Rhetorical Strategies for Workplace Communication

RHETORICAL STRATEGIES FOR WORKPLACE COMMUNICATION

Professional and Technical Writing

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CONTENTS

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Kat Gray

This book accompanies a larger revision of the technical writing curriculum at the University of Arkansas, which started in Spring 2024. The original revisions launched in Fall 2025, then I spent a year gathering feedback on the curriculum and textbook. In Summer 2025, I revised and streamlined the curriculum with Dr. Maggie Fernandes, and then streamlined the textbook in service of that new curriculum.

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INTRODUCTION: PROFESSIONAL AND TECHNICAL WRITING (ENGL 30503) AT UARK

Kat Gray

Welcome to Professional and Technical Writing (ENGL 30503) at the University of Arkansas!

Professional and Technical Writing is an undergraduate-level course intended to prepare students for the writing they are likely to do in the future, especially writing they are likely to do in the workplace. In English 30503, students extend their prior knowledge of rhetorical situations, genre conventions, research, document design, and writing processes to practice common workplace writing genres like correspondence, proposals, and reports.

Ultimately, the goal of the course is not that students leave with knowledge of every technical genre they might possibly write. Rather, the course helps students to:

1. Evaluate the rhetorical situation (audience, purpose, and context) of any piece of workplace writing;
2. Practice technical writing genre conventions;
3. Learn what questions to ask when writing in and for different organizations;
4. Learn and practice research skills for technical writing, including finding and evaluating sources, using source information in documents, and citing sources appropriately;
5. Learn and practice document design skills and principles to create clear and useful technical writing;
6. Develop a professional "brand" or professional persona for workplace writing situations.

Through the major projects in the course, students will set goals for themselves, research and create technical writing documents, and assess their progress towards their goals.

Book Outline

This textbook is organized into parts, centered around the work you will do for major projects in the course. Within each part, you'll find chapters that are intended to help you work through the process of creating each technical document required of you. Below, you'll find a brief summary of the book's contents.

Part 1: Introduction to Professional and Technical Writing

In Part 1, you will learn about professional and technical writing – what it is, who uses it and why, and how it is constructed. **Chapter 1: Introducing Technical Writing** defines the field of technical writing within writing studies and discusses the typical conventions of technical writing. **Chapter 2: Ethics in Technical Writing** discusses why ethics are critical for technical writing projects and how to think about making ethical communication decisions. **Chapter 3: Setting Your Course Goals** discusses why goal-setting is important for this course, and how you'll use your course goals memo to help you do so. **Chapter 4: Tracking Your Course Goals** talks about how you can track the goals you set as you progress through ENGL 30503.

Part 2: Developing Your Professional Persona

In Part 2, you will learn about how to develop your professional persona through career application documents. In this project, you will practice technical writing and design skills to create a résumé and cover letter that respond directly to a real job ad in your career field. **Chapter 5: Applying to Jobs** discusses the job application process and how to construct the documents that respond to job ads. **Chapter 6: Tailoring Job Materials** discusses how to tailor those materials for your specific audience, so that you can increase your chances for success on the job market.

Part 3: Researching Problems and Proposing Solutions

Part 3 covers information for Project 3: Problem Primer and Project 4: Collaborative Grant Proposal. You will write these documents in response to the **UArk Cares Foundation Community Improvement Grant Request for Proposals**.

Chapter 7: Explore Potential Problems teaches you how to define a problem to explore with a technical writing solution, as well as how to create a community profile detailing information about your stakeholders. **Chapter 8: Research a Technical Writing Problem** includes information about secondary research methods, information literacy, and how to create a pitch for your project. **Chapter 9: Design and Run a Pilot Study** discusses the research methods you will use to create a primary research study for your problem primer. **Chapter 10: Synthesize and Report Research** takes you through synthesis skills and describes how to write a report.

Chapter 11: Create a Grant Proposal discusses the details of proposals as a technical writing genre as well as how to write collaboratively. **Chapter 12: Remix Research for a Public Audience** will teach you about using multimodal design to communicate with community stakeholders. **Chapter 13: Write a Transmittal Letter** teaches you about how to create a transmittal letter to frame your fourth project.

Part 4: Reflecting on Your Work

Part 4 details the final project for the course: the Course Reflection Memo. In **Chapter 14: Reflective Writing for Technical Communication**, you'll learn about what reflective writing is, how it helps technical writers, and exercises to develop your skills.

PART I

PART 1: INTRODUCTION TO PROFESSIONAL AND TECHNICAL WRITING

Part 1: Introduction to Professional and Technical Writing offers four chapters to introduce you to the topics you will cover this semester in Professional and Technical Writing (ENGL 30503). You'll learn about what technical writing is, and how technical writers think about and incorporate ethical actions into their work. Additionally, you'll learn about setting goals for the semester, tracking those goals over the next weeks, and practicing your first technical writing genre in Project 1: the Course Goals Memo.

Part 1 contains the following:

- **Chapter 1: Introducing Technical Writing**: In this chapter, you will learn about the characteristics and conventions of technical writing and practice identifying the rhetorical elements of sample technical writing documents.
- **Chapter 2: Ethics in Technical Writing**: This chapter expands on the importance of ethics for technical writing. You will learn about seven ethical principles to follow, common ethical issues in technical writing, and steps for writing ethically.
- **Chapter 3: Setting Your Course Goals**: This chapter describes the process of setting course goals, provides the assignment sheet for Project 1 (Course Goals Memo), and explains the memo genre and its formatting conventions.
- **Chapter 4: Tracking Your Course Goals**: In this chapter, you will read about how to keep track of your progress towards the course goals you've set for the semester. You will learn about two documents that will help you in this process: the work log and the writing journal.

CHAPTER 1: INTRODUCING TECHNICAL WRITING

Dawn Atkinson; Sarah Raymond; and Kat Gray

Introduction

Technical writing, according to this book's definition, is *writing that aims to help individuals perform workplace tasks, carry out operations, understand concepts or research, solve problems, operate technology, or communicate in professional situations*. Although you may not be fully familiar with the characteristics of technical writing, you have likely experienced technical writing at one time or another in your daily life as a student, employee, or consumer. You may have encountered technical writing in textbooks, operations manuals, company policies, or illustrations in magazine articles. To extend our definition of technical writing, textbook author Last (2019, p. 6) explains that this form of non-fiction writing *communicates information for practical and specific purposes*, *takes document design into account*, and is usually *intended for particular readers*.

First, this chapter explores the characteristics of technical writing, so that you can understand the differences between technical writing and other types of writing you have done. Then, the chapter explores the conventions of technical writing in general, an understanding which will serve you well as you begin to think about creating your first assignment for the course: the course goals memo. Finally, the chapter includes two practice activities to familiarize you with technical writing. These activities ask you to think especially about how audience relates to technical writing projects and what workplace ethics has to do with the work of a technical communicator.

Characteristics of Technical Writing

When we employ technical writing, we strive to keep readers in mind and tailor our communication for a particular purpose. The *audience* for a piece of technical writing is the individuals who will read the text. Since technical writing may be used in multimedia documents, such as presentations, videos, and podcasts, an audience might also include listeners, viewers, and users. The *purpose* for a piece of technical writing signifies the reason it has been produced. In general, the purpose for a piece of communication is either to entertain, sell, inform, or persuade; however, documents may also address more than one of these purposes. Technical writing, in comparison, may be produced with more specific purposes in mind, such as to provide or ask for

information, record details, or convince readers of something (Last, 2019, p. 18). Again, technical documents may also reflect more than one of these purposes.

Seven attributes help to define technical writing and ensure that it adequately addresses audience and purpose. Specifically, technical writing is clear, coherent, concise, concrete, correct, complete, and courteous. The following definitions of these characteristics are adapted from Last (2019, pp. 43-44).

Clear writing communicates a writer's ideas and purpose in a straightforward manner. It targets a particular audience by being precise and moderating technical words, obscure phrases, and *jargon* – specialized language or terminology used in a particular field of study or workplace environment. It also foregrounds important information for the benefit of readers and conveys one main idea per paragraph.

Coherent writing builds links between ideas so readers can easily follow them. One idea should lead logically into the next via use of transitional words and phrases, intentional repetition, sentences with clear subjects, specific and informative titles and headings, parallel lists, and consistent document design. When writing is coherent, readers can easily track thoughts and lines of reasoning; incoherent writing, in comparison, is choppy and hard to follow since its ideas appear to be disconnected or incomplete.

Concise writing is efficient: it delivers its message clearly without using extraneous words that slow readers. To produce concise writing, avoid unnecessary padding in sentences, awkward phrasing, overuse of *be* verbs (*is*, *are*, *was*, *were*, *am*, *be*, *being*, *been*), long preposition strings, vague language, unnecessary repetition, and redundancy. In addition, use active verbs whenever possible, and take the time to select a single, expressive word rather than using a long or clichéd phrase. Think of your word count like a budget; be frugal by making sure every word you choose works hard to communicate meaning.

Concrete writing uses specific, exact language so readers can easily understand points. If you have to explain an abstract concept, use familiar examples, everyday comparisons, and precise language. In addition, use measurable or specific descriptors whenever possible instead of words that encompass a range of interpretations (e.g., *big*, *little*, *very*, *extremely*, and *great*).

Correct writing uses conventional English punctuation, capitalization, and sentence structures; provides accurate information that is communicated in an ethical way; and employs the right document type for the task.

Complete writing includes all requested information and answers all relevant questions. Carefully read and follow specifications to ensure your documents are complete.

Courteous writing employs an intuitive design that is easy to scan; uses respectful language; addresses readers appropriately; and avoids potentially offensive terms and tone.

Writing that is clear, coherent, concise, concrete, correct, complete, and courteous establishes credibility with readers, demonstrates dedication and care, and communicates messages convincingly.

Conventions of Technical Writing

Documents typically follow *conventions:* expectations about key features that affect how documents are organized, designed, and written. Conventions help readers recognize and categorize documents into *genres*, or types of writing; conventions also help writers to produce texts in line with accepted standards.

Certain conventions typify technical writing as a means for communicating information clearly and effectively to people who need it. **Table 1.1** provides an overview of these conventions.

Table 1.1: Conventions of Technical Writing

Considerations	**Conventions**
Purpose	Communicates technical and specialized information in a clear, accessible, and usable manner to people who need it to perform workplace tasks, carry out a series of operations, understand concepts, solve problems, operate technology, or communicate in a professional manner.
Audience	Addresses various audiences: e.g., employees, managers, executives, stakeholders, clients, the general public, funding bodies, students, and entities with legal authority.
Writing Style	Uses concise, clear, plain, and direct language that is formal or moderately formal; may include specialized terminology; typically incorporates short sentences written in the active voice; and makes purpose immediately clear.
Tone	Maintains a tone that is courteous, constructive, and professional.
Structure	Uses concise paragraphs, clear transitions, and structural cues (e.g. informative headings and titles) to organize and forecast content for readers.
Format/Design	Includes electronic, visual, and printed documents of different lengths (e.g. long reports and short emails, letters, and memos); incorporates headings, lists, figures, and tables.
Other Features	Focuses on data-driven ideas and evidence.

The conventions outlined in **Table 1.1** help make technical writing easy-to-navigate and reader focused.

Practice Activities

The two activities in this section introduce you to characteristics of technical writing and ask you to practice thinking in ways that technical writers think. In the first activity, you will interact with several examples of technical writing and think about the audience for each one. In the second activity, you will read an article about integrity in the workplace, and think through your own experiences with the terms *integrity* and *ethics*.

Activity A: Identify the Audiences for Pieces of Technical Writing

Read the excerpt from the article "Remote Reefs and Seamounts are the Last Refuges for Marine Predators across the Indo-Pacific," (Letessier et al., 2019, "Abstract").

