

The PAD of Proposal Writing

Above all else, it is important to remember that the proposal is a highly contextualized, targeted, persuasive document. Because proposals are both important and specialized documents, it is common for businesses, nonprofit organizations, and government agencies to employ a professional proposal writer. The proposal writer's job is to understand the goals of their employers organization and the goals of the funding organization, then put these two rhetorical situations in conversation in a way that persuasively proves that these two organizations would benefit from working together. Doing this work requires considerable rhetorical awareness:

1. Address needs of audience: Research the needs of your au-

dience (See “Audience” chapter for more discussion of researching your audience). Successful proposals are expertly tailored to their audience. The more you know about your audience, their needs, and situation the more effectively you can develop and present a beneficial plan. Often, you can contact the organization directly as part of your research to ask questions or get clarification on the organizations expectations.

2. Describe your plan: A proposal is a plan of action. You must be clear on exactly what you are planning to do should your proposal be accepted. What equipment or tools will you be using? How will you go about with certain procedures? What research methods will you use? As with your audience’s needs, you must do research to see what is expected from you and be prepared to answer questions.

3. Professionalism: Present your credentials. Your proposal will have a higher chance of being accepted if you show that you have done similar projects in the past or you are working with people who are qualified for the job. Provide a schedule that shows how far in advance you have planned for the project. Including a budget is also important. It shows that you have done the research required to calculate the cost.

Resources Needed

A well-written proposal is not the only thing that you need to get the job. You need to have the resources required to deliver what you offer. Part of the research for a proposal includes confirming that you have the money and materials necessary to enact your plan, to include the right personnel, the necessary tools and stock, and an area to work in. Collaboration within your organization is key if you want to deliver on your obligations.

Proposal Types

Proposals are labeled as either internal or external, with external proposals further classified as solicited or unsolicited (See Figure 1).

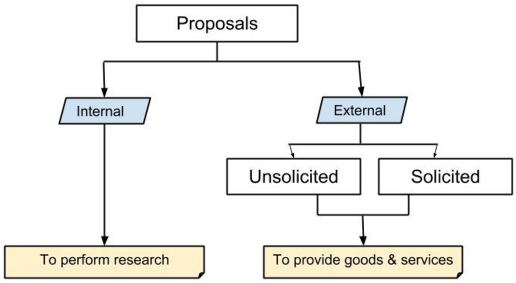


Figure 1. Typical Generation of Proposals

Internal proposal

An internal proposal is offered by an organization's members. Usually, internal proposals will be geared toward research and recommendation, and can take on many shapes, forms, and sizes. While they are similar to recommendation reports, internal proposals will, in almost every case, include monetary information about budgets, costs, etc. Doing research for internal proposals may be simpler than for external proposals because you would be aware of your organization's policies and where to find data, and you may not need to include organizational information like resumes, which are already on file.

External proposal

An external proposal is offered by a supplier looking to work for another organization. Most organizations require some outside services in order to do their business, such as engineers or designers, and external proposals are offers to provide those goods and/or services. Research into the customer organization and its needs is a significant part of the work you do for external proposals, and you will have to compete with other organizations for the job.

Solicited proposal

A solicited proposal is an external proposal that is responding to a request for proposal (RFP) from an organization or customer. Most organizations will publish RFPs that they are either looking for supplier bids or customized products that meet their needs or expectations. Your proposal will have to fit the RFP requirements in order for it to be considered.

Unsolicited proposal

An unsolicited proposal is an external proposal that your organization submits without specific invitation from another organization or customer. Since the organization issue an RFP identifying a specific need, your proposal will have to effectively communicate why and how the organization needs the goods/service you propose to provide.

Even though proposals will vary based on who requests them, all proposals do have some common ground represented in the following questions:

- What problem are you going to solve?
- How are you going to solve it?
- When will you complete the work?
- Can you deliver on what you promise?
- What benefits can you offer?
- How much will you charge?
- What exactly will you provide?

Trying to answer these questions as you plan, research, and write your proposals will help you stay on track and stay focused on your objectives.

Structure of Proposals

There is no set template for how a proposal should look like. You will determine what sections you need to include based on the guidelines set forth by the RFP (solicited external), or by the person within your organization who requests the information (internal), or based on your research into a need (unsolicited external). Every organization and RFP will have its own guidelines, but most proposals follow the general format described here.

EXECUTIVE SUMMARY FOR PROPOSALS

It's not about summarizing, it's about selling.

- Grab their attention
- Communicate understanding of their needs
- Connect their needs to your plan
- Highlight plan outcomes and benefits
- Include the most persuasive evidence
- Make a clear call to action

Use that You-Attitude and Close the Deal on Page 1!

Executive Summary

The executive summary is the first thing your audience will pay close attention to, and it plays a very important role in the success of your proposal. The executive summary gives an overview of the major details of your project in brief sentences, but it actually does far more than that. The executive summary of a proposal is highly persuasive. This is the first impression reviewers have of your plan, and you need to make it count. The length of your summary depends on the guidelines of the organization, but most require that you keep it short. In that short space, you need to foreground what makes your plan the right plan for the reviewers. Bring the "you" attitude by making it clear that you understand their needs and explain why your plan fills those needs. Focus on plan outcomes and how the plan benefits the reviewers. The research you include should be the most persuasive you have, and your call to action should be clear and compelling. If your summary doesn't make an impression, your proposal could go straight into the recycle bin, so think carefully about what you include in this key section of your proposal.

Introduction

The introduction describes the context of the proposal. It is here that you explain the purpose and scope of your proposal, as well as how the program will be organized. The main rhetorical strategy to employ in these sections is audience awareness. Make sure you present your idea in terms that the organization understands and asks for. The best way to do this is to carefully examine their RFP, any websites or public facing media, and the submission guidelines. You also can correspond with an organization representative via email or telephone. Make your idea fit their message.

Plan of Work/Proposed Program/Timeline

In the plan of work, you will explain exactly what you propose to do. Be specific and detailed in describing your planned action. Present your research to show that you are informed and that the plan is feasible. You want your audience to trust that you know what you're doing and can do it. Most proposals expect you to complete your project in a set timeline that you provide in the proposal. The timeline also needs to be detailed, organized, and feasible. Make sure you have researched the personnel necessary to realize your timeframe.

Field Scan/Literature Review

Research underpins all proposals. It will be important to your reviewers that you have done your homework. The type of research you do will vary by proposal, but, in general, you need to situate your planned goods/services within the context of similar plans addressing similar needs. Research shows that you are well-versed in the specific situation and the types of programs other organizations have implemented. Research also shows that your plan is feasible (based on the outcomes of similar plans), and provides data that you can leverage for increased benefits. It is important to demonstrate that you are doing something different from other programs, that your strategy is informed by proven strategies, and that you have researched how to implement your goal.

Qualifications

You must provide your credentials to prove that you are qualified to do the project. Depending on the size of the project, you may need to provide documents such as resumes, organizational charts and technical credentials.

Budget

Since you are requesting money, every funding agency expects you to provide a detailed expenditure report for how you plan to allocate funds. You cannot receive funds without demonstrating a researched understanding of why you are requesting a certain amount and what you plan to do with it. In this way, your budget is closely tied to your field scan and timeline sections. When you request money for equipment, you need to demonstrate that you know what the equipment actually costs. In order to request a salary for someone, you need to demonstrate their planned working hours in the timeline, as well as the average income for a person in that position. The organizations and funding agencies generally provide a specific budget form that they expect you to use.

A Note About the Importance of Organization

As you plan the structure of your proposal, be aware that a proposal's success depends heavily on the organization of information. The organization and structure you choose should clearly demonstrate the logic and reason in the approach taken. It must be easy and intuitive to find proposal sections and specific information. Evidence/data should be presented in descending order of importance, from most to least important, and the evidence presented must be tied logically and inevitably to conclusions and resolutions. Organizations and funding agencies often provide a very detailed description of what the proposal should contain and how it should be organized. These descriptions sometimes include style guides. Always follow the expectations to the letter.