Article Excerpt

Since the 1950s, industrial fisheries have expanded globally, as fishing vessels are required to travel further afield for fishing opportunities. Technological advancements and fishery subsidies have granted ever-increasing access to populations of sharks, tunas, billfishes, and other predators. Wilderness refuges, defined here as areas beyond the detectable range of human influence, are therefore increasingly rare. In order to achieve marine resources sustainability, large no-take marine protected areas (MPAs) with pelagic components are being implemented. However, such conservation efforts require knowledge of the critical habitats for predators, both across shallow reefs and the deeper ocean. Here, we fill this gap in knowledge across the Indo-Pacific by using 1,041 midwater baited videos to survey sharks and other pelagic predators such as rainbow runner (*Elagatis bipinnulata*), mahi-mahi (*Coryphaena hippurus*), and black marlin (*Istiompax indica*). We modeled three key predator community attributes: vertebrate species richness, mean maximum body size, and shark abundance as a function of geomorphology, environmental conditions, and human pressures. All attributes were primarily driven by geomorphology (35%–62% variance explained) and environmental conditions (14%–49%). While human pressures had no influence on species richness, both body size and shark abundance responded strongly to distance to human markets (12%–20%). Refuges were identified at more than 1,250 km from human markets for body size and for shark abundance. These refuges were identified as remote and shallow seabed features, such as seamounts, submerged banks, and reefs. Worryingly, [hotspots] of large individuals and of shark abundance are presently under-represented within no-take MPAs that aim to effectively protect marine predators, such as the British Indian Ocean Territory. Population recovery of predators is unlikely to occur without strategic placement and effective enforcement of large no-take MPAs in both coastal and remote locations.

What can you tell about the intended audience for the text?

Read another example of technical writing – a set of instructions for a Creative Commons matching game, adapted from Northwest Vista College Library **(Figure 2).**

Example Set of Instructions

Creative Commons Matching Game

Introduction

This hands-on activity will help players 1) recognize the characteristics of each of the six Creative Commons license logos and two Public Domain licenses and 2) understand what each license gives them permission to do.

Materials

Each group should have the following at their table:

- Six Creative Commons (CC) logo cards
- Six Creative Commons (CC) description cards
- Six examples of resources that use the Creative Commons licenses

Instructions

1) Work as a group match the CC logo cards to the appropriate CC license description cards.
2) Find the appropriate resource that matches each license.

Hint: Each resource will indicate which CC license it uses but some of them are easier to find than others.

Helpful Hints


Creative Commons


Attribution


Non-Commercial


No Derivatives


Share Alike


"Creative Commons Matching Game" by AmandaMG is licensed under CC BY 4.0. Information and images about the licenses are from Creative Commons www.creativecommons.org.

Figure 2: "Creative Commons Matching Game" by AmandaMG is licensed under CC BY 4.0. Information and images about the licenses are from Creative Commons.

What can you tell about the intended audience for this document?

Now read a third example of technical writing in **Figure 3**. *Infographics* combine text, visuals, and numbers to communicate dense information in quick and easy-to-read formats.

Infographic Example

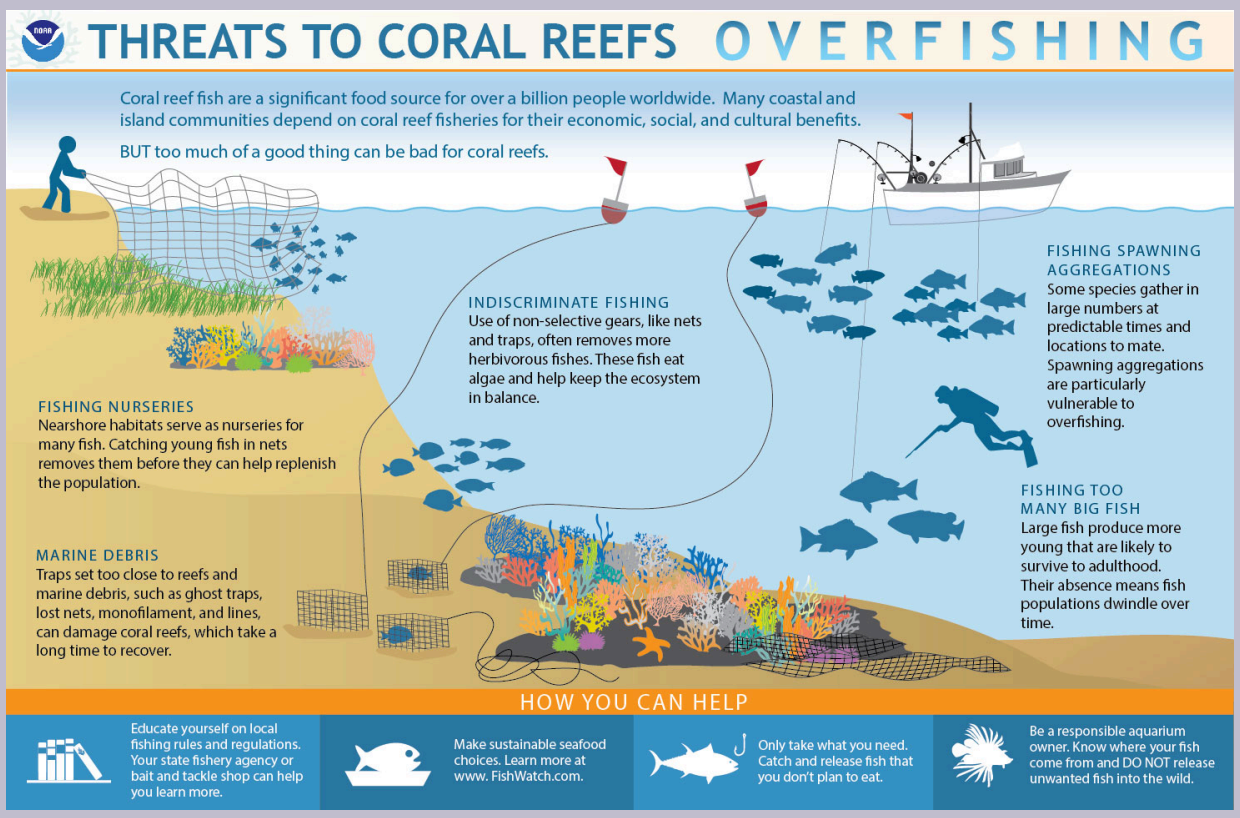

Figure 3: "Threats to Coral Reefs." (2018). NOAA.gov.

What can you tell about the intended audience for this document?

How do the audiences for the three examples you looked at differ? How might these differences have shape the documents' development? Please be prepared to discuss your ideas in class.

Activity B: Consider the Implications of Integrity in the Workplace

Correct technical communication is truthful in its message and is communicated ethically. To explore what these concepts mean from various perspectives, read the following piece, composed by Sarah Raymond, Director of Career Services at Montana Technological University. In 2020, Ms. Raymond conducted a series of informational interviews with employers to discover what integrity means to them. After you have read the text, work with classmates to address the questions that follow. Be prepared to discuss your team's responses in class.

What do you do when no one is watching?

Although integrity, by definition, is "the quality of being honest and having strong moral principles" (Lexico, 2020, definition one), it is one of those abstract personal traits that can be difficult to pin down. Regardless, most people know what it is when they see it. You have probably witnessed times when people have disregarded integrity and may or may not have been caught. It can be devastating to watch when someone does get exposed, either as a result of a serious infraction or several small infractions that have previously been overlooked. In either case, the repercussions can be great.

Integrity is certainly important in academics, as academia is a training ground for the workplace. During her interview, Koren Vining, Vice President and Branch Manager at Cetera Investors, concurred with this view: "College gives you time to practice integrity and hone those skills, [and]…if you screw up, it isn't life altering." Mistakes can, in fact, help people learn. Vining said she hopes her children learn from their mistakes before they enter employment—before their actions can really hurt their lives. To be sure, lapses in judgement, integrity, and ethical decision making can lead to substantial costs in the workplace (for example, your job, your money, your time, other people's time, and other people's money).

Companies recognize integrity in their employees and tend to promote those who work hard, do a good job, and have impeccable behavior. What leaders do and how they behave matters because people are always watching. Quality leadership correlates with a high degree of integrity (as well as transparency, accountability, responsibility, self-awareness, and other traits). Vining explained,

> There comes a time when you are ready to take the next step; by having worked the *right way*, you have put in the effort, you have practiced the skills for future success. If you have been accidentally successful, there will come a time when it will crash.

Working in an investment firm, Vining has unfortunately seen this destructive situation happen to former employees. In a highly regulated business, someone is always watching.

As a testament to her integrity as a leader, Vining has shared pieces of her management style and has been open with members of her work team. This transparency allows her team members to be successful on their own terms. To encourage their success and self-sufficiency, Vining shares the following guidance with her team members:

> Do your work. If you need a boss, someone to stand over you, this isn't going to be a successful working relationship. However, if you need some structure and a coach, you can dictate your own success. Are you working on your own plan, or are you working on a plan that belongs to someone else?

Vining clearly values her employees' beliefs in their ability to be successful and is transparent in her expectations.

Since 2020, many people have experienced remote work for a sustained period of time. Maybe you have even experienced a remote classroom that was not what you had planned when you registered for the term. In this type of situation, discipline and focus will serve you well as opposed to trying to avoid hard work by taking short cuts. In relation to this point, Vining asked, "How do you want people to think about you?" In other words, what do they say about you when you are not there? Your personal brand and what you stand for matter in the workplace.

Putting in extra effort and time on tasks can cause stress, but Vining shared an alternate view: "Unless you are really a crappy person, there is stress involved with taking the short-cut too." In other words, taking short cuts to circumvent hard work is stressful because of the fear of getting caught.

Vining offered sage advice as a 19-year recruiting veteran: "Cultivate personal integrity. You will be more apt to have more success." At the companies she has worked, she has been fortunate

to witness corporate America elevate people who have integrity. And, conversely, she has seen those who do not demonstrate integrity suffer. "Eventually it comes out, it may be post-mortem and that is certainly not how you want to be remembered." When you are responsible for someone else's resources (money, time, property) in a job, people expect you to value that position. Employers trust you to make the next right decision.

According to Glen Fowler, the former President of Mountain Pacific Association of Colleges and Employers (MPACE) and the National Association of Colleges and Employers (NACE), the adjectives *integrity* and *credibility* are synonymous. "Everything you say, if you are credible, I believe you without question. It is a distraction if you have to spend time and second guess people." Credibility is something that most employers are able to identify early in someone's career. Similarly, lack of credibility on the job—for example, when steering a team or when reporting back on its work—can be career limiting. "Credibility is about your personal reputation. Once it is marred, it is all over," according to Fowler. "People underestimate how small the world is. Leadership or decision makers know each other and if not, they will reach out to someone." Again, integrity is central to effective workplace performance.

Fowler echoed that academia is the time to develop and hone behavioral integrity. "This is how you are going to conduct yourself in the future." During his professional career, while onboarding staff and hiring scores of people, he observed that individuals entering his industry were Type A personalities. "These [were] people who [were] used to having all the answers. We had to break them of that mentality, break the conditioning they had developed. We had to give them the license to say 'I don't know.'" Fowler stressed, "You are better off saying that you don't know. You are hired for your expertise, but if you start your response with a conditional statement, 'I think,' people don't hear that qualification." Fowler also emphasized, "A sign of maturity is to admit you don't have all the answers," and quickly added, "But you can get them!"

Another subtlety of integrity and a way in which people can get into trouble, according to Fowler, "Is not just what you share, but what you didn't share even when you knew it would help and yet still withheld it." People may not openly communicate for a variety of reasons, none of which may be malicious or self-serving. Maybe they do not communicate because they want to avoid confrontation or uncomfortable situations. Or, they may tell themselves it is not their place to be forthright. Regardless, "A junior-level person can question or stand up to a senior person, based upon perceived facts and still be respected," according to Fowler. "To become a true leader, it is important to be engaged with your career and know yourself." In other words, recognize and own the values that underlay your actions and behaviors.

Employers use job interviews to assess a number of things: for example, skills, past

performance, technical expertise, and level of workplace integrity. Some recruiters use behavioral or situational questions to help them better understand how job applicants would handle real-life problems or common situations. Here are a few interview questions for you to consider. How would you answer them during an employment interview?

- Tell me about a time you were new to a company or work group. What steps did you take to build trust with co-workers and/or staff?
- Give an example of a time when you over-committed yourself. How did you handle it?
- Describe a situation when you worked with someone you did not like or respect. How did you cope with the relationship?
- Tell me about a time when your values were in conflict with your employment organization's values. What did you do?
- Describe what the terms *integrity* and *ethics* mean to you. Tell me about a time when your integrity or ethics were challenged. What did you do?

Employers likely will not tell you outright when you are being asked questions about ethics or integrity. They may be more subtle and lay out situations to uncover your core values. Fowler shared, "Employers ask questions in...clever ways. They...[will] tee up a scenario that is specific to their industry. It gets at the heart of your personal judgement, conflict resolution, or teamwork." How will you respond? Will you make the next right decision? Are you a match for the team they already have in place?

As an employee, you will be evaluated on the quality of work you produce. That is another way your employer will measure your credibility. Are you performing the responsibilities of your post with integrity? Your employer will trust that you are going to do your work correctly, produce credible deliverables, and communicate effectively throughout projects. Your employer, in short, will rely on you to do what you say you will do in order to uphold the organization's reputation and your own.

Integrity is clearly more than just the definition of honesty and moral uprightness. Ultimately, all you have is your word. The ability to follow through on your promises contributes to your professional reputation, and relationships and interactions with others count for a great deal. If people are not able to trust or rely on you in the workplace, you will miss opportunities for personal and professional success. Barb Crump, Director of Human Resources at Northern Montana Hospital, deals with people every day in her role. She values fairness in the workplace, and people come to her because they rely on her expertise and trust her willingness to guide them correctly. Crump shared, "Recently there was a post on Facebook that sums up what we

are discussing: 'I no longer listen to what people say. I watch what they do. Behavior doesn't lie.'"

What are your responses to these items?

1. A new employee received training from someone else in the office. The person responsible for the training withheld information that was critical to completing a particular task. The new employee struggled to complete the task, and the trainer eventually shared the proper information.
    - How might the new employee feel?
    - Why would the person conducting the training withhold information?
    - What was wasted during the process: time, money, opportunities for collaboration and peer-to-peer learning, mental energy, or something else?
    - What might happen to team morale? What might happen to the overall morale in the office?
    - What did the company lose?
2. An employer contacted a university's career services office to inquire about an intern's transcript. The employer had worked with this office for some time to offer internship opportunities to students. The intern was required to provide the transcript as a condition of employment, but the employer had concerns about the document since its format did not resemble transcripts that had been provided in the past.
    - What do you think might have happened with the transcript?
    - What was damaged in this situation?
    - How should the employer respond?
    - How should the career services office respond?
    - How should the university respond?
3. Imagine you had the opportunity to interview for a dream job in your field and were provided the list of interview questions in advance. How would you respond to these questions?
    - Tell me about a time you were new to a group. What steps did you take to build trust with its members?
    - Give an example of a time when you over-committed yourself. How did you handle

it?
- Describe a situation when you worked with someone you did not like or respect. How did you cope with the relationship?
- Tell me about a time when you encountered a conflict with someone, either at work or in school. What communication strategies did you use to resolve it?
- Describe what the terms *integrity* and *ethics* mean to you. Tell me about a time when your integrity or ethics were challenged. What did you do?

Conclusion

In this first chapter, you've gotten accustomed to the characteristics of technical writing and thought through how these characteristics influence the genre conventions of the documents technical writers produce. Next, you'll explore ethics in technical writing in more depth.

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CHAPTER 2: ETHICS IN TECHNICAL WRITING

Gia Alexander; Kathy Anders; Michael Beilfuss; Michele DeSilva; Kat Gray; Nicole Hagstrom-Schmidt; Annemarie Hamlin; Suzan Last; Matt McKinney; Kalani Pattison; Chris Rubio; and Eleanor Sumpter-Latham

Introduction

Before you start learning how to create technical writing projects, it is vital to discuss one of the overriding concerns of the discipline: ethics. To begin, let's set down a definition of the term. Dictionary.com defines ethics as "a system of moral principles." However, as subsequent definitions show, it's more complicated than this. Ethics are "the rules of conduct recognized in respect to a particular class of human actions or a particular group, culture, etc" (2025). In other words, ethics are specific rules of conduct that govern specific groups of people; in this case, we are discussing the rules of conduct that govern the work of technical communicators. As you will see, these rules are very important to most technical communicators – in fact, most organizations and companies have their own codes of conduct for professional communication.

To understand why ethics are important, let's consider one of the most well-known real-life examples of technical communication failures: the Challenger space shuttle disaster of 1986.

Case Study: The Space Shuttle Challenger Disaster (1986)[1]

In January 1986, NASA prepared the space shuttle Challenger for its 10th spaceflight, a mission that would, among other things, send the first civilian to space: teacher Christa McAuliffe, the first

1. Adapted from "1.4: Ethics Example: Shuttle Challenger," by Tamara Powell (and "Communication Failures Contributing to the Challenger Accident: An Example for Technical Communicators," by D.A. Winsor (1988).

participant in Ronald Reagan's Teacher in Space Project (Uri, 2024). Tragically, 73 seconds into its flight, Challenger exploded, killing all seven crew members. Many Americans, including many schoolchildren, watched the disaster unfold on live television broadcast. The event had such an effect that even now, people remember where they were when it happened. And, of course, NASA, the President, and the public wanted answers to several important questions: What went wrong? Could it have been prevented? Would it happen again?

Ultimately, the disaster came down to an "O-ring problem," primarily "the failure of a rubber seal in the solid rocket booster" (Winsor, p. 336). As it turns out, engineers noticed the problem in 1984 and 1985, as evidenced by a series of memos written by MIT engineers Roger Boisjoly and Brian Russell. Boisjoly clearly expressed his fears about the effects of the O-ring failure, writing in July of 1985 that "if we do not take immediate action... to solve the problem... then we stand in jeopardy of losing a flight along with all the launch pad facilities" (Winsor, p. 341). On August 9, 1985, Russell backed his colleague's understanding: "If the primary seal were to fail from... 330-660 milliseconds the chance of the second seal holding is small. This is a direct result of the O-ring's slow response compared to the metal case segments as the joint rotates" (Winsor, p. 343). In other words, up to two years before the Challenger tragedy, MIT engineers knew what would probably happen if the O-ring issues weren't addressed.

So what happened? Why did the shuttle launch anyway?

To understand NASA's lack of response, it's important to understand the full content of Brian Russell's response to Roger Boisjoly. As Tamara Powell writes,

> Russell's memo does not provide any interpretation of the situation, and as such, 'did not communicate its intent [as] is shown by the fact that the people who read it were uncertain about what it meant' (Winsor, p. 343). The important information in the Russell memo, which was quoted above, was buried deep in the letter after such reassurances as 'MIT has no reason to suspect that the primary seal would ever fail after pressure equilibrium is reached' (Winsor, p. 343).

In other words, Brian Russell downplayed the seriousness of potential O-ring failures. Russell acknowledged clearly the risks of primary O-ring failure: the secondary O-ring would not hold. However, when he told his supervisors that MIT had "no reason to suspect" that the primary seal would fail, he projected a confidence that the worst would not happen if the shuttle launched without replacing the O-rings. He, along with others who suggested the shuttle should launch anyway, was wrong – and, as Roger Boisjoly predicted, NASA lost a flight and its entire crew.

Dorothy Winsor studied the disaster from a technical communication perspective and argued that there were two main reasons for the miscommunications in this instance.

First, managers and engineers "view[ed] the same facts from different perspectives"; in turn, this

created a problem in terms of "achieving shared interpretations" between the people who could have made decisions to fix the problem (p. 341). In other words, if a writer and audience do not interpret the information in a document in the same way, the writer's message can be diluted, or even hidden, from the people she hopes to reach.

The second reason for the communication breakdown involved "the general difficulty of either sending or receiving bad news, particularly when it must be passed to superiors or outsiders" (p. 341). That is, MIT researchers had to communicate with their bosses, as well as their partners at NASA and at Morton Thiokol International (MTI), the contractor that built the solid rocket boosters. Unfortunately, technical communications research, as Winsor wrote, shows that bad news "is often not passed upwards in organizations" and "even when bad news is sent, people are less likely to believe it than good news" (p. 341).

In other words, these memo writers faced an incredibly challenging scenario. They needed to deliver bad news to their bosses and other important stakeholders, and several chose to conceal that bad news in assurances that the worst *probably* wouldn't happen. While there's no guarantee that better technical communication would have prevented the disaster, a clearer message in those memos would have alerted every reader to the seriousness of the O-ring problem. Clearer communication could very well have saved lives that day.

Not all technical writing situations have the kind of stakes that Challenger did, but the tragedy is an important reminder that technical communications affect – and can therefore harm – real people, living creatures, and the environment we share. To be ethical technical communicators, then, is to be aware of these possible harms and to set out a clear set of values and behaviors that can guide us as we work. The remainder of this chapter will explore seven principles for ethical technical and professional communication, discuss common ethical mistakes in technical writing, and discuss the steps you should take to write ethically.

Principles of Ethics in Technical and Professional Communication[2]

Technical communication occurs within a wide variety of professional sectors, including medicine, law, civil service, industry, and academia. In all of these sectors, communicators encounter ethical issues and dilemmas.

2. Adapted from "Workplace and Professional Ethics in Technical Communication," by Matt McKinney, Annemarie Hamlin, Chris Rubio, Michele DeSilva, and Gia Alexander

When you join an organization, institution, or professional community, you should familiarize yourself with their code(s) of conduct for technical and professional communication. Learning the expectations for your position will help you establish habits that reinforce your ethical communication skills.

In addition to specific codes of conduct, there are also some universal principles that technical and professional communicators can rely on to ensure that they apply their skills and present ideas ethically. The list below, based on resources from the Society of Technical Communication (STC, 1998) offers seven principles for practicing ethical communication:

1. **Legality.** We are responsible for knowing laws and regulations relevant to our profession. This means being responsible for laws at all scales, from local to international, and following those laws in good faith. Further, we keep the terms of our contracts, and we make sure those terms square with our ethical and legal responsibilities as technical communicators.

Case Study Example

In 2014, it was discovered that Volkswagen had been violating U.S. emissions laws with their diesel cars for years. The company's engineers did this by installing "defeat device" software that activated emission-control devices only when two wheels were running, rather than four—a sign that the car was being tested in a lab. As a result, the lab reports detailing the cars' emission levels contained deliberately falsified results. Because Volkswagen's corporate leadership violated U.S. law—and pressured their engineers to do so on their behalf—the company's reputation suffered a huge blow (Santos and Lynch, 2020). More importantly, they caused significant harm to the planet by marketing cars that contributed excessively to air pollution.

2. **Honesty.** We communicate honestly, both orally and in writing and seek to promote clarity when our meaning might be misconstrued by our audience. We "dedicate ourselves to conciseness, clarity, coherence, and creativity, striving to meet the needs of those who use our products and services" (STC, 1998). We obtain permission to use others' work and attribute the authorship of materials to anyone who makes a contribution to the project. We advertise our services truthfully. We accurately report expenses and personal time taken and explicitly acknowledge colleagues' and coworkers' contributions to team projects and presentations.

Case Study Example

In 2015, former chemistry professor Brian McNaughton of Colorado State University committed forgery. Feeling that he was underpaid, he wrote a fake offer letter from the University of Minnesota's interim dean to seem like a more desirable scholar. Based on this forged document, CSU made him a counteroffer that included a raise and increased access to lab equipment and other university resources. McNaughton was caught two years later and charged with a felony (Stripling and Zahneis, 2018). Not only did McNaughton ruin his own reputation by forging the letter, he effectively stole money and resources from a state-funded institution (i.e., taxpayers). He also appropriated and misrepresented the professional ethos of the dean from U. Minnesota to deceive his employer.

3. **Confidentiality.** We respect the privacy of clients, colleagues, classmates, students, employees, employers, and organizations. We share private information with prior consent or when legally obliged. We obtain releases from clients and employers before using work that might contain sensitive information in portfolios or demos.

Examples of Respecting Privacy:

- Psychiatrists not discussing their patients' medical histories with anyone other than the patient (unless that patient may harm themselves or other people).
- Professors not posting identifying or pejorative information about students on social media.
- Professors asking students if they can share their work with future classes.
- Employees password-protecting their computers to keep confidential documents secured.
- Whistleblowers alerting federal regulatory agencies about crime on the job.

4. **Quality.** We present our best work to clients and employers. We are transparent and realistic about our abilities. We negotiate realistic expectations regarding project scope, schedule, budget, and deliverables upfront, during project planning stages. We then strive to fulfill these obligations, maintaining clear communication with clients and employers about our project and seeking feedback at appropriate points during the process.

Case Study Example

Since March 2020, when the COVID-19 pandemic broke out in the United States, Dr. Anthony Fauci has made a conscientious effort to qualify all of his public statements and predictions about when a potential vaccine for the virus would be made available. During that first month, he estimated that it would take "a year to a year and a half" for a vaccine to be developed. Although Dr. Fauci is aware that the American public and government want a vaccine as soon as possible, he is also the director of the National Institute of Allergy and Infectious Diseases (NIAID). Further still, as a globally renowned medical professional, he is well acquainted with the steps that a vaccine trial process entails before one is safe for public distribution. Consequently, his institutional role and knowledge ethically obligate him to specify any factors or variables that are essential to a quality vaccine (Souchery, 2020).