As you draft your proposal, keep in mind that any question that the reader may ask should be anticipated and answered in a way that supports the stated position of your proposal. You also should consider all sides of the issue by providing other alternatives, but clearly showing how your proposed solution is superior.

Assessment Procedures

Most agencies require you to devise a plan of assessment. Tell the reviewers how will you measure your plan outcomes and report the effectiveness of your project. Many times this kind of assessment is done in what's referred to as a white paper. These documents detail the implementation of the funded project, as well as any challenges that occurred and/or any changes made to the initial proposal. Ultimately, organizations and funding agencies need you to provide a reliable way of demonstrating that their money was actually put to good use in a way that promotes their goals or mission.

Evaluation Criteria

All proposals offer a plan to fill a need. How the reviewing organization evaluates your proposal will vary based on the type of plan you offer (e.g., commercial enterprise, grant, or federal contract, etc.). However, in general, your reader will evaluate your plan according to how clearly, effectively, and persuasively your written presentation answers the following questions:

- What you are proposing?
- How and when do you plan to do it?
- What are the benefits of this proposal?
- How much is it going to cost?

The more thoroughly and effectively you answer these questions in your proposal, the more likely it is to be accepted.

Grant Proposals: A Specific Type of Solicited Proposal

Grants refer to the kinds of resources (money, time, space, etc.) that are given to applicants who prove their qualifications and demonstrate a researched knowledge of the grantmaking organization's mission. Organizations who offer grants often create highly competitive application processes to ensure that only the strongest applicants will receive support. This application process ensures that the selected grantees are utilizing resources for purposes the grantmaking organization deems important and in line with their mission statement. This application process almost always involves a technical document known as a grant proposal.

What is a Grant Proposal?

A grant proposal, in the most simple terms, is a request for resources. The grant writer's primary purpose is to persuade a grantmaking organization or funding agency to invest in a project, working group, initiative, or other fundable campaign. Because of this, grant proposals can often be high-stakes documents with immediate ramifications for an individual, business, or organization. A talented grant writer is a highly sought after professional, one who is well-versed in rhetorical tasks of appealing to the needs of a specific audience, crafting a well-researched argument, and designing a document with attention to detail.

The most important thing to remember when writing a grant proposal is to follow the submission guidelines to the letter. Grant proposals are a highly prescriptive genre for a very specific audience. The funding agency, in most cases, will outright reject proposals that do not conform to the guidelines in the RFP.

Some key sections that may appear in many grant proposals are discussed below. In order to practice thinking through grant proposals in terms of PAD (purpose, audience, and design), consider some of the following questions:

Who is the organization represented?

Clearly articulate the purpose of the proposed program and explain why that that purpose is important for the organization seeking funding. This allows the purpose of program/plan to remain central to the document.

Who is the funding agency/grantmaking organization?

In order to appeal to an audience, a proposal writer has to research the beliefs, mission statement, previously funded grants, etc. of the funding agency. Often funding agencies will be explicit in their public statements and in the grant RFP itself about the types of programs they want to fund and the greater purpose served by funding them.

How does the proposal meet the needs of the funding agency?

Funding agencies need to see explicitly how their money is being used and how an organization plans to assess the impact of the grant. Part of the grant writer's job is to provide evidence for how effective a grant was in achieving the mission of the funding agency. The budget must also be complete and correct.

What does the organization require?

Make sure to follow the specific guidelines and application instructions provided by the funding agency. Document design is extremely important to organizations because of the limited amount of time they have to read proposals. The summary must provide an overview of the project/program, and, like all proposals, this summary is an important and persuasive section. The introduction must explain the purpose of the proposal and how the program will be organized. Make sure the plan of work is clear, descriptive, and justifies what you want to do. For many grants, assessment of program outcomes must be detailed, concrete, and quantifiable. And, again, you have done thorough and persuasive research on the project beforehand. Finally, your qualifications must summarize the skills needed for the project.

Exercises

1. Reading RFPs

Choose one of the following fields: Business, Health Sciences, or Engineering. Find an RFP in your field. Websites such as SAM.gov and Proposal Central are good places to look for such proposals. Read through the RFP guidelines to identify the types of information that the organization wants. List these criteria and compare the list to the types of information discussed in this chapter. How is your RFP similar and different from the types of proposal materials described in the chapter? Repeat this process with a second organization's RFP in the same field. What major similarities/differences stand out between the two sets of submission guidelines? Prepare to discuss these in class as well as compare them against students who investigated RFPs in different fields.

2. Writing an introduction to a proposal (Group Exercise)

There have been recent complaints from students about limited parking in the school area. The parking lots fill up quickly during certain hours of the day, forcing many students to find parking that is farther away from their designated buildings. Your group has decided to write a proposal for a new parking lot. You must first identify which USF office should be contacted for this kind of request. Then draft an initial introduction to send to this office. Be sure to include research into need, similar parking solutions, and initial budget approximations.

Chapter 19
Reports

Reports are a very broad genre of business communication. All reports record and convey information. Beyond that very general definition, there are many different types of reports designed to address different situations and fulfill different purposes. Reports are used in all aspects of business in varying ways and to varying degrees.

What this means to you is that there is very little standardization in what a report should look like or what a report is called in one context or another. Despite their variety, however, all reports have one thing in common: they present results.

Reports provide a description of a task, project, or research activity either at its completion or at some mid-point to recount and summarize your actions.

Since reports will be part of your professional life, it is helpful to break reports down into three major types that have typical components. The types of reports and the components contained within them are our focus in this overview.

Types of Reports

Figure 1 provides a visual representation of the three major types of reports.

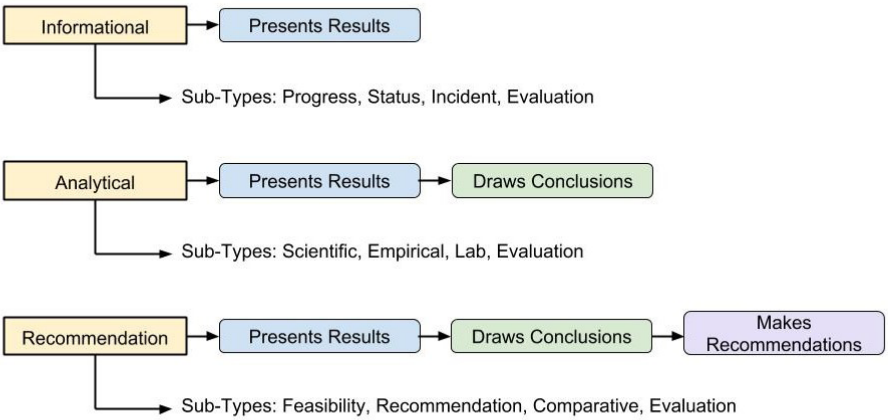


Figure 1. Major Types of Reports with Sub-Types and Purposes

Some of the sub-types or alternate names of reports classified in the three major categories are listed below each category heading. The diagram also identifies the primary purposes of reports within each category. Following are some examples:

- An informational progress report might provide information on the status or progress (results) of a project
- An analytical empirical report might provide methods and data (results) and draws conclusions from an empirical research project
- A recommendation feasibility report might provide a detailed analysis of proposed project (results), draw conclusions about the strengths and weaknesses of the project, and then make a recommendation regarding the project's feasibility

To illustrate the complexity and altering forms of reports, look closely at Figure 1 again. For each of the three major report categories, you will see the same type of report: evaluation. An evaluative report, in general, evaluates something or evaluates one thing in relation to another thing or things. You can have an evaluative report that only presents results, which would be informational.

For example, you were asked to evaluate what people did on their breaks. You sent out a survey and then compiled results. This is an informational evaluation. Once your supervisor looked at report, she asked you to draw some conclusions about the data so that she could forward it to the regional office. The report has become an analytical evaluation. Your conclusions found that most people used their breaks to surf the Internet or talk on their mobile phones. The regional director asked your supervisor to make recommendations based on your conclusions. This is how an evaluation report can be informational, analytical, or a recommendation report.

Informational Reports

Two of the most common types of informational reports are the progress report and the incident report. The **progress report** is a relatively informal document that is normally delivered to a supervisor, project manager, associate, or customer about progress you've made on a project over a certain period of time. The progress report keeps interested parties informed of the status of the project, what progress you have made, and what you have been doing with your time.

The progress report conveys the following information:

- What has been done (and who's done it)?
- What work is in progress (and who's doing it)?
- What is left to be done (and who's going to do it and how you're going to get it done)?
- What problems you're having and how you're dealing with them?

Progress reports have the primary function of reassuring recipients that progress is being made on the project and that it will be completed on time. Progress reports are used as an accountability document. Often times, your annual performance review may include references to your progress reports. If your company is working for a client that requires progress reports, those reports may ensure (or not) that your company receives payment on deliverables. If you are on a team, progress reports encourage communication and accountability, and serve to keep communication channels open in case of problems.

Incident reports are usually in-house documents used for quality assurance and record-keeping purposes. An incident report can vary in complexity and format, and many companies now have web-based or electronic incident reports forms. No matter the format or method of delivery (print or online), the incident report should always answer the following questions:

- What happened?
- When did it happen?
- Who was involved, including client(s), sub-contractor(s), or any other people involved in the incident and/or its resolution?
- Why it happened (may be answered by *what* and/or *who*)?
- How was the incident resolved?

Corporate annual reports fall somewhere between informational and analytical reports because they report annual activity that often involves some degree of analysis.

Analytical Reports

You have more experience writing reports than you may realize. One of the most common examples of an analytical report is a college research paper. In a research paper, you're presenting information and drawing conclusions. While the style and format of a research paper is not directly transferable to a business analytical report, the skills you used in writing and developing the research paper are transferable. As with analytical reports in business, research papers provide context and evidence, and draw conclusions.

Recommendation Reports

In "Recommendation and Feasibility Reports: State and support your opinion...professionally," David McMurrey does a solid job pointing out the fine distinctions between types of recommendation reports, which are probably one of the most popular forms of reports used in the workplace. McMurrey categorizes recommendation reports as follows:

- **Feasibility report:** Studies a situation (for example, a problem or opportunity) and a plan for doing something about it, and then determines whether that plan is "feasible"—which means determining whether it technologically possible and whether it is practical (in terms of current technology, economics, social needs, and so on). The feasibility report answers the question "Should we implement Plan X?" by stating "yes," "no," but more often "maybe." Not only does it give a recommendation, it also provides the data and the reasoning behind that recommendation.

- **Recommendation report:** Starts from a stated need, a selection of choices, or both, and then recommends one, some, or none. For example, a company might be looking at grammar-checking software and want a recommendation on which product is the best. As the report writer on this project, you could study the market for this type of application and recommend one particular product, a couple of products (differing perhaps in their strengths and their weaknesses), or none (maybe none of them are any good). The recommendation report answers the question "Which option should we choose?" (or in some cases "Which are the best options?") by recommending Product B, or maybe both Products B and C, or none of the products.

- **Evaluation report:** Provides an opinion or judgment rather than a yes-no-maybe answer or a recommendation. It provides a studied opinion on the value or worth of something. For example, for over a year the city of Austin had free bus transportation in an attempt to increase ridership and reduce automobile traffic. Did it work? Was it worthwhile?—These are questions an evaluation report would attempt to answer. Evaluation reports compare a thing to a set of requirements (or criteria) and determine how well it meets those requirements. (And of course there may be a recommendation.)

As you can see, these distinctions are rather fine, and they overlap. In workplace writing, these report types often combine—you might see elements of the recommendation report combine with the feasibility report, for example. You should always verify with the person who requests the document exactly what the expectations and purposes are.

Components of Reports

Following are the major components of reports, as well as possible topics within those components.

Front Matter

The front matter provides the information necessary to use the report for its intended purpose. Most common in formal or long reports.

- **Letter of Transmittal:** Describes what's being sent and why it was sent to the recipient. It also may include a very brief (one to two sentences) summary of key elements of the report. The letter provides a friendly note saying, "I know you don't have time to read this 15 page report Friday afternoon, so here's the scoop." The letter normally is not bound with report.

- **Cover:** Preserves the report, reveals the title, and makes a positive and professional visual impression on the reader.

- **Title Page:** Provides bibliographic information for the reader.

- **Table of contents, list of tables and figures:** Locates all elements of the report and provides a key to the organization of the report. The accuracy and accessibility of this material is vital for busy readers who will scan the contents for the information they need.

- **Executive Summary:** Acts as a one page summary of the entire report for all readers. Your summary should be concise, but concrete,

EXECUTIVE SUMMARY FOR REPORTS

Spoiler alert: It's all here!

- What is this about?
- Why is it important?
- What are the major results?
- What more is to be done? or
- How will these findings be applied?

Be concise, but concrete, and total in scope.

This not background or introduction, this is the full report on one page.

and total in scope. Provide specific information, not vague allusions to the content to come. Don't describe what the report deals with; do state what the report does (findings, conclusions, recommendations). Your audience should leave the summary with a clear understanding of everything they will find in the report. Address to the executive audience.

Introduction

Introductions orient non-specialists readers to the problem and state how the report solves the problem. Contents of introductions include overviews of the following:

- Problem
- Scope
- Purpose
- Summary

Body

The body of the report gives the readers the bulk of the information you gathered. Contents may include the following, but will vary based on the type of report:

- Background (theory)
- Methods
- Evidence
- Procedures
- Results or discussion
    - Data
    - Meaning
    - Interpretations

Conclusion

This section offers your recommendations and/or conclusions, which must be logically and explicitly tied to the data and information you provided in the body of the report:

- Recommendations
- Conclusions

End Matter

The end matter includes information pertinent to the subject of the report, but not significant enough to warrant inclusion in the body of the report. Often this material includes supplemental resources or data provided for readers who are interested in additional details. Some materials included at the end include the following:

- Appendices
- Glossaries
- References/Works Cited

General Structures

Figure 2 provides example organizational patterns for three different types of reports. The figure illustrates that, while "reports"

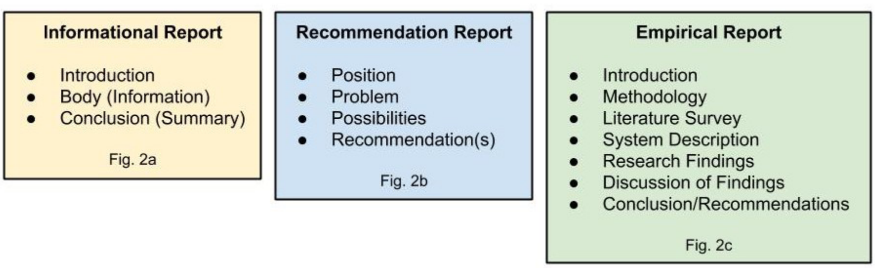


Figure 2: Examples of Report Organization. Created by Lisa Payne, Coventry University

all fall into one large category, they often have different components, and all those different approaches to the report are “right.”

The “right” way to write your report, then, depends on who asked for it, who its for, and what its supposed to do. As you are writing your report, you need to keep in mind purpose, audience, and design. Reports will often have multiple purposes and audiences. The document design you choose will help organize the information and make it easy for your readers to find the information they want to read.

Style in Reports

Reports will often repeat information for different audiences within the same report. Because of this, different parts of the report may be written in different styles that accommodate different audiences. For example, the technical section of a report—discussing complex financial schemes or density levels of building materials—will use specialized and complex language. On the other hand, conclusions should be written to a general audience, so that people inside or outside of the organization with or without a specific specialty in your field will understand your conclusions.

The writing style of your report falls on a continuum of formality – from informal to very formal (See Figure 3). The guiding principle to help you determine the level of formality in your writing is your level of familiarity with the audience.