5. **Fairness.** We respect cultural and experiential differences within our organization, and between our organization and clients, development teams, and audiences. We work in alignment with the public good. We avoid conflicts of interest or disclose them immediately when engaging in professional activities.

Examples of Practicing Fairness

- Crafting employee-training materials on different forms of bias.
- Writing and distributing job ads in a way that emphasizes hiring a wide variety of people with a wide variety of different experiences.
- Monitoring the health of a company's workplace culture by creating an internal committee or hiring a consultant.
- An architect designs a building that is wheelchair-accessible and uses sustainable materials.
- A professor consults with community leaders before assigning a community-based learning project, so that the project is helpful to the community while also teaching students course concepts.
- Coworkers reporting their office romance to human resources (many organizations have a policy that requires such reporting).
- A company recruiter recusing themselves from interviewing a close friend or relative.

6. **Professionalism.** We seek opportunities to refine our technical communication skills and ask for performance assessments and feedback on our work. We give others empathy, respect, and constructive

criticism when we communicate or collaborate. We perform each technical communication task we undertake with integrity and seek to help others in our profession or organization.

Examples of Professionalism

- Establishing clear values and guidelines for technical communication in your organization.
- Reinforcing those guidelines and values for colleagues and subordinates through your own communication.
- Participating in (or organizing) professional workshops, seminars, and/or conferences on improving technical communication skills.

7. **Security.** We are aware of the security protocols (mandated by law or company policy) that govern releasing information or using company technologies. We recognize and practice data security: using secure passwords, two-factor authentication, or encryption to protect sensitive data. We report phishing attempts, suspicious links, spyware, malware, and other risks.

Examples of Practicing Security

- Logging out of your computer before you leave your workstation.
- Shredding confidential documents instead of putting them in the trash.
- Reporting a phishing email to your employer's IT team.

How Bias Influences Unethical Communication

Many ethics violations in technical writing are (probably) unintentional, but they are still ethics violations. That means *a technical writer must consciously identify their biases and check to see if a bias has influenced any presentation*: whether in charts and graphs, or in discussions of the evidence, or in source use or in placement of information.

For example, scholarly research is theoretically intended to fulfill one of two purposes. Some scholarly research attempts to gather evidence to evaluate whether a new idea is valid and contributes to the field. Other research reviews or attempts to replicate previous work to cement its validity.

One example of a groundbreaking study is James Watson and Francis Crick's 1953 paper "Molecular Structure of Nucleic Acids: A Structure for Deoxyribose Nucleic Acid." Watson and Crick expanded on the work of other researchers concerning DNA as the vehicle for genetic code. In response to another model for DNA (a triple-helix) proposed by scientists Linus Pauling and Robert Corey, Watson and Crick proposed the double-helix model to convey how DNA transmits genes across organisms. Their paper was reviewed by other

scientists in their field in order to be published in the scientific journal *Nature*, and after decades of subsequent research their double-helix model is still favored by the majority of contemporary scientists.

As with all human endeavors, however, research is susceptible to bias and error. For example, a recent study on the interrelationship between gender, mentor relationships, and career success in academia received intense scrutiny for its flawed design. Published in the academic journal *Nature Communications*, the study claims that researchers earlier in their careers (particularly women) tend to produce less significant research the more female mentors they have; therefore, early career researchers should seek out male mentors instead (al Shebli, Makovi, and Rahwan, "RETRACTED ARTICLE," 2020). Many other scientists critical of the study, however, pointed out that the study did not provide a concrete, functional definition of mentorship or senior standing, did not account for institutional bias in favor of men as a factor, and made the false assumption that more citations equals more career success (Wessel, 2020). Subsequent to this criticism, the journal chose to retract the article, nullifying the validity of the communication (al Shebli, Makovi, and Rahwan, "Retraction Note," 2020).

In practice, most folks are primarily looking for support: "Hey, I have this great new idea that will solve world hunger, cure cancer, and make mascara really waterproof. Now I just need some evidence to prove I am right!" However, if you can easily find 94 high-quality sources that confirm you are correct, you might want to consider whether your idea is worth developing. Often in technical writing, the underlying principle is already well-documented (maybe even common knowledge for your audience), and you should instead use that underlying principle to propose a specific application.

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

Typical Ethics Issues in Technical Writing[3]

There are a few ethical issues that may arise when a writer is researching a topic for the business or technical world. Technical writing is complex and asks a lot from a writer in terms of research and presenting information accurately to an audience. A given audience may not (and in fact *likely does not*) have the same

3. Adapted from "Typical Ethics Issues in Technical Writing," by Matt McKinney, Kalani Pattison, Kathy Anders, Suzan Last, Annemarie Hamlin, Chris Rubio, Michele DeSilva, Eleanor Sumpter-Latham, and Nicole Hagstrom-Schmidt

understanding of the topic as the writer of the document. It's the writer's job to figure out how to accurately convey hours of research and design to the audience in a way that is both clear and ethical. Being aware of the following common ethical issues will help you to create technical writing that balances these needs.

Research that Does Not Support the Project Idea

In a technical document that contains research, you might discover conflicting data that does not support the project's goal. For example, your small company has problems with employee morale. Research shows that bringing in an outside expert, someone who is unfamiliar with the company and the stakeholders, has the potential to enact the greatest change. You discover, however, that bringing in such an expert is cost prohibitive. Should you leave this information out of your report, thereby encouraging your employer to pursue an action that is really not feasible? Conversely, should you include the information at the risk of not being able to offer the strongest solution?

Suppressing Relevant Information

Suppressing relevant information can include a variety of factors, including the statistical significance of data or the researchers' stake in the findings. For example, a study in 2015 found that driving while dehydrated is about as dangerous as driving while under the influence of alcohol. While this was widely reported in popular news sources, these sources failed to highlight some of the most important aspects of the study. To begin with, the study was conducted using just 12 people, and only 11 of them reported data. Furthermore, the study was conducted by an organization called the European Hydration Institute, which in turn is a think-tank subsidiary of the Coca-Cola corporation. In other words, not only was the sample size far too small to make this claim, but the data collection was designed and implemented by a corporation with a stake in the findings, since they profit off the sale of hydration products (Reed, 2016; Oliver, 2016). This case illustrates the ethical dubiousness of suppressing important contextual information for the sake of a sensational headline.

Not Verifying Sources Properly

Whenever you incorporate others' ideas into your documents, especially quotations, make sure that you are attributing them to the correct source. Mark Twain, supposedly quoting British Prime Minister Benjamin Disraeli, famously said, "There are three kinds of lies: lies, damned lies, and statistics" (Lainson, 2002). On the other hand, H.G. Wells has been (mis)quoted as stating, "statistical thinking will one day be as necessary for efficient citizenship as the ability to read and write" (Wilkes, 1951). When using quotes, even ones from famous figures, it is important to verify the source of the quote. Such quotes often *seem* true, because the ideas they present are powerful and appealing. However, it is important to verify the original source both because

you need to make sure that your quote is, in fact, correct, and that it is not being taken out of context from the original source.

Presenting Visual Information Ethically

Visuals can be useful for communicating data and information efficiently for a reader. They provide data in a concentrated form, often illustrating key facts, statistics, or information from the text of the report. However, when writers present information visually, they have to be careful not to misrepresent or misreport the complete picture. Many of the visual design guidelines we'll offer in the textbook are meant to help ensure that you present your data ethically, primarily by not misleading readers and by ensuring access for as many readers as possible.

Figure 3.1[4] below shows information in a pie chart from two different perspectives. The data in each is identical, but the pie chart on the left presents information in a misleading way. What do you notice about how that information is conveyed to the reader?

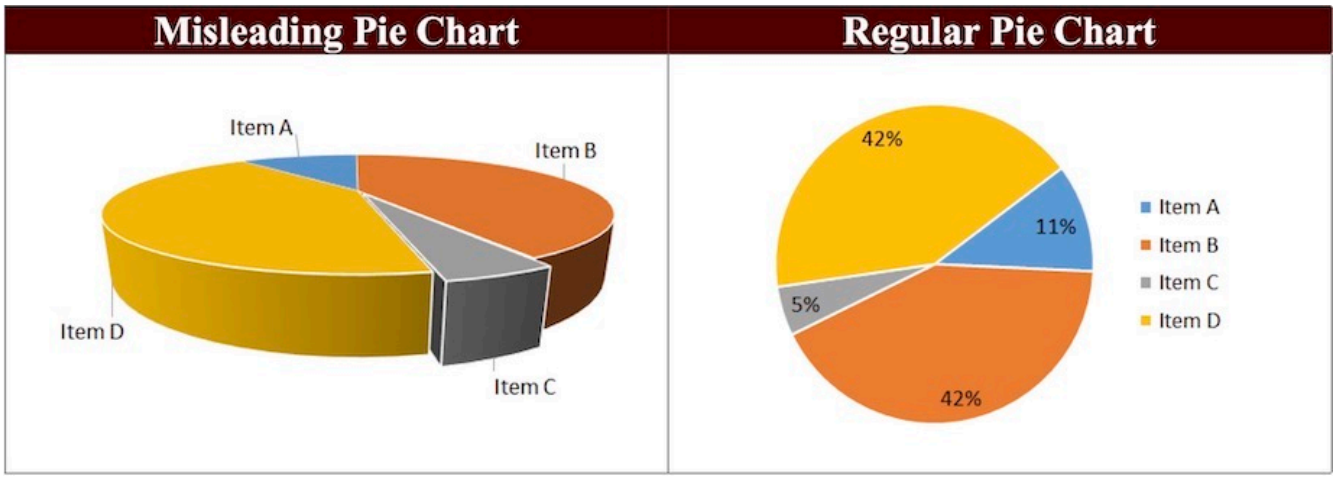

Figure 3.1. Misleading and regular pie charts. In the misleading pie chart, item C appears to be at least as large as item A, whereas in actuality, it is less than half as large.

Imagine that these pie charts represented donations received by four candidates for city council. The candidate represented by the gray slice labeled "Item C" might think that she had received more donations than the

4. Derived from Annemarie Hamlin, Chris Rubio, and Michele DeSilva, "Misleading and Regular Pie Charts," in "Typical Ethics Issues in Technical Writing," licensed under a Creative Commons Attribution 4.0 International License, in Gross, Allison, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva, *Technical Writing*, (Open Oregon Educational Materials, n.d.), https://openoregon.pressbooks.pub/technicalwriting/. Licensed under a Creative Commons Attribution-Noncommercial-ShareAlike 4.0 International License.

candidate represented in the blue "Item A" slice. In fact, if we look at the same data in the 2D chart, we can see that Item C represents fewer than half of the donations compared to those for Item A. Thus, a simple change in perspective can change the impact of an image.

Similarly, take a look at the bar graphs in **Figure 3.2**[5] below. What do you notice about their presentation?

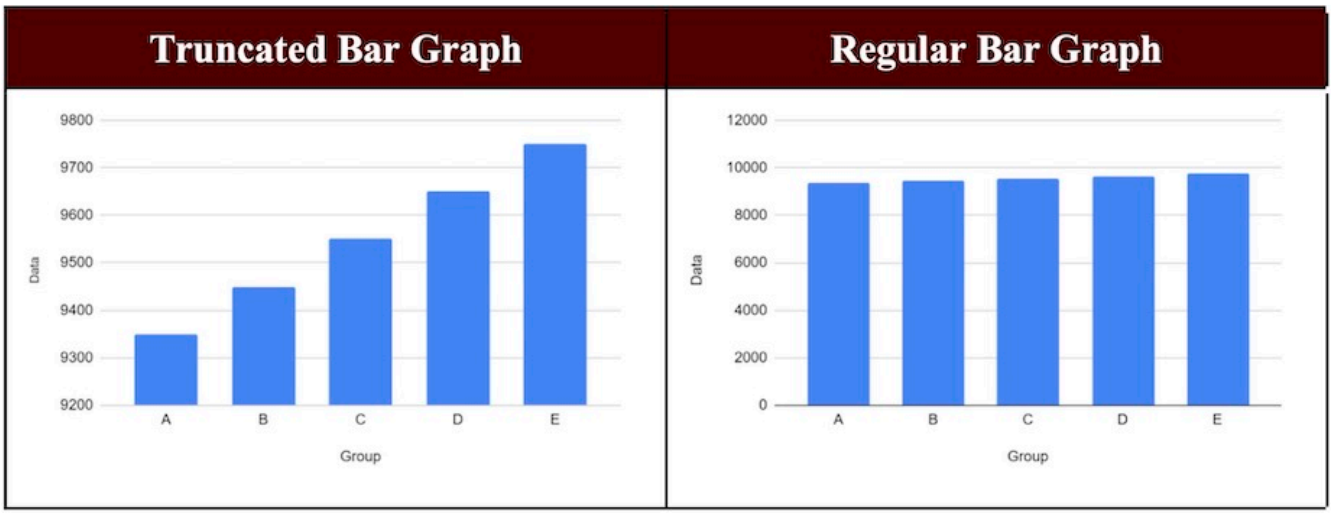

Figure 3.2. Truncated and regular bar graphs. Note that both of these graphs display identical data; however, in the truncated bar graph on the left, the data appear to show significant differences, whereas in the regular bar graph on the right, these differences are hardly visible.