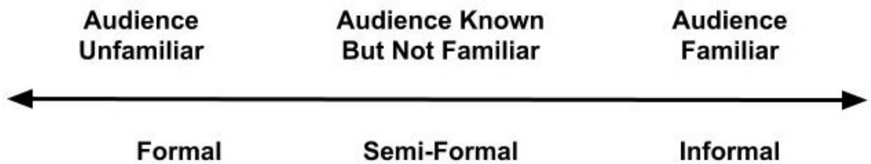


Figure 3. Continuum of Formality for Reports

The more familiar you are with the audience, the more qualified you are to assess the level of formality required, and the more likely it is than you can be less formal. However, the less familiar you are with the audience, the more formal you should be. If you are completely unacquainted with your audience, you should assume that maximum formality is required.

As you may recall, the context of the writing situation is a primary guide not only for what you write, but also, how you write it—the form and the style you use. And you can consider the three report categories to help you select the appropriate report type to do the job you've been assigned. No matter what your organization calls a specific type of report, you can choose the right report for the job.

Exercises

1. Find 2 to 3 reports of the same type (e.g., progress/status, analytical/empirical, feasibility/recommendation, etc.) specific to your field of study. Review the reports and address the following questions:

- Identify the purpose of each document. What did you see in the report to suggest this purpose?
- Identify at least two target audiences. What did you see in the report suggest these audiences?
- Identify at least five design choices made by the author. How do these choices meet the needs of the audience? How do they contribute to the achievement of the report's purpose?
- Compare the documents (similarities and differences) taking into consideration your PAD analysis of each report. What have you learned about creating the type of report you analyzed?

2. Have you and/or your friends/family been involved in or witnessed some kind of irregular situation? Sure you have. Maybe you got stuck in the elevators in Cooper Hall (if you haven't, you will), or you closed your shirt in the car door with the keys locked inside (who does that?). Or maybe you gave your phone to one of your friends when you were out with a group, and, in the morning, you couldn't remember which one of your friends had your phone, and couldn't text any of them anyway (#neverhappened). All these are examples of incidents. Think of an incident you or "someone you know" experienced or witnessed, and write it up in an incident report.

Address the following questions in your report:

- What happened?
- When did it happen?
- Who was involved?
- Why it happened?
- How was it resolved?

Make sure that you research formats (and forms) for incident reports and design an effective, appropriate, and consistent format for the report.

Chapter 20
Collaboration

Collaboration, working in a group to produce something (a program, a machine, a document, etc.) is a staple of business and industry. Successful collaboration does not simply mean delegating responsibilities and then completing tasks on your own, it means leveraging the strongest skills of each member of your group to build a team that works as a cohesive whole to get the job done. Successful collaboration is a process in which every team member participates based on their abilities and the needs of the project. Successful collaboration requires the development of collaborative skills and an awareness of the requirements of the collaborative process. The collaborative work you do in this course will develop your understanding of the following:

- Reasons to collaborate
- Types of collaboration processes
- Steps to start a successful collaboration
- Tips to resolve conflict
- Guides for editing
- Tools to enhance the process

Reasons to Collaborate

Collaboration is a useful tool in both the university classroom setting and in business and industry. Almost all major projects you'll be a part of in the work world will involve some form of collaboration. Learning the process of collaboration and developing your collaborative skills in this course will help you become a successful collaborator in the workplace. Collaborative learning activities will help you achieve the following:

- Develop, clarify, or change your ideas and perspectives through discussion
- Develop critical thinking skills (e.g. construct questions, raise new issues, set hypotheses, advance evidence, evaluate, and suggest ways forward)
- Enhance written and oral communication skills
- Develop skills in group problem-solving
- Generate a broad array of possible alternative points of view or solutions to a problem
- Give you a chance to work on a project that is too large or complex for an individual
- Allow you and your teammates to apply different backgrounds, bring special knowledge, experience, or skills to a project, and to explain these different orientations to others
- Give you a chance to teach each other
- Give you a structured experience so you can practice skills applicable to professional situations

Many of these same reasons to collaborate in the classroom apply to the workplace. Additionally, collaboration is used in the workplace to achieve the following:

- Separate tasks based on expertise
- Provide a variety of perspectives to the project
- Divide large tasks into manageable parts

Fundamentally, collaboration is based on the principle that people working together and bringing their own areas of expertise to a project are capable of producing stronger work than one individual working alone. Realizing this principle requires the development of a work process that keeps all team members coordinated and working coherently together.

Types of Collaboration Processes

A major benefit of collaboration is to draw on the strengths of those involved in the process to produce a more effective document (or machines, programs, etc.). The collaboration process can generally be divided into two particular types based on:

- Job specialty
- Writing process

Figures 1 and 2 are flow chart depictions of collaboration processes. Both processes require a project manager who's in charge of overseeing the smooth operation of all tasks; however, the role of the project manager and how the manager fits into an organizational hierarchy varies significantly from organization to organization. To make sure these diagrams are clear, therefore, they focus on the roles of team members, without the project manager. Roles in these diagrams include subject matter experts (SMEs), professional and/or technical writers, corporate representatives with business knowledge, legal experts, and marketing professionals.

Figure 1 illustrates the job specialty process where team members participate equally, contributing based on their individual specialties throughout each stage of the writing process: planning, organizing, drafting, and revising.

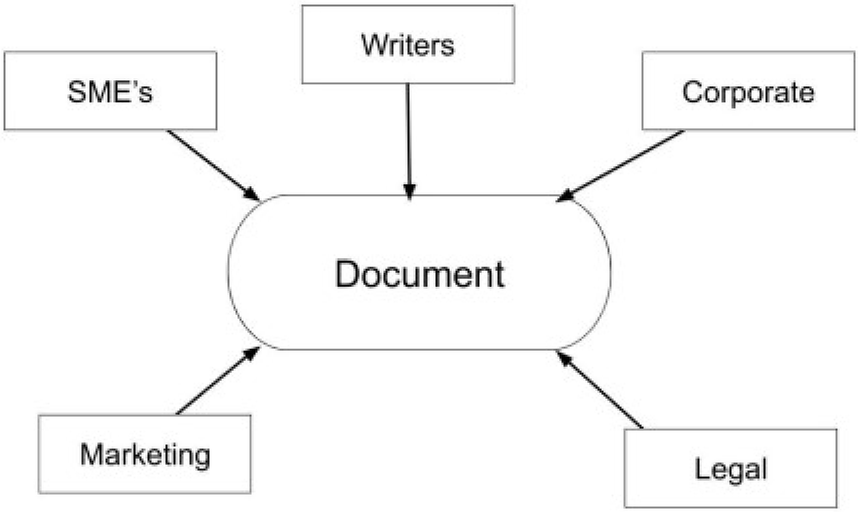


Figure 1. Collaboration based on Job Specialty

In figure 2, different team members work on the document at different phases of the writing process.

Figure 2. Collaboration Based on Writing Process

Both types of collaboration processes can be equally successful. The first process emphasizes job speciality, allowing team members to bring their expertise to all stages of document planning and creation. The second process emphasizes individual stages of document planning and creation, with team members contributing to the stages in which their expertise is most useful. Whether a group chooses to use the job specialty or writing process, both involve a strategic approach to working through the collaborative process, starting from the initial phase of the project. Planning a strategy from the beginning of a project through its completion, to include protocols for working through conflicts or disagreements, will ensure a successful project.

Although these diagrams do not include the project manager role, a manager is always necessary to ensure that communication flows smoothly, all team members are completing their tasks, and deliverables are being submitted on time and through appropriate channels and/or technologies. The role of project manager should go to someone who is well-organized and reliable.

Steps to Successful Collaboration

Successful collaboration hinges on three distinct aspects of collaborative work. Defining the following strategies from the inception of the collaborative process will ensure an efficient, productive workflow throughout the project. Team members need to agree on the following:

- How to get started?
- What to do in a meeting?
- How to stay on track?

How to Get Started

The first step to a successful collaboration happens from the moment your team first comes together. The first step in the collaborative process involves introducing yourselves and exchanging contact information, including the best means of contact and the best times (for example, some people are more responsive to email, some people respond most quickly to text messages). Staying reliably in touch with your team is crucial, whether you are collaborating for a class or in the workplace.