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

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

5. Derived from Annemarie Hamlin, Chris Rubio, and Michele DeSilva, "Truncated and Regular Bar Graphs" in "Typical Ethics Issues in Technical Writing," licensed under a Creative Commons Attribution 4.0 International License, in Gross, Allison, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva, *Technical Writing*, (Open Oregon Educational Materials, n.d.), https://openoregon.pressbooks.pub/technicalwriting/. Licensed under a Creative Commons Attribution-Noncommercial-ShareAlike 4.0 International License.

Limited Source Information in Research

Thorough research requires you to incorporate and synthesize information from a variety of reliable sources. Your document should demonstrate that you have examined the topic from as many angles as possible. Thus, your sources should include scholarly and professional research from a variety of appropriate databases and journals, as opposed to just one author or website. Using a range of sources helps you avoid potential bias that can occur from relying on only a few experts. For example, if you were writing a report on the real estate market in Northwest Arkansas, you would not collect data from only one broker's office. While this office might have access to broader data on the real estate market, as a writer you run the risk of looking biased if you only choose materials from one source. Collecting information from multiple brokers would demonstrate thorough and unbiased research.

Steps for Writing Ethically[6]

In any profession you pursue, you are likely to be asked to create documents, whether alone or collaboratively, with your coworkers. These documents will be read by people within your organization, but also people outside of it: clients, government agencies, and possibly even the general public. These audiences will have different points of view, different levels of expertise, and different experiences, cultures, and opinions. Further, although technical writing documents are meant to be persuasive (consider, for example, a job application, a proposal, or a grant application), persuasion should not sideline ethics.

That means there are a lot of factors to consider when it comes to writing ethically! Since a clear, complete message is so vital to technical communication, it's smart to have a plan – or in this case, a set of actions you can take to make sure that you are working ethically from the beginning to the end of your project. No matter what type of environment you face when you are asked to create a document, the actions below will guide you towards ethical communication.

Commit to Doing Your Research

Research is key to ethical technical writing – and research in the field takes a wide variety of forms, as you'll discover when you work on your projects this semester. You will research your subject deeply, just as you would for academic writing. But *all* writing is a negotiation between you, your subject, and your potential and actual

6. Adapted from "Chapter 4: Ethics," by Michael Beilfuss

audiences. Because of the typical subjects and purposes of technical writing, research on your audience and their needs is an integral part of the technical writing process.

For example, if you are creating a set of instructions (a very common technical writing task), you have a lot of research to do in order to ensure the project's success. In our example, the instructions tell customers how to put together a flat-pack bookcase. This audience is wide – you work for a relatively large company, and a wide variety of people might want an inexpensive, easy-to-assemble bookcase. People of a wide variety of ages and skill levels might attempt this project. You also need to know the actual process for assembling the bookcase so you can write clearly about it. That means you will need to talk to at least one person on the design team, so you can understand how they intend the pieces to be put together. At this point, you are able to start drafting.

However, your research doesn't end there. Once you have a complete draft of your instructions, you will need to move on to a phase of technical writing called *usability testing*. In this step, you test your document with an audience as close to your real audience as possible. In this case, you want to know whether an audience can use your instructions to successfully assemble the bookcase. If they can, then you can start revising and proofreading your document. If they can't, then you will have to rethink, then revise your instructions, and then test them again, until your test users can successfully complete the task.

To do ethical research in technical writing, then, you need to commit to the idea that research is *recursive*. That is, research occurs in cycles. You may have enough information to draft instructions, but until you have the draft, you can't research whether your instructions work with your test audience. Once you have the results of your usability tests, you should then use that information to revise and improve your instructions. All information you distribute to an audience should be based on careful research and diligently tested.

Center Your Constituents' Best Interests

Technical communication documents are often straightforward: they are concise (as short as they can be while still communicating a complete message), practical, and clear. In spite of these characteristics, however, technical writing is still *rhetorical*. That is, technical writing documents seek to persade their audiences about something. Sometimes, persuasion comes with a high failure cost; if a company's proposal is not chosen, the company will lose money, perhaps quite a lot of it. It can be tempting to only communicate the most persuasive points of a document, leaving out information that will complicate your argument or render it less effective.

However, persuasion is not the only aim of most documents, and focusing solely on persuasion is not in our audience's best interests. Let's consider a car's user manual. Focused only on persuasion, the information inside would slant towards persuading the reader that they've bought a great car, or that maintenance is simple, even when it's not. Focused on the audience's best interests, the manual will include specific steps for every maintenance process, no matter how complicated; it will also include safety information for each of the steps,

so that car owners can make educated decisions about which maintenance tasks they attempt themselves, and which they leave to a professional.

When you consider an audience's best interests, you practice communicating ethically with your constituents. *Constituents* are, broadly, not only the people who will read your document (your audience), but also anyone who will be affected by the actions you propose. That is, a proposal to expand the school lunch programs in Washington County may only be read by school board members, but it also obviously affects children who attend public schools and their parents. To be an ethical technical communicator, you must consider *all* of these people as you write.

When you center your constituents, you commit to doing the research that gives you a full picture of your writing situation. Further, you commit not only to identifying your constituents, but learning more about them, and speaking with them to understand how your documents will affect their experiences of the world. You prioritize understanding how your work might do harm, and working to avert that harm if possible. If your work cannot avert all possible harms, then you owe your constituents an understanding of those harms, so that they can make an educated decision about what to do with your information.

Represent Information Honestly

Related to doing complete, thoughtful research and centering your constituents' needs is the commitment to representing information honestly in your work. Regardless of your purpose for writing, you should never create content that can cause readers to believe something that is not true. You should not present information you know is false, and most of us understand why doing so would create problems. However, such ethical choices can also be more subtle and more complex, so it is important to have a clear understanding of the ways in which we owe our audiences accurate information.

We can see this clearly in the first case study in this chapter, the Challenger disaster. Brian Russell's memo did not attempt to conceal the potentially catastrophic consequences of O-ring failure in the shuttle's solid booster. However, the order in which he presented his materials mattered – this acknowledgement followed paragraphs in which Russell downplayed the likelihood of this outcome. Had Russell changed his communication technique and centered the possibility that the failure could destroy the shuttle and kill the crew, as did Roger Boisjoly, this message would have been re-emphasized to managers. We can't say whether supervisors higher up the chain would have made a different decision with this information clearly stated, but this situation clearly emphasizes why representing information honestly is a key technical communication principle. The Challenger tragedy shows clearly that the the way we present information matters, sometimes with a consequence of human lives.

Most cases aren't so clear-cut. For example, when writing a proposal, it might be tempting to report only

research that favors your opinion or the objectives of your organization. When writing a progress report about a project, it might be tempting to leave out how you are behind the timeline or over-budget. When creating an infographic, it may be tempting to oversimplify the topic to keep the audience's attention or cater to their prior beliefs. On the job, technical writers can experience pressures that make it tempting to take shortcuts and stretch the truth.

To enact this principle, you should think carefully about how to include research in your documents, and explain that research using clear, concise language suited to the needs of your audience. Use your quotation, paraphrase, and summary skills to explain important background information relevant to your project, and always cite your sources, no matter what type of document you are creating. Additionally, you should be cautious about using figures, charts, and tables – make sure they visually represent quantities with accuracy and honesty. Always report your progress on a project and your use of project funds accurately.

Be Aware of Your Biases

We all have various biases which affect the ways we communicate and interpret information. In fact, it would be difficult for humans to avoid bias: we all come from specific cultures, countries, and experiences, and those things color the way that we perceive the world around us. We use what we already know to predict how the world will work in other situations. We interpret situations based on personal experience, and we use that framework until it doesn't explain what we're encountering. It's important to understand that we do this almost automatically – humans are excellent at pattern recognition, and because we can't have every possible experience, assumptions sometimes *do* serve us well, since they help us to adapt to new situations. If you travel to Australia and encounter an unfamiliar snake, for example, your prior encounters with snakes in Arkansas (let's say a water moccasin), might lead you to be very cautious and to keep a distance between you and the animal. This is a case in which a "bias" against snakes causes you to alter your behavior as a way to prevent harm to yourself.

However, biases can be (and often are) harmful. A harmful bias might lead you to believe, for example, that a candidate is incapable of doing a job because of her ethnicity, country of origin, or religious preferences. Harmful biases might affect processes like hiring, promotion, or being chosen to work on particular projects. This is one way that unethical technical communication can affect and harm real people – that's why it's important that we try to understand our own biases.

Most important to understand is that most bias is subconscious, or *implicit*. That means that we are often not aware of the bias we display in our writing; it's helpful to have a peer, coworker, or supervisor who is willing to give your feedback on your documents. Another set of eyes (or several sets) can help you to make sure you have not included any discriminatory assumptions. This is also an area in which research is crucial – knowing your audiences and their needs will help you to write towards them more ethically.

The not-for-profit organization Project Implicit has been researching subconscious biases for years and has developed several free online tests. The tests can help you understand your proclivities and subconscious biases. Knowing your biases may help you begin to overcome them.

Solicit and Utilize Feedback Regularly

Finally, to be an ethical technical writer, you must both solicit and utilize feedback throughout your project. As you've learned from prior writing courses, feedback is critical to the writing process: it is an opportunity to test your content in front of a real audience in order to understand whether your document communicates your message clearly. Feedback can tell you whether your main idea is clear, whether your organization makes sense, and whether you have adequate support for your claims.

Because technical writing is intimately tied to the physical world in which we live, technical writers must think about their audiences in particular ways. Specifically, it's important to know that your message is clear and that your users know how to use this information for their purposes. This is information you can only know if you ask, so technical writing workflows include usability testing, which you read about earlier. After technical writers conduct usability tests, they use this information to revise and edit the documents they are creating according to the test audience's responses.

To collect this type of feedback, technical writers must plan ahead. That is, usability testing becomes part of the planning process for technical writing projects. When such projects happen within a company, the organization will often pay for testers to read or test documents. Technical writers usually design usability tests beforehand. If a company needs to know whether a set of instructions work, they'll ask users to put together a bookcase, or set up a cell phone. You can also ask for less formal feedback – for example, you might ask your boss whether a progress report sounds right before you submit it, or you might ask your coworker to proofread your email to your boss.

Before you ask for feedback, take time to think about what you most need to know. Are you most concerned about whether your main idea is clear? Do you need information about how well your organization helps the reader navigate a document? Do you need advice about how to make your graphics more effective? Write down 3-4 main questions you have about your document so that your test audience can give you feedback in the areas where you most need it.

Since ethical technical writing responds to users, you also need a plan for implementing the feedback you receive. Try thinking of your feedback as *rhetorical data* – data which gives you information on where your document meets its aims and doesn't, ways your document connects with your audience and misses the mark. With this data, you can make informed decisions about how to adapt your work, balancing the needs of your users with the aims of your document.

Conclusion

As this chapter indicates, ethical behavior is paramount in technical communication. In no other discipline of writing is it more obvious that writing has effects on the physical world and the people and organisms that live in it. Because our writing can have wide effects on the world, we must strive to understand our rhetorical situation, research our topic sufficiently, and then respond to the information we receive with thoughtful efforts to communicate clearly with our audience. The principles in this chapter will help you think about how to write ethically in any rhetorical situation, whether in future college courses or in your future workplace.

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CHAPTER 3: SETTING YOUR COURSE GOALS

Kat Gray and Dawn Atkinson

Introduction

This short chapter is intended to help you write your first project for the course: the Course Goals Memo. This is a highly personalized document – you will use time in the first unit of the course to think about course goals that will be most helpful to you, and then communicate those goals with your instructor both for accountability purposes *and* so your instructor can tailor your individual project feedback. The information below guides you through the process of setting course goals and creating your first technical writing document.

Setting Personal Course Goals

At the beginning of class, our primary objectives are to learn about the structure and format of the class (through your syllabus, schedule, grading contract, and other class materials) and to learn more about professional and technical writing as an "area," or *subdiscipline*, of writing studies. Once you have an idea of what professional and technical writing is and how it can be used, you'll have a clearer idea about what you can use your time in the course to accomplish.

During Weeks 1-2, you will complete your first project: the Course Goals Memo. In this project, you'll think through your major and career goals and compare those to the course objectives for English 30503. Then, you'll select a few goals for yourself – ones you can accomplish during the time we have together. Once you've chosen your goals, you will write them down in memo format. This chapter also provides guidance and step-by-step instructions for writing memos.

Project 1: Course Goals Memo[1]

The purpose of this assignment is to set personal goals for your semester in Professional and Technical Writing and to practice a common technical writing genre, the memo. To do this, you will use course documents (like the syllabus, grading contract, and textbook) to brainstorm about what you want to accomplish this semester and how you might do it. You will introduce yourself and your reasons for taking ENGL 30503, set 3-4 goals for yourself, and briefly discuss your plan for meeting each goal.

Completion Requirement: Your Course Goals Memo should be **500-750 words**.

Project Steps

In Week 1, you'll complete an orientation to the course and to technical communication. This information will help you to understand the course's learning objectives and to think about how technical communication skills will fit into your future education or career goals. During Week 2, you will learn about ethics in technical communication, which will provide further information about what technical communication is and what it helps us to do.

You should take some time to brainstorm about what you want to accomplish during the course, now that you know more about the subject.

Questions for Drafting:

- After reading the goals and objectives listed in the course syllabus, which ones most closely match your personal goals for the semester?
- What do you know about how your major or chosen career path uses writing? How could you use this class to focus on those skills?
- What are your weaknesses as a writer? Where do you struggle? How could you use this class to improve your skills?
- What specific actions will you take to accomplish each goal?
- What could your instructor or peers do to help you accomplish your goals? For instance, what type of feedback is most helpful to you? Where in the writing process do you struggle the most?

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1. Please note: The assignment sheet appearing in this textbook is a template; your instructor will have more specific instructions for you in some areas (which are highlighted below in green). Please defer to your instructor's assignment sheet for all course assignments.

Think beyond grammar! Most of us have grammar and mechanical skills we could improve, but professional and technical writing encompasses many more skills! Do you need to learn more about how to use a text or image editor to do document design? Are you a wordy writer who could use practice with concise, plain language? Do you have trouble getting started when you're writing? Do you struggle to know when you're done with a writing project?

After you've done some brainstorming, decide which 3-4 goals are most important and accomplishable to you. These are the goals you will write about in your Course Goals Memo.

The next step is to write your course goals in memo format. You can find more information about memos as well as models and templates in your textbook. This information is located in Chapter 3: Setting Your Course Goals.

Due Dates

Project Due Dates

Project Stage	Due
Final Draft	[WEEK 2]

Final Submission Checklist

[Give instructions to students on how to format their assignments here.]

Course Goals Memo

- I have introduced myself and explained my reasons for taking ENGL 30503.
- I have stated 3-4 goals I hope to accomplish this semester and listed practical steps I will take to work towards them.
- I have used memo formatting.

Memo Genre Conventions[2]

Memos are used for communication within organizations (like companies) to establish a written record of

2. Adapted from "Writing Print Correspondence" by Dawn Atkinson

correspondence. They may be distributed in the bodies of emails, in email attachments, or in paper form and can convey a certain level of authority and formality when used to deliver routine messages; progress, incident, and other short reports; employee safety policies; company statements; brief internal proposals; and other types of in-house information. They can also be posted in workplaces to keep employees who do not have ready access to email up to date on matters of interest.

Memo Organization

Everyday memos follow an **introduction**, **body**, and **conclusion** organizational format. An **introduction** indicates the subject of a document and helps guide readers through the document. It should establish context for the rest of the piece, in other words. The **body** section of a memo delivers the details of the communication, with each body paragraph focusing on one main point that is articulated in a topic sentence. The **conclusion** unifies the document by emphasizing its central message and reiterating key ideas. **Example 1**, below, follows this introduction, body, and conclusion structure.

Example 1: Memo with Introduction-Body-Conclusion Format

Memorandum

To: Fang Hu, Director of Human Resources
From: Nicola Maryport, Dean of the Faculty of Humanities and Social Sciences
Date: April 20, 2020
Subject: Workload Division Plan for Emma Kontag

Since her hire, Emma Kontag, full-time administrative associate, has been housed in the Faculty of Humanities and Social Sciences, helping to support departments within that academic unit. Due to campus restructuring, she will now also assist the Pharmacy Department with its administrative tasks. To help ensure she is able to complete her duties for each area of responsibility, this document sets out a workload division plan for Ms. Kontag, which will take effect during the Fall 2020 semester. It identifies approximately how much time she will dedicate to her areas of responsibility each day and her new office location.

Ms. Kontag's new schedule will see her working 30 hours a week for the Faculty of Humanities and Social Sciences and 10 hours a week for the Pharmacy Department. The day-to-day specifics of this plan are meant to be flexible to accommodate fluctuating times for meetings and other duties that

arise and evolve; however, the arrangement establishes a consistent blueprint by which Ms. Kontag can schedule her workdays.

To help ensure the new work plan is feasible, Ms. Kontag's office will be relocated from Legacy Hall room 200 to Philanthropy Hall room 114. This new office site is centrally located in building space shared by both Humanities and Social Sciences faculty and Pharmacy faculty, meaning that Ms. Kontag will not need to travel far to deliver mail, gather signatures, attend meetings, and attend to other responsibilities. It is a spacious and well-lit office and one that I hope will suit her needs.

To summarize, effective Fall 2020, Emma Kontag will work 30 hours a week for the Faculty of Humanities and Social Sciences and 10 hours a week for the Pharmacy Department. Her office will be in Philanthropy Hall room 114, a convenient location that will help to make the new workload division plan possible.

This sample memo's organizational structure and specific and informative subject line help to clearly reveal its message to readers.

Like letters and emails, memos may deliver both routine messages and those that have the potential to evoke more emotive responses on the part of recipients. When writing correspondence, it is thus crucial to consider audience reactions and how you can convey important information in a forthright but polite manner.

To this end, you may decide to use a **direct organizational approach**, which delivers the main message of a document right away, to call readers' attention to matters of importance. When using this pattern, a writer begins with the main point of the document, follows with an explanation of details, and ends with a goodwill closing that aims to build a positive relationship with readers. **Example 2** shows an example of the direct organizational approach at work in a memo.

Example 2: Memo with Direct Organizational Approach

Memo

To: All Employees

From: Travis Summerfield, Physical Facilities Director

Date: April 1, 2020
Subject: Boiler Shutdown at Best University

Physical Facilities staff will be shutting down Best University's main boiler on April 5, meaning many campus restrooms and laboratories will be without hot water for one week.

To conduct maintenance tasks and repair any boiler issues, Physical Facilities schedules a week-long boiler shutdown once each year. Although this shutdown may be an inconvenience, it enables essential work to occur and helps to keep the boiler operating effectively the rest of the year.

The Physical Facilities Department apologizes for any difficulties caused by the boiler shutdown.

As **Example 2** illustrates, the direct organizational approach delivers important news right away.

In contrast, the **indirect organizational approach** reveals the core message of a piece of correspondence gradually as the document progresses and can be used to convey particularly sensitive news. A document using the indirect organizational approach begins with context setting, provides an explanation that leads into the main point, and ends with a goodwill closing. The example memo in **Example 3** follows an indirect organizational approach.

Example 3: Memo with Indirect Organizational Approach

Memorandum

To: All Employees
From: Peggy Kickinghorsewoman, Store Manager
Date: June 20, 2020
Subject: Changes Inspired by Self-Service Efficiencies

Butter's Grocery truly appreciates all the employees at its Oak County location who have helped to make the store among the most profitable in its southeast region of operations. By wholeheartedly embracing the self-service check-out machines installed in the store, you have helped to turn around a once-struggling grocery outlet.

While the self-service check-out machines installed in the store have improved efficiency in store

operations, they have also resulted in redundancies in customer service provision. In particular, they have resulted in the need for fewer cashiers.

As a commercial operation, Butter's Grocery considers profits when making important decisions; however, it also recognizes that dedicated staff members are at the heart of its success. For these reasons, Butter's will offer retraining for cashiers who wish to move into its other departments of operation. Severance packages will also be available to those cashiers who wish to leave Butter's Grocery to pursue other employment opportunities.

The Butter's Grocery management team encourages all employees to bring their questions to the staff meeting tomorrow when the changes described in this memo will be discussed in further detail.

Though the message in **Example 3** would likely evoke an emotional response from employees, the indirect organizational approach is intended to soften the blow for readers.

Although the points about memo organization discussed thus far may apply to correspondence written in many western countries, take into consideration that different cultures have differing expectations regarding the way information is presented in memos, letters, and emails. For instance, the direct organizational approach may be construed as impolite in some Asian countries where a more nuanced style of communication is favored for messages. As with all technical writing, **keep readers at the forefront of your mind when preparing correspondence** to help navigate decisions about document organization and content, and **when in doubt about what audiences expect, research your target readership**. Know who the readers are so you can tailor your message in order to create purpose-driven content to which they will favorably respond.

Memo Formatting

Formatting conventions often help to define genres, and memos are no different in this regard. The following steps describe how to format a standard memo.

1. Place the word *Memo* or *Memorandum* (sans italics) at the top of the page, centered or flush left.
2. Insert one blank line of white space.
3. Insert a *To:* line (sans italics and flush left), and list recipients alphabetically by last name or in descending order of organizational rank.
4. Insert a *From:* line (sans italics and flush left) to indicate who is sending the memo.
5. Insert a *Date:* line (sans italics and flush left), and list the full date (e.g., May 15, 2020, or 15 May 2020, but not May 15th, 2020) rather than the numeric date abbreviation for clarity.

6. Insert a specific *Subject:* line (sans italics and flush left) to clearly identify the memo's topic. The subject line for a memo, letter, or email functions as its title, and readers should know what the correspondence is about just by looking at the subject line.
7. Align the information after the colons in the memo header using the keyboard tab key. This formatting detail takes into account the design principle of alignment, which specifies that like items should be lined up with one another to establish visual consistency and to help readers see them easily.
8. Insert one blank line of white space after the memo header.
9. Type the memo paragraphs, each separated with one full line of white space.

In addition to the design points specified in the steps, **memos are block formatted**, meaning they are single spaced, left aligned, and feature a blank line of white space after each paragraph rather than indented paragraphs. Writers generally use one-inch margins when producing memos and may also include informative headings to give the documents visual structure, especially if the memo is long. Follow the design standards outlined here to ensure readers immediately identify your document as a memo.

Formatting features, such as bold text and lists, can cue readers' attention to important information when used sparingly in memos. Notice, for instance, how **Example 4**, adapted from the Writing and Communication Centre, University of Waterloo (n.d.), employs a list to highlight questions for memo readers.

Example 4: Memo with Bulleted List Format

Memorandum

To: All Staff
From: Mandy Penney
Date: June 1, 2020
Subject: Input on a Casual Dress Policy

The human resources office is considering implementing a casual dress policy in the workplace. Please provide feedback on the questions below as management considers changing its current policy.

Staff members have commented that they would feel more comfortable and productive at work if they were able to dress casually. However, our company has not agreed what constitutes acceptable casual attire in the workplace. Here are some questions to consider.

- What can be considered casual dress in a professional work environment?
- Should our policy restrict the open display of body art, such as tattoos or piercings?
- What procedures should we implement if clothing is deemed offensive?
- Should we institute a casual dress policy?

Please forward your responses to me by June 25 so company managers can discuss your input during their July 1 meeting.
Thank you for providing feedback on the casual dress policy. Please email me at mpenney@XYZ.com if you have any questions or concerns about the policy.

Lists, such as the one in the example above, can be used in both memos and letters to direct readers to key pieces of information.

Conclusion

Taking the time to set goals for yourself at the beginning of the semester is a way to set yourself up for success in Professional and Technical Writing. This assignment also emphasizes the importance of reflective writing and metacognition for technical communication. That is, as with all other types of writing, technical writing is more successful when we take the time to reflect on our tasks after we do them, to understand our process, what went well, and what we can do better next time. For more information on reflection in technical writing, you can read Chapter 14: Reflective Writing for Technical Communication.