After the team is introduced and contact information is exchanged, you can begin to consider the project and the team's workflow:

- Go through the project and its deliverables or goals to make sure everyone understands what is expected
- Lay out some ground rules about meetings, communication, and deadlines
- Begin the planning process by clearly define team member roles, responsibilities, and deadlines
    - When considering team member roles, take an inventory of each members strengths and weaknesses; the product you produce will be most effective if members are contributing based on the skills and abilities at which they are best

What to Do in a Group Meeting

Regular meetings are a vital part of the collaborative process. They afford an opportunity to exchange ideas and brainstorm as a group, and also to check in, making sure that everyone has what they need to do the work and that the work is getting done on time. Meetings also present an important opportunity to discuss conflicts and resolve obstacles impeding work flow. A successful meeting proceeds as follows:

1. **Initiate:** Begin each meeting by initiating an open forum. How is the project progressing? What problems or obstacles are team members encountering?

2. **Seek information, opinions, status reports:** Be sure each person gets a chance to voice his/her opinion and pro-

vide their status update. Successful collaboration will include disagreements.

3. Question: Raise questions about the information gathered and ask questions to further your understanding of the topic, your role, or task. The more information you gather, the more effective your work will be.

4. Clarify: Take time to clarify questions, answers, and information gathered.

5. Summarize: Provide a concise, detailed summary of the meeting including next set of deliverables.

6. Archive: Make sure someone takes detailed notes during the meeting—focusing on problems, solutions, decisions, and actions taken. These meeting minutes should be archived where all team members can refer to them when they have questions, problems, or require clarification.

How to Stay on Track

Pacing your project is fundamental to delivering a quality product on time. From the beginning of the project, your team will need to agree on a timeline for producing and delivering work that plans the project through all stages of work. Each phase of the work process must be associated with assignments and responsible team members. As the work process begins, staying on track requires consistent and productive communication. These practices are outlined below:

- **Planning**: You need to take the time to plan your project from beginning to end, and you need to stick to your plan. If, as you work, you find modifications to the plan are necessary, make sure all members agree and are aware of changes. Having a planning document you continually refer to and modify helps to keep everybody on track. You already have a basic plan based on the project requirements and due dates. However, you need to think through all the tasks and actions necessary to achieve project goals and requirements and adjust when necessary throughout the course of the project in a master document that everyone can access.

- **Assignments**: Once you have your basic plan outlined, you need to begin to define who is to take responsibility for each task. Explicitly assign tasks to either to an individual or to a group of members. Plan also where and when the work will be completed (e.g., in class, at an outside meeting, or using collaborative technology). Always check in on the progress of the teams assignments at your regular team meetings.

- **Communication, communication, communication**: Collaboration is all about communication. You need to make sure you have and regularly use contact information for each member of the group. Every step of the group process requires effective and open communication. Be respectful of each other's thoughts and opinions. Do not be afraid to disagree with your group members. Establish rules within the group on how to make final decisions when there is no consensus on a topic.

Tips to Resolve Conflict

The success of the project hinges on the ability of the team to share opinions and expertise. But, of course, with opinions comes conflict. The ability of your team to benefit from the various voices and strengths of team members depends on defining ways to deal with conflicts.

The most common conflicts that occur during the collaboration process are conflicts based on individual differences, such as:

- **Interpersonal:** differences in personality, work ethic, process, and general human nature

- **Identity:** differences between how team members perform their identity, informing attitudes toward situations and differences in communication styles

- **Cultural:** differences that arise due to national or international cultural differences

How you manage and resolve conflict allows you to keep the open communication necessary for all voices to contribute to the project. When teams fail, it most often has to do with poor communication. Teams that communicate poorly are not providing updates that keep the team on track or communicating obstacles keeping the team from moving forward, and, significantly, when team members feel that they are not heard or respected, they will build resentment toward the project and other team members. This cycle results in an inability to work productively, or even at all. That's how important it is to develop good communication practices on your team. A unified team that communicates effectively will produce a stronger project than a team that does not communicate well.

Conflict resolution involves two stages. First, putting practices in place that prevent conflict from arising. Second, having practices outlined for resolving conflict when it occurs. Following are several tips for preventing conflict:

- **Always allow time for everyone to speak and voice their opinions.** Having an open and inviting forum where all members' voices are valued will help alleviate the tensions of those who may feel they never get a chance to participate, as well as those who are naturally quiet.

- **Listen carefully to what group members are saying.** Listening is the single most important skill you need to successfully participate in a group project.

- **Find a common ground.** Finding a common thread among differing ideas will often times help diffuse conflict and allow for team members to feel as though their ideas are valued and included. In most cases, conflicts occur over ideas and deliverables.

When Conflicts Over Ideas Arise

- Choose a mediator (and if you can't resolve the conflict as a team, ask your instructor to mediate)

- Let each member tell his side of the story without interruption, comment, or extraneous body language (e.g., rolling the eyes, heavy sighs, etc.)
- Discuss the merits of each opinion
- Discuss potential problems or complications with each opinion
- Work democratically to resolve the issue

When Conflicts Over Deliverables Arise

- Bring up the issue as soon as it arises and discuss it at the next group meeting
- Focus on the issue and not on the person or people responsible for the deliverable
- Illustrate how the failure impacts the project
- Discuss as a team how to get the project back on track

How to Get the Writing Done

When all is said and done, you have to produce something. That means you have to figure out a way to collaboratively write. There are many ways to delegate writing tasks. Depending on your collaborative process, all members may work on all sections of a project throughout the drafting process. This writing process occurs most commonly when your team has decided to write individual sections as a team. Usually this means coming together, either in person or virtually, and writing as a group. Your team also may assign individuals or groups of team members specific sections of a project. In this case, your team may use collaborative software to create a master document to which each individual or group contributes as they finish their sections. Additionally, when writing collaboratively, all members may write or you may divide tasks like research, drafting, and editing among group members. You might divide the paper into sections to split up this task more fairly, and you further might divide tasks such as web research, student interviews, library searches, writing cover letters, or making presentation materials.

Regardless of the collaborative writing approach you choose, it is vital that all members of a group or collaborative team contribute in equal and equitable ways. All group members must contribute equally to the project with the understanding that specific team members will have different tasks. How you organize, plan, and distribute tasks will be decided by your team, but it is vital the division of labor is fair.

Guides for Editing

As you are drafting, you'll want to read and edit the manuscript. You may engage in editing as you write the manuscript, making editing part of the drafting process, or you may decide as a team to edit the manuscript once you have a complete draft. Whichever you choose to do, here are some tips for editing your drafts:

- Read the entire piece at least twice before you comment.
- Remember that just because a statement is correct doesn't mean that it is effective. Always consider purpose and audience.
- Be honest, but diplomatic.
- Always explain why something doesn't work, instead of simply saying something needs to be changed or is bad.
- Make specific recommendations for improvements.
- Respect all opinions, but be aware that not all feedback is relevant. When considering whether to revise based on a comment, consider the project's goal, and, as always, purpose and audience.

Additionally, no matter how you collaborate to write the document, it needs to sound to the audience like it was written by one organization with one voice. This means that, after drafting the document, the team (or member(s) of the team) must go through the entire document to ensure uniformity of style and tone. Even if different members of the team wrote different sections, the final product needs to be a coherent project. That final edit for uniformity of style and tone is vitally important.

Tools for Collaboration

With the availability of electronic communication tools, collaboration can be facilitated much easier than in the past. It is possible for teams to meet, talk, write, and share information all electronically. As a team, you will benefit from deciding, from the start of the project, which collaborative tools you want to work with. As you make your selection, make sure everyone has access and is equally comfortable learning about and using the tools. Agreeing on the tools you will use and setting up your accounts should be part of the initial planning phase of the project. As you consider which tools to use, do research. There are many different types of tools that enable different project coordination functions, from full project management to document sharing to video conferencing. When considering tools, think about what group functions you want to be able to perform remotely and how you would like to share information and documents. Here are some types of tools you may want to consider:

- Electronic document sharing (e.g. MS Word's track changes feature)
- Google Docs
- Group discussion forums
- Online chat
- Teleconferencing
- Videoconferencing
- Digital whiteboards

As you can see, collaboration is a part of group work that must be carefully and thoroughly considered from the start of a project. How the team collaborates—from technology to meeting practices to conflict resolution protocols—play a material roll in determining the success of the project. As you work together, remember that the strongest teams are able to be open and honest with each other, not because they are great people or all get along, but because they have planned well for the needs of the team and the goals and expectations of the project. The key to collaboration is maximizing team members strengths and making sure everyone has a voice. Working collaboratively allows you to achieve more together than you could apart.

Exercises

1. We all have strengths and weaknesses. When working on a project, individually or as a group, some habits, skills and abilities help you accomplish your goals, and others require discipline to work through. In a group, open communication is key to successful collaboration and that includes being honest about your work habits—including your strengths and weaknesses.

Consider this table to help you get started thinking about your own skills and abilities. Notice how little difference there is between some strengths and weaknesses. It's a matter of degree and discipline.

Good organization skills	Not very organized
Detail-oriented	Micromanager
Good communicator	Reluctant to communicate
Good listener	Unresponsive
Consistent worker	Procrastinator
Strong writing skills	Not confident as a writer
Strong math skills	Not confident with math
Strong visual design skills	Not confident with visual design
Strong technological skills	Not confident with technology

This table just gets you started. Think about how you work, and work hard to be honest. For this exercise, list five strengths and five weaknesses that are most characteristic of your work habits. Remember, be honest with yourself and with your team. Honesty at the start of the project sets the precedent of open communication and heads off misunderstandings later in the project.

Once you have created your list, share it with your team members. This information goes a long way to helping ensure a successful collaboration. Once you know each other's work habits, you can set up expectations that accommodate all members to ensure that the work gets done well and on time.

2. A number of tools have been created to facilitate virtual collaboration. One of your first jobs as a team is to pick which tool(s) you want to use to facilitate your collaborative work. To help you decide, research collaboration tools that help with writing, communicaiton, and project management. Based on what you read, pick a tool and review it. Comment on the following:

- How easy to use is the tool?
- What functions will be most useful in a collaborative writing project?
- What are the strengths of the tool?
- What are the weaknesses of the tool?
- Is there anything the tool can't do that you will need to find elsewhere to complete the project?

Once you have composed your review, present the tool you have examined to your teammates. As a group, discuss the pros and cons of each tool and decide which tool(s) are best for your group.

Chapter 21
Workplace Research

Research in the workplace is not really that different than the research you've had to do or read since you've been in college. Workplace research starts with questions arising from a problem you are addressing, questions to which you find answers. However, research in the workplace is almost always applied research, which means it leads to some sort of action that solves a problem, answers a specific question, or provides insights into an issue. Because workplace research is applied, or practical, it is often characterized as systematic and iterative investigation into a question, problem, or issue. Systematic research means formulating research questions, answering them by gathering data, and then drawing conclusions based on evidence. Iterative research means the process of gathering data is recursive, repeating investigative steps multiple times until you have sufficient data to support your conclusions or yield a robust understanding of the problem you are solving or issue you are exploring.

Workplace research functions in many of the same ways as the writing projects we've discussed thus far. That is, you have to understand the purpose and audience first. Purpose defines your approach to the topic. Are you solving a problem, gathering information to understand an issue, determining the feasibility of an action? The goal of your work will inform the type of information you need to answer your questions. Audience, too, impacts the research you will do. How much detail, how technical or expert does the information need to be? What departments are using your work? The project you create will be used by specific people and they need specific information to do their jobs. The research you perform allows your audience to complete the tasks they have been assigned.

Research is also driven by larger business aims of the organization in which you are working. These larger business aims include the role that your research (and subsequent document you produce) and what the organization is trying to accomplish. Sometimes your research may be internal (e.g., trying to figure out what is the best piece of equipment to buy), but often the research you do is part of external projects (e.g., submitting a proposal to obtain new clients).

Research in the workplace accomplishes the following:

- Develops a practice
- Creates a program or policy
- Improves the organizational culture
- Brings in new business opportunities
- Expands business opportunities

The first step in your research process should be to think through the project's purpose, how the project will be used, and who will use it. Knowing what the project does and what the audience expects will allow you to design your research to fulfill goals specific to the project and the people who need it.

Types of Research

Research can be categorized by type, but the different categorization strategies characterize research in ways that identify the goal of the researcher. Academic research often is categorized by the types of data being gathered or the types of methods being used.

- Quantitative research is the systematic investigation of observable phenomena to gather statistical or numerical data using computational techniques.
- Qualitative research is the systematic investigation of observable

phenomena to gather information on concepts, characteristics, metaphors or symbols, and descriptions.

Where quantitative research produces numerical data identifying what occurred, qualitative research works to describe who things are happening to and how they happen. These broad categories give names to the type of data generated in the research process. Some studies will use both qualitative and quantitative methods to gather the desired data. These studies are called mixed-method projects because they accumulate different types of data, but, again, the emphasis in the categorization strategy is on the type of data being gathered.

Workplace research, on the other hand, focuses on addressing specific problems or issues. Categorizing research in the workplace, therefore, characterizes the research process by looking at the goal or outcome of the work:

- Generative research: helps define the problem
- Background research: develops an understanding of the larger context of what you're studying and why
- Problem research: focuses on a specific problem or question
- Options or evaluative research: gathers information to determine the best option for action

In workplace research you may gather qualitative and quantitative data as part of the research process, but the design of your study is defined by the purpose of the project and the audience for whom you are writing. As such, it is more useful to think of the types of research you do in terms of goal of the research.

The Research Process

Like the work of completing a project, research is a process. The research process starts with defining the problem and ends with reporting findings, with several steps in between. However, the research process also is iterative, meaning that you may complete the process, refine your questions, and begin the process over again, working toward the goal of having sufficient, and sufficiently developed, results to satisfy the goals of the project and the needs of the audience. The research process is described in Figure 1.

Figure 1. The Research Process

Define the Problem

Your research will start with a problem you must address. The type of problems you'll encounter in the workplace may be a known problem with which the organization is engaged, an aspect or aspects of known problem, or a problem the organization wants to take up—one recently identified or an ongoing problem in which the organization wants to become involved. No matter the origin of the problem, your response to the problem will be local, grounded, and practical, and the research you do will respond to real and tangible everyday needs. As you consider the problem at the outset of the research process, you will address the problem through questions—a single research question, a series of questions, or questions that take your inquiry in a specific direction toward achieving a specific goal.

An effective research question, then, derives from a problem, issue, or opportunity within the workplace. As you are defining the problem, always remember the overall purpose of your work and how it relates to the organization's goals. It makes no sense to research a recommendation that stands no chance of being approved (internally) or a proposal that will not be accepted (externally).

In answering your questions, you will define the problem in an ongoing, iterative process that consistently returns to questions of purpose and audience: Is this research working toward the project's goals; and is the audience getting the information it needs and expects? Workplace research is a recursive process of focusing and refocusing the questions connected to the problem or issue.

Another aspect of defining the problem requires looking at the people and groups who are impacted or involved with the problem. Those people and/or groups are referred to as *stakeholders*. A stakeholder is a person/group with an interest or concern in something. A stakeholder analysis yields insights into the nature of the problem by looking at the people and circumstances surrounding the issue. You can perform a stakeholder analysis by answering the following questions:

- Who is affected and in what ways?
- How is the issue or problem currently perceived?
- What resources do we have currently to help address this problem?

A stakeholder analysis helps make your research questions more specific and targeted. As you consider stakeholder groups, who they are, and how they relate, think in terms of the question words:

- Who is involved?

- What is happening?
- Where are impacts being felt?
- When did/do significant events occur?
- How do stakeholders relate to each other?

When performing your stakeholder analysis, ask questions about more than one stakeholder group. Consider how each question affects different stakeholders and their relationships to the problem, question, or issue. What you are working toward with a stakeholder analysis is an understanding of the problem from multiple points of view. This process of question-and-answer will help you define the scope of the problem from a number of perspectives, yielding an in depth understanding that will allow you to narrow down the concrete and specific questions you will need to research. Performing a stakeholder analysis as part of focusing the definition of the problem ensures that the final question(s) you research accurately reflect a nuanced understanding of the problem. This work enables research that produces effective and useful information.