References

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CHAPTER 4: TRACKING YOUR COURSE GOALS

Kat Gray

Introduction

You are asked to set goals at the beginning of the course – these goals will then guide your participation in course projects. For example, if one of your goals is to learn how to write a business letter, then you'll identify opportunities to practice those skills in the class, and devote extra time to the parts of projects that ask you to practice professional correspondence. If one of your goals is to learn document design skills, you'll take time in each project to focus on how your documents use design to organize information. Setting goals helps you to take responsibility for what you want to learn, and what will be most useful for you to learn.

However, setting a goal is not the only step required to achieve it. You'll need to take steps actively towards your goals in each of the tasks you do to complete course projects. If you want to learn document design skills, you will practice and try out new things in your projects, but you'll also want to ask questions about document design during peer review and conferences with your instructor. You'll want to use what you know to help you create revision plans and write the revision notes that should accompany each project.

If it sounds like there's a lot of work involved in researching, planning, and executing successful technical writing projects, you're getting the idea! This is why technical writers often create what's called a *workflow* for technical writing projects. Workflows are flexible frameworks that allow you to create any types of technical communication required. For example, Alejandro Piad Morffis (2024) created the **CODER** framework that allows a technical writer to: **Collect** information and ideas; **Outline** a structured, well-organized document; **Draft** your document by expanding on your most important ideas; **Edit** the structure, content, and style of the document; and **Release** the document to your audience after making final revisions.

While the work you do in this class may not go directly to a public audience (though it may, if you choose), practicing this process will prepare you for circumstances in your future, when you may be asked to create documents that communicate with a wide variety of audiences. A big part of practicing is becoming aware of your technical writing process and working to optimize that process based on your experiences doing work for this class. To help you do this, we'll discuss two types of writing that can help you reach your goals: work logs and writing journals.

Work Logs

Grading contract systems rely on the idea of *self-directed learning*, a type of learning that centers "individuals taking initiative and responsibility for their own learning" (Loeng, 2020). In self-directed learning, Svein Loeng writes, "[y]ou are free to set goals and define what is worth learning" and exert "some personal control over either or both the planning (goals) and the management (support) of the learning experience" (2020). Learning in the classroom is "a collaborative process between the teacher and the learner" (2020). Our professional and technical writing classroom, then, is a space where students and teachers work together to accomplish the learning goals set by the student.

To track your progress towards the goals you set, it can be very helpful to create a document called a Work Log[1]. A Work Log is exactly what it sounds like: a space where you record notes about the types of work you do for your writing projects in the course, when you do that work, and how long your work sessions are. In the table below **(Table 4.1),** you can see a very simple example of a Work Log:

Sample Work Log Entries

Date	Time	Session Notes
May 1, 2025	1pm-3pm	Looked for job ads on Handshake, Indeed, LinkedIn. Found 6 possible ads to use for Project 2.
May 2, 2025	9am-12pm	Went through job ads to decide which one to use for my project documents. Narrowed it down to 2, then annotated those ads. After annotating, I decided that I like the NASA job ad best for this project.
May 4, 2025	4pm-5pm	Started drafting a résumé for project 2.
May 6, 2025	1:30pm-4:30pm	Worked on cover letter, revised résumé document. Peer review on May 8, so I will revise these one more time, if I have a chance.

1. Also called a labor log in some iterations of contract grading, like Asao Inoue's (2019) book *Labor-Based Grading Contracts: Building Equity and Inclusion in the Compassionate Writing Classroom*, 2nd. ed.

Table 4.1: A sample Work Log showing work sessions for Project 2: Career Documents.

In the Work Log sample above, the student records dates, times, and notes about his work session. He writes about the ads he's found and makes notes about his process as he's completing the project. Notice how, sometimes, his notes from the previous session can set him up for what he should do in the next session. Further, since he's kept accurate time records, he can estimate how much time he's going to need to complete the work for each session, which helps him to make his work sessions more effective.

Should you choose (or be required) to keep your own Work Logs, you can use the simple example above as a template. You can also add any extras that make sense for you. For example, you could create a space on your work log to write down a to-do list for your next work session. You could also write down the location of each work session to give you data about which locations and times are most productive for you. Some people may find it easier to use time-tracking apps (as of 2025, Forest is a good example). There are many possibilities, and as you get into the habit of keeping a work log, you will get a clearer idea of your own needs as a writer managing technical writing projects.

That is, as Asao Inoue (2019) wrote, the goal of a writing course that is assessed using a grading contract is to promote *mindful laboring*. Mindful laboring asks us to focus on *how* and *why* we do work, in order to "investigate" (p. 119) our process. You might be able to answer questions like: how often do I need to work to finish a project on time? When do I do my best work? What interferes with my work sessions? To help us answer these questions, we can move from only logging our work to writing reflectively about it.

Writing Journals

The University of York (2025) frames reflection as a tool we use all the time; it helps us "plan and undertake actions, then think about whether each was successful or not, and how we might improve next time." *Reflective writing*, then, is a way to record reflective thinking. Reflective writing, like all other types of writing, is a skill that you must practice in order to do well. It takes time to practice noticing the steps in your process and how productive and pleasing you feel those steps were. One way to practice this is regular reflection in a *writing journal*.

Keeping a writing journal – a journal that specifically focuses on our experiences of writing – is not something many of us are accustomed to doing. However, writing journals can be incredibly beneficial when paired with a work log. As Inoue (2019) wrote, reflecting on our work in a writing class is critical to facilitate "learning how one learns, managing one's time best, and understanding the boundaries and limits one has in one's life" (p.

123). Having this information allows us to assess our progress mid-project so that we can adjust our work to meet our goals – it can even help us to finish our projects on time.

Below are some brief samples of writing journals that relate to the work log in the previous section.

Sample Writing Journal Entries

Date: May 2, 2025

Time: 9am-12pm

I took a really long time this morning to look through the ads I found yesterday. I used the job ad annotation questions we talked about in class to take notes on all of them, and that helped me make some decisions. I narrowed it down to two possible choices: the rocket team coach for Fayetteville High School's summer science program and the NASA social media internship. Once I got to those two, I thought about which one would be a better choice. The coach position at FHS pays a little better, according to the ad. But it's a lot of work, and there's no possibility that the job will continue after the internship ends. The internship at NASA doesn't pay as well, but I feel like it would give me a lot of insight into the organization, and maybe help me make some contacts, too? I decided to create documents for the NASA job, since it sounds more interesting and fun to me.

Date: May 4, 2025

Time: 4-5pm

I started working on my résumé draft today, even though I only had about an hour. I started by trying to decide whether I should use a chronological or skills-based résumé. That took me a while, because I wanted to play around with what it would look like to organize the document both ways. That helped me decide that the skills-based option would let me give my materials more of a personal touch. Then I started looking for résumé templates that had a science-y feel. I found a few that I liked and started experimenting with what I want the header with my contact info to look like. That's about as far as I got before I had to go to work, but I have some time to work before peer review on Thursday.

In the first entry, the writer thinks about the process he used to think about which job ad to use for Project 2. He uses reflective writing to recap his reasoning process; doing so will help him begin establishing the reasons

he wants this position, which will help him think about his fit for the position. This writing journal entry helps him clarify his purpose before he begins drafting his materials.

In the second entry, the writer explains what he did with his short work period on May 4. Here, we see a session that sounds less productive, at least if you measure by the number of words on a page. However, notice how this short work session let the student think through the choices he needed to make to start working on his draft. It's likely that he can start his next writing session with a clear idea of exactly the work he needs to accomplish to finish drafts of both documents.

Though reflective writing can be hard at first, it is a skill worth practicing. Reflection is a tool that allows writers to write, analyze, and adjust; it requires you to observe your writing process and use the information you find to improve both your process and your project.

What Do I Do with All This Writing?

However your instructor has asked you to track and reflect on your work this semester, you should keep this writing as you work through the course. Putting these reflections in a place that is easily accessible to you (like a Google Drive or OneDrive folder) will help you complete important work in the course. Specifically, you can use any logs or reflections you have to help you write your revision letters, which accompany each major project. This work will also be useful as you assemble your materials to write your course reflection memo for Project 5.

As you create revision letters for Major Projects 2, 3, and 4, you can use work logs and writing journals to understand your writing process. These materials will provide a helpful record of your revision process so that you can explain your process to your instructor. Work logs and writing journals will also help you to create your Course Reflection Memo. As you create this document, you can use your logs and reflections to evaluate what types of work you did on the goals you set in Project 1. Your logs and journal entries will help you to remember the work you've done over the course of the class and to see your progress towards your goals in that work.

Conclusion

Though this additional writing increases your course workload, the benefits of a clearer perspective on your writing process are things you can take with you as you continue your education or begin your career. These skills will help you to be a more thoughtful writer, researcher, and designer.

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PART II

PART 2: DEVELOPING YOUR PROFESSIONAL PERSONA

Part 2: Developing Your Professional Persona contains materials related to Project 2: Career Documents. The section opens with a brief description of both the project and the concept of the professional persona, which will be important to thinking about any technical writing task you complete. Subsequent chapters discuss the process of applying for jobs, creating job application materials, and tailoring those materials to suit your specific situation.

Part 2 contains the following:

- **Project 2: Career Documents Assignment Sheet**: This section defines and describes the concept of the *professional persona*, which you will use for Project 2. It also includes the full assignment sheet for the Career Documents project.
- **Chapter 5: Applying to Jobs**: This chapter describes the process of applying for jobs. Then, you will learn about the two documents you are required to create for the project: the résumé and cover letter. Finally, you'll read a few tips for interviewing.
- **Chapter 6: Tailoring Job Materials**: Chapter 6 helps you to think through the process of tailoring your job materials, or making them more persuasive and appropriate for your specific rhetorical situation. You will learn about tailoring as audience analysis, then a tailoring process you can practice on your own documents. The chapter also discusses basic document design principles, and how you can use document design to create a personal brand.

PROJECT 2: CAREER DOCUMENTS

Kat Gray

Section Overview

In this section, you will find a brief overview of Project 2: Career Documents, which asks you to create a résumé and cover letter tailored to a specific job posting.

Your Professional Persona

In Project 2, you'll have the opportunity to develop a **professional persona** through your career documents. A professional persona is *the way you present yourself in professional situations*. It includes both how you act when you are in the room and how you appear through your documents. Though the latter may seem trivial, consider this question:

> When your résumé and cover letter are the only documents in the room, how will the employer or hiring committee perceive you?

The answer to that question is that *your professional persona tells them who you are*. Your professional persona gives a prospective employer an idea not just about your skills and experiences but also your work ethic, what motivates you, and your approach to seeking and maintaining productive workplace relationships.

In other words, having a professional persona (or *personal brand*) that shows up in highly customized, tailored career documents is one of the ways you can show an employer...

- **You've done your homework.** This shows up in cover letters when you've spoken about specific needs the company has or indicated that you've done your research on the company by referencing a project you'd be interested in working on. It shows up in résumés when you arrange document sections to highlight specific skills the employer has asked about in the ad.
- **You know how to write for a particular audience.** Don't underestimate this skill – showing that

you know how to talk to people in different professional situations is a critical "soft skill"[1] you'll need throughout your career. In fact, you'll need to think about your audience when you make pitches, ask your boss for a raise, or try to persuade a client to make a purchase. Persuasion in the workplace starts with your job documents; through them, you show an employer who you are and what you're about.

- **You have personal qualities that make you a good fit for a position.** You know your skills and talents the best – and customized, tailored career documents help you showcase them so that employers will notice what makes you special as a potential employee. For example, if you're applying for a graphic design position, you would want your résumé and cover letter to show good graphic design and elements that match or coordinate between documents (like using the same fonts, colors, or document layout elements).

You can read more about how to develop a professional persona in Chapter 6: Tailoring Job Materials.

Project 2: Career Documents[2]

The purpose of this project is to create a set of career documents (résumé and cover letter) for a specific job ad of your choosing. With your instructor's help, you'll find and analyze an ad for a job in your field. Then, you'll create a résumé and cover letter, using your skills to compose and design content specifically tailored to the position. You will produce two documents: a résumé displaying your contact information, skills, and qualifications, and a cover letter expressing your interest in a specific position.

Completion Requirements:

- [1/2] page résumé
- [1/2] page cover letter
- revision letter

Note: You may have created documents like these for another class. However, because we are learning how to tailor job materials for a specific job posting, you should not reuse those materials "as-is." If you already have a resume and cover letter, this project is an opportunity to practice tailoring them to a specific position. Expect to make changes!

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1. To learn more about soft skills, you can check out Indeed's write-up here. What kinds of soft skills will be important for your career field?

2. Please note: The assignment sheet appearing in this textbook is a template; your instructor will have more specific instructions for you in some areas (which are highlighted below in green). Please defer to your instructor's assignment sheet for all course assignments.