While defining the problem, it's important to set boundaries or limit the scope of your research. Trying to do too much often leads to unrealistic or unhelpful findings. A realistic, useful research question may be narrowly defined. When you are considering the boundaries you set on your research, you'll want to consider providing a direction. A good question, or set of questions, that define the problem at hand will determine the direction the research project takes.

For example, you work for a company that has decided to expand to another manufacturing location. As you define the scope of the problem, you look at current manufacturing facilities and the corporate stakeholders who commissioned your recommendation report. You learn that the new site will be the same size as current sites, and it will be used for the same purpose. Additionally, all locations corporate is considering are in industrial areas, so, impact on the neighborhood is beyond the scope of the study. The main limiting factor appears to be the cost of the facility, so you define the problem as largely financial and focus your research on those factors: cost of facility, location of facility, and type of equipment that will go into the facility. Your research takes on a financial direction with three focused research questions.

Finally, as you move to setting up of the research plan take a moment to ask yourself and your team:

- Do my question(s) define the problem?
- Do my question(s) move the team toward gathering data?
- Are the question(s) appropriate to the organization and the original request?
- Are there assumptions or biases that I have not considered?
- Will I be able to perform the research during the time allotted with the resources available?

Addressing these practical concerns ensures that you have set up a study that can succeed within established parameters, and will meet the expectations of the organization.

Research Published/ Available Information

When doing research there are questions you will need to answer that are unique to your problem and to your project. To answer these questions, you will have to do primary research, gathering data yourself. However, your study can benefit significantly from considering the work of others and how research that already has been conducted can add depth and context to the work that you are doing. Looking at how others have addressed problems similar to your own helps you answer your own questions and shows your audience that you have considered multiple information sources. And there are many sources of information available to you.

In college, you are often asked to do a literature search or review using academic sources through the library databases. While the research generated by academics often doesn't have practical value in the work world, any academic research that might be useful to you is locked behind paywalls. Once you graduate, you may not have easy access to the literature. However, access to article abstracts tend to be unrestricted. Reviewing academic abstracts may be valuable to your team because it allows you to determine whether or how some of your research questions have already been asked and answered.

While Figure 1 shows the phases of research as discrete entities, they often overlap and/or are done simultaneously. The literature search, to include academic research, is often done at the same time as defining the problem and narrowing down the research questions. Some questions you may want to ask during this phase include the following:

- What is already known about the topic/problem/issue/question and how do we know it (i.e., What sources? What methods)?
- Where/how can we find out more?
- What specific aspects of the problem do we need to find existing research on?
- What types of information are useful/relevant to the topic/problem/issue/question?

Useful and/or relevant information may be found through credible, specialized search engines, like professional organization's websites or content aggregators. Much excellent research is presented in trade magazines or trade newsletters, or in larger professional publications, such as Harvard Business Review. Also, make sure you consider publications such as annual reports, mission statements, and white papers produced by corporations or industry groups, as well as government reports. Many of these are publically available online and are easily accessible.

Finally, depending on the topic and scope of your problem, you may be able to glean some interesting insights from social media. For example, you can learn about stakeholder perspectives from pulling tweets related to a hashtag, examining comments on articles, reviewing user forums, or scrolling through open groups in Facebook or Reddit.

How ever you identify useful information, make sure you do a thorough search. Taking into consideration other group's approaches to similar problems not only saves you time and effort, but makes your work more thorough and efficient. Further, looking at what other people have said and done adds a depth of perspective to your understanding of the problem and adds context for your audience.

Plan the Research

In this step of the research process, you want to work on creating a concrete plan to do the necessary research. The plan should include the following:

- Realistic timeline
- Clear choice of method(s) and explanation for the method(s) chosen
- Data collection process (e.g., if you want to interview clients, how will you choose which ones, and how will you contact them)
- Creation of research instruments (such as surveys, questions for interviews or focus groups, frameworks for document analysis, etc.)
- Ethical considerations (confidentiality, coercion, enough data to be reliable, and reporting accurately)

When considering your research plan, you may want to work backwards from the final outcome of the project. Think about the purpose of the document, how it will be used, and by whom. What is the ultimate goal of the document or deliverable being produced? What needs to be included to make it reliable, valid, and persuasive. What types of data will give your audience the information they need to make decisions or use the document as intended? Then ask yourself or your team, how do we go about gathering that data?

Choosing the method for data collection is one of the most important aspects of the research plan and process. The method needs to generate the type of data that will best answer your research question(s). However you must first go back to issues of audience to consider from whose perspective does the data need to be gathered:

- Organizational perspective
- Client/customer perspective
- Wider community

These three perspectives would generate three different versions of the same question with different methods. Table 1 describes the identification of research methods that would be effective when gathering data from three different points of view. This problem at hand is the same: the feasibility of taking an action. However, from the differing points of view, the pivotal question when making a decision about feasibility is different. The organization needs to know if the action is cost effective, the client wants to know if the action fits in the budget, and the wider community wants to know if the action can be successfully implemented. Because the key questions are different for these three groups, the types of data they need are different, and, therefore, the methods of data collection are different.

Table 1. Identifying Research Methods for Different Audiences

Audience	**Organizational**	**Client**	Wider **Community**
Question	Is this cost-effective?	Is this affordable?	Can this be done?
Methods	• Document review • Interviews • Key informant	• Experiment • Focus groups	• Surveys • Focus groups

To help you make decisions about methods, Table 2 lists some common methods used in workplace research.

Table 2. List of research methods (Continued on following page.)

Method	Definition
Document Analysis	Document analysis involves analyzing documents to look for a theme, trends in information, or assessment criteria. In looking at a body or corpus of documents, researchers identify patterns in the documents that help answer research questions. Documents may be coded to identify patterns in language or assessed based on a rubric or set of criteria created based on the goals of a study or project. Document analysis is useful when the work people have done in the past can inform what an organization wants to do moving forward.
Interviews	Interviews use conversation to gather information. Interviews collect in-depth information on people's opinions, thoughts, experiences, and feelings. Interviews are useful when the topic of inquiry relates to issues that require complex questioning or considerable probing.
Focus Groups	Focus groups gather the opinions and perspectives of a group of people (i.e., customers or populations impacted by a decision) in an interactive setting. Successful focus groups depend on preparation, defined objectives, and clear goals determined prior to the event. Focus groups are useful for the generation of ideas or the development or improvement of a situation, product, or service in a social setting designed to facilitate open discussion in a social setting.
Observations	Observations are a method of viewing and recording the actions and behaviors of participants as they complete daily tasks or work functions in their usual environments. Observations are made without disturbing, influencing, or altering the environment or the participants. The goal is to watch what people do as they perform regular tasks. Observation is useful when researchers want to see how people or processes operate in the environment.

Table 2. List of Research Methods

Method	Definition
Surveys	Surveys are used to gain insights on a defined population's attitude toward specific topics. Surveys gather quantitative data and results are standardized based on the construction of survey responses. The success of a survey depends on the careful development of questions, which must be planned to avoid bias and ensure reliability. Surveys are useful for querying large populations, but, because the results are quantitative, data may not be as detailed or in-depth as qualitative methods like interviews and focus groups.
User Tests	User tests occur in a design or development process when designers want to evaluate how people (users) interact with a product, service, or utility. The goal is to identify points of friction in the test user's experience, so the product, service, or utility may be improved. Like focus groups, the success of a user test depends on planning carefully the tasks the users will be asked to perform because users often are free to interact with the design object based on their own decisions, in order to have an unbiased user response.
Experiments	Experimental research is a systematic and scientific approach in which the researcher manipulates one or more variables, and controls and measures any change in other variables. This method often returns quantitative results, but qualitative experiment uses focus groups and in-depth interviews within randomized stimulus conditions typically associated with experimental research. Experimental methods are useful when researchers want to test for specific variables and conditions while controlling others.

As you can see, different methods have different goals and yield different types of data. As you choose your research methods, always keep your research questions in mind. Make sure that your methods answer your questions, and that the data you are getting from those methods achieves the purpose of your document and the expectations of your audience.

Collect Data

So what is data exactly? According to the US Office of Management and Budget, "research data, unlike other types of information, is collected, observed, or created for the purpose of analysis to produce original research results." The same holds true for research in the workplace where data is used to support your position, the claims you are making, and the conclusions you are drawing.

Research data can consist of numbers in a spreadsheet or table, but it also takes other forms, including videos, images, quotations, artifacts, and diaries. Data can come from surveys, interviews, or existing documents and texts. It can be generated in the field, as with observations, or in a lab, through experiments such as sensor readings, physical samples, or algorithms. Data may be any information you gather that helps you achieve the purpose of your project.

It is always good to collect information from more than one method or source. In technical terms this process is called triangulation, which means considering data from multiple sources to ensure validity, or an accurate understanding of an issue or circumstance. In workplace research, triangulation communicates to your audience that you have performed your study rigorously, giving substance and weight to the final product. For example, a report on whether to buy a specific piece of equipment could include analysis of existing textual data on equipment use, a trade industry report on various types of products, and interviews with key stakeholders on their use and expectations of equipment. These three data points on the same subject ensure a more reliable perspective on the subject of the equipment in question.

Data collection encompasses ethical issues that you must address to make sure your study is fair and unbiased, and that your data accurately represents the situation you are investigating. Ethical considerations in the collection of data include the following:

- Have you spoken to the appropriate group of people?
- Have you considered the question from various positions and with various people in order to represent multiple points of view?
- Were the methods used with consistency?
- Is the sample and dataset size appropriate for the question?
- Have you considered the bias or subjectivities present in the collection of the data?
- Can the process be verified or replicated?
- Have you treated research participants with integrity?

Ethical concerns include the biases researchers bring to the study, as well as how study participants are treated. It is vital that the research team closely and critically examine the study design to identify and, to the extent that it is possible, control within the study researcher bias toward the topic. Similarly, if the study includes participant opinions (e.g., interviews, focus groups), researchers must ensure that, while participants may have biased perspectives, the data itself, taken in sum and included in the project, is fair and accurately represents the broad range of participant responses.

Analyze Data

After you have collected data, your work as a researcher is not done. You must interpret that data and integrate it into the project on which you are working. This process is called synthesis, and it is at the core of the important work you do to analyze your data. Synthesis means to combine a number of elements into a whole. In the case of workplace research, synthesis happens when you link your different types of data together by making thoughtful and considered connections between the information you have gathered and the problem on which you are focused. Consider that your data by itself is just a collection of facts and events. Synthesis is what allows you to make those facts relevant and useful to the claims you are working to make in your project.

Your job is to closely review the data you collect, figure out what it means, and relate it to the problem on which you are working. The work of interpreting data and making connections between the data and the project allows you to develop concepts that can be used to further analyze and synthesize your data. Like the research process itself, the process of analyzing and synthesizing data is recursive.

You can use many strategies to analyze and synthesize data. The list below offers some options, but you should use the approach that makes the most sense given your study design and the purpose of your project.

- **Question:** You may want to look at the data by asking specific questions that relate to your overall research question(s) or problem. You also can question the data itself. What do these data tell us about [a subject]? How or where in the data do we find that information? What additional information does the data tell us about the overall problem?

- **Comparison:** You can compare parts or types of data to identify similarities and differences. (e.g., This data suggests [x], but this data suggests [y] about the same topic. Why and how are these data different?)

- **Speculation:** Considering other possibilities allows you to get unexpected or unplanned information from the data. You can ask: So what? What if? What happens if we flip our original research question?

- **Emotional or Embodied Perceptions:** In addition to the facts included in your data, consider the emotions and physical perceptions of your participants. Ask: Does the data communicate any specific emotions or embodied reactions? These sorts of questions are good for interview or survey data that focus on people's perceptions of things.

- **Language:** Much of the data you gather from people will be linguistic or textual in nature. You can look closely at the words people say to gather meaning. Ask: Are there trends in word use, such as the same word or phrase being repeated? Are there words that indicate negative (e.g., never, bad idea, no way) or positive (e.g., it was great, best way) reactions repeatedly?

As you analyze your data, you want to make sure that you keep your ideas in conversation with each other, so that you can see patterns, trends, and concepts as they emerge. Grouping ideas is one way to accomplish this goal. To group ideas, you'll want to use some sort of visualization tool. That tool can be as simple as sticky notes on a wall, or as sophisticated as affinity maps. You also can use flow charts or mind maps, maintained physically or digitally. As you interpret your data, place your idea into the group of ideas. This idea group represents a collection of interpretative and critical decisions about the data. Clustering and grouping ideas together will help figure out how the data helps to answer your question(s) or address the problem, and will help you identify evidence for use in your project.

As you analyze and interpret your data, keep in mind the goal of synthesizing your ideas. Determine your core concept(s) from your data and how those match to your question(s) or problem. Ask what the data tells you about your problem. You want to connect your data to your project to support your own work. The central idea(s) that comes out of your data will help you create the description or narrative within your reports. At the heart of your analysis you are working toward an answer to how this data and research supports your main claims.

Report Findings

The purpose of the research either informed the type of research you did or will dictate the type of deliverable that is necessary. In many cases, you will be asked to create a report or proposal. As you move to the phase of the research process in which you will report your findings in a deliverable, you will have some decisions to make.

Most likely, you will not be able to include all the data you gathered in your final project. You may decide to include additional data in supplemental documents, such as appendices, but the majority of the data that you integrate into your deliverable will be the most useful, persuasive, or telling data you collected. In deciding what to include, return, once again, to purpose and audience. What data do you have that will most effectively help your audience do their jobs with the work that you deliver?

The other significant decision you make will be to pick formats for your data. Long lists of statistics or figures are not easy for your audience to process. You'll need to consider how you will present your data. Some information can be integrated into text, but tables and figures are easier to read. Also, you'll need to think about where you will put your data. Ask yourself which data belongs in which sections. As you make these decisions, the purpose or goal of your project is especially important.

Relevant to both of the decisions above is the question of ethics. Because you are including only select data in your project, you need to make sure that you are fairly and accurately representing your research in those select findings you are highlighting. The same concern is important when considering data visualizations (e.g., charts and graphs). In selecting data to visualize, ensure that you are not misrepresenting your findings to make your claim.

Finally, it is important to acknowledge the limitations of your research. No study is exhaustive or covers every possible aspect of a problem. In fact, as previously discussed, a well-designed study limits the scope of the problem being addressed to ensure the study represents a thorough, feasible inquiry into the topic or issue based on explicitly identified parameters. Acknowledging to your audience the information and inquiries that go beyond the scope of your study increases your study's trustworthiness and increases the weight of your findings.

Research is a process that begins as soon as you start to consider your problem. Begin with questions you would like to answer and design a study that takes you through the inquiry process to analysis, synthesis, and reporting. All of these steps need to be laid out in advance to ensure you have thought through your research process. Evidence is at the core of successful project. A well-planned study ensures reliable and verifiable results.

Exercises

1. Go online and find a sample report of any type and length. Identify the purpose and audience of the report, then look at the types of research included in the report and answer the following questions:

- What types of evidence do you see in the report (e.g., statistics, quotes, experimental data, journalism, academic papers, professional reports, etc.)?
- Do you see different types of evidence in different sections?
- How technical is the evidence? Can you correlate the level of technical expertise to audience and purpose?
- How much does the report rely on evidence to achieve its purpose?
- Is the amount of evidence appropriate for the purpose and audience?

2. USF would like to build a new dining hall that offers more healthy food options to students. They have tasked you with writing a recommendation report that makes a recommendation for the location and operation of this new dining hall. In groups of four, design a research study that would give you the data you need to accomplish this goal. Start with defining the problem and asking research questions, identify what types of sources you would look at in your literature review, and pick your research methods and the type of data you would gather.