Project Steps

During Week 3, you'll learn about the job search process and take an inventory of your skills and interests. You'll search for job ads and learn what kinds of questions to ask to help you prepare for tailoring your materials for a specific position.

By the end of Week 3, you should choose a job ad to respond to for this project and annotate it thoroughly. It's especially important to make notes about how your qualifications match the job.

By the beginning of Week 4, you should be drafting your resume and cover letter. You can use the questions below to help you develop your content.

Questions for Résumé Drafting:

- How will you display important information like your name, contact information, and qualifications? Can you use design choices like contrast, proximity, or repetition?
- Which of your skills and qualifications match specifically with the employer's needs? How can you highlight this information?
- Where could you incorporate keywords from the ad?
- Which designs will be both readable (the reader can easily find information) and concise (keeps your information on one page)?

Questions for Cover Letter Drafting:

- Who is your likely audience? Will they have the same skills and qualifications as you, or will you need to explain some of the content on your resume?
- As a candidate for this position, what are your strengths? How do they distinguish you from other candidates?
- How could you incorporate language from the job ad? In what other ways can you show the employer that you read their posting carefully?
- How will you "chunk" information so that each paragraph has a clear main idea?
- Which design decisions will make your letter look professional, clean, and readable?

By the end of Week 4, you should both participate in Peer Review and turn in a draft of your career documents to your instructor for feedback.

By the end of Week 5, you will decide how to respond to the feedback you received. You'll take time to revise your materials and write a revision letter detailing how you responded to your reviewers.

Content and Design Tips

Resumes and cover letters can vary in content and design depending on who is applying to which job. Though you can personalize these documents in a variety of ways, the design of your documents should suit their purpose.

In other words, your résumé should be designed so that your qualifications and skills stand out and your cover letter should provide a narrative that showcases you, your interests, and your attention to the employer's needs.

You can find more information on how to design and format your documents in the following textbook chapters:

- Chapter 5: Applying for Jobs
- Chapter 6: Tailoring Job Materials

Due Dates

Project Due Dates

Project Stage	Due
First Draft	[WEEK 4]
Peer Review	[WEEK 4]
Final Draft	[WEEK 5]

Revision Letter

When you are ready to submit your final draft, you must include a revision letter that explains the revisions you made to your original draft and why.

Final Submission Checklist

[Give instructions to students on how to format their assignments here.]

- Résumé
  - 1-2 pages
  - responds to a specific job ad

    - uses document design to convey important information
- Cover Letter
    - 1-2 pages
    - responds to a specific job ad
    - uses letter formatting
- Revision Note
    - describes feedback you received
    - describes how you used feedback to revise

CHAPTER 5: APPLYING TO JOBS

Katrina Peterson and Kat Gray

Introduction[1]

Looking for and landing the perfect job may seem like a daunting task. If you are uncertain where to start, know that most successful job applicants feel the same uncertainty at some point. This chapter will walk you through the process of applying for jobs from start to finish. Perhaps most importantly, it will provide you with two distinct tools that can help you to construct the materials for a strong, effective, and successful job application: 1) the **résumé** and 2) the **cover letter**. Finally, the chapter concludes with advice on the interviewing process.

The Job-Seeking Process

Job seeking is a process that involves multiple steps in order to obtain the desired position. Besides the résumé and the job letter, job descriptions, interview questions, writing samples, hiring materials, and the thank-you note sent post-interview are other materials you might find yourself reading and writing as your hiring process moves forward. If the big-picture job seeking process were visualized through a flow chart, it might look something like **Figure 5.1**:

1. Chapter based on Katrina Peterson, "Chapter 7: Applying to Jobs," in *Technical and Professional Writing Genres*.


Step #1
Identify
Your Target
Industry
Function
Geography
Step #2
Create a
Compelling
Marketing
Campaign
Résumé
Cover Letter
Pitch
Online Profile
Step #3
Research
Step #4
Networking
Step #4
Interviewing
Step #5
Staying Motivated,
Organized,
Troubeshooting
Your Search
Motivated
Organized
Troubleshooting
Step #6
Negotiating &
Closing the Offer
Negotiating
Close the Offer

Figure 5.1: Flow chart that illustrates the job-seeking process.

Most job candidates begin with research to gain a clear picture of their target (see Step #1 above), or ideal job, along with the company where they would like to be employed. From there, they may think in terms of creating a compelling marketing campaign (Step #2) through a unified job packet. Research (Step #3), of course, will occur throughout this process, all the way up until the interview (Step #4) and through the final stages of negotiating and closing the offer (Step #5).

While this graphic helps to visualize both the big picture and some of the individual steps involved, it is only one of many variations of the job application process. This chapter will provide **a framework for you to construct your own process**.

As you research and pursue job choices, keep in mind that *the job search process requires a high degree of self-awareness—not only of strengths, but also of weaknesses*. In general, most people find it easier to identify and discuss their strengths. However, knowing your weaknesses is just as important to your job search as knowing your strengths. Here are a few reasons to be able to speak fluidly and confidently about weaknesses:

- Employers want to hire individuals who are self-aware, which requires an awareness of both strengths and weaknesses. Being self-aware is the only way to improve.
- During an interview, a prospective employer may ask about strengths and weaknesses. Employers know it takes a certain level of maturity to talk about your weaknesses. They want to ensure you have achieved that level of maturity before extending an offer.

Remember that *everyone has strengths and everyone has weaknesses*, including every CEO, every company president, every manager, and every one of your coworkers. You will be in good company when considering and discussing your weaknesses. The trick, if there is a trick, lies in your plan to strengthen them. Having a plan to strengthen a weakness is impressive, especially if you have already taken steps to do so.

Finding Job Openings

Investing the preparation time to write your employment materials, including researching available positions, can save you many headaches in the job process. Finding a suitable opening itself can be time-consuming; if you are serious about finding employment, you have to dedicate the time and energy to make your materials competitive. Here are some resources to get you started:

- **Job boards:** Browse sites like Indeed, CareerBuilder, Glassdoor and Monster to search for jobs in your field.

- **Specialty job lists:** Look for lists of jobs in specific industries such as food service (Poached), nonprofits (Idealist), or media (MediaBistro).
- **Company, organization and government web sites:** Visit the employment section on websites of companies you admire; search federal, state, county, and city websites for government job postings.
- **Your own network:** Talk to friends, past employers, and professors, or visit LinkedIn to search for openings at companies in your network. If you are a member of any social media groups that are career-oriented, check for mention of available jobs there.
- **Your college:** Visit your college or university placement office/career center and attend job fairs. Here at UArk, you can also check Handshake for openings.
- **Craigslist:** Many job seekers also use Craigslist to look for work; just be aware that Craigslist postings often lack detail and may come from headhunters or placement agencies, rather than from the direct employer. Scams have also been reported on Craigslist job boards, so verify the legitimacy of any posting before providing personal details.

Once you have found a job, be sure to print and/or save a copy of the job posting or job description. **You will use this document to help you tailor your application materials.** Companies often delete the job posting once they have received sufficient applicants, so it is important that you save your own copy of the document, along with the date and location you found it (this information is often referenced in the job letter); you might also copy and paste the text into a new document, or bookmark the webpage.

Constructing Modular Materials

It probably sounds like a lot of work to create a new set of employment materials for every job opening you will identify. While it is true that it takes time and effort to customize application materials for each new job application, you do not have to create a new résumé and cover letter for every job opening. Instead, you can create **modular materials** with moving parts that can be adapted and reorganized for each job.

For example, if you are a nursing student wanting to work in a different (or indirectly related) field during school, you might consider applying to be an administrative assistant, a medical translator, or a biology tutor. Several different résumé formats are available to you. However, you may choose the skills-based résumé format to place more emphasis on a specific set of current qualifications and slightly less emphasis on your education or work experience; you might create three different templates of your résumé that emphasize and expand upon different skill categories: administrative, communication, and educational.

The same holds true with the cover letter. Once you have a letter draft, you can work with it as a template for numerous other jobs, keeping the overall format but revising some key sentences. It is quite likely that the final paragraph of your cover letters will change very little if you are applying to multiple jobs within the same career

field or industry. The central paragraphs, on the other hand, may undergo substantial revision, depending on how different one potential job is from another. Just make sure to change the name of the potential employer and company for each application; addressing a potential employer by the wrong name is the surest way to remove your materials from consideration.

Crafting Résumés

The purpose of a résumé is twofold: first, **to serve as an overview or quick summary of your skills, experience, and education as they relate to your career objective**; secondly, **to function as a marketing tool that conveys your personal brand**. All of us want our résumés to stand out from the stack. The best way to create an eye-catching résumé is not through gimmicks or flash, but rather through *substance* and *customization*. As a marketing document that sells your candidacy, your résumé should have a format that is pleasing to read, efficient in its use of the English language, and very concise. Once you have several years of experience, it is acceptable to have a two-page résumé, although résumés may range from one to three pages. You should aim for a full page as a new job-seeker, while you build experience and generate content.

Regardless of your starting point—whether you are unsure you can fill a two-page résumé, or whether you think it will be difficult to fill a single page—this chapter will help you accomplish your goal: designing an exceptional résumé. Remember, as the most critical component of a marketing campaign in which you advertise your professional self, your résumé must be clear, concise, and error free. Most seasoned recruiters scan a résumé in about seven to twenty seconds; because they have many documents to review, they look for reasons to reduce the number of résumés that demand a second look. This means that a single error can be all that is needed to discard your résumé and your candidacy. However, recruiters also have an eye for key details, so they will quickly recognize a well-constructed résumé and discard one that is poorly designed.

While writing your résumé, it is important that you keep in mind not only its purpose, but also its general goals, which include the following:

- **To make an exceptional first impression**. Your résumé will likely be the first impression a potential employer has of you and your qualifications, so it must hold attention long enough to propel your job search forward.
- **To quantify strengths, responsibilities, abilities, and accomplishments**. Mentioning factual, numerical examples of praiseworthy attributes and skills will allow you to boast without sounding boastful. For example:
    - If you reduced errors by 35% and increased profits by 55%.
    - If you have been a student teacher with 35 students and student grades improved by 25%.
    - If you are part of a marketing team that has increased new patient accounts by 10% last year.

    - If you worked in the school library and the number of lost books has declined by 50%.
- **To argue, in an articulate and polite way, that you are well suited for the job**. Based on the content of the job ad, you will want to address how your education and/or work experiences (including internships and volunteer work) have taught you both technical and "soft" skills that will help you perform the listed job duties.
- **To represent you when you are not there**. Your résumé can be uploaded to online global job boards like Monster and CareerBuilder. It can be sent to a company's online database with a push of a button, where it will be shared with dozens of recruiters and hiring managers.
- **To obtain an interview and create talking points**. Listing your accomplishments and quantifying them can create talking points for future interviews. For example, perhaps you bullet point the following: Responsible for intake and outtake of approximately 1,000 books daily, resulting in 80% fewer lost books this year. During an interview, with this example in mind, you can easily talk about using technology to improve processes. You can discuss the team environment of the library staff and how you worked toward decreasing the number of lost books.
- **To show your command of the written word**. You do not have to be an English major to make sure that your résumé is well-written. Your professors, teachers, peers, and family members may be willing to help by answering questions based on their expertise, or even reviewing a résumé draft.

Overall, highlighting specific results in each résumé category will increase your chances of getting your résumé noticed. Unlike financial investments, past performance *is* an indicator of future success: include details about your past performance and quantify your accomplishments whenever possible, and future employers will be inclined to believe you can do the same for them. **What exactly do you do, or what have you done in the past?** Your résumé should answer this question very quickly. The more you quantify your accomplishments using specific details, the more your abilities will be understood.

For example, stating that you "worked in sales" on your résumé does not provide specific proof of your skills, and therefore is not likely to be as impressive as a statement that quantifies your experiences and provides unique details. Stronger examples of résumé statements might include: "completed an average of 65 customer transactions per hour, setting a company record for the 2019 fiscal year" or "managed national and international supplier accounts with purchase ranges from $1,000 to $10,000,000 USD."

Types of Résumés

Just as work histories come in a variety of forms, so also do résumés. Although career experts debate which style is the best, you must decide which fits your current situation. There are many reasons to choose one format over another.

The *chronological résumé* is the most common format. The focal point is the *Employment* Experience, so this format is best for candidates with a long/uninterrupted work history, in fields where the company worked for is of paramount importance. It is also well suited for those applicants who want to highlight their education, as many jobs will ask for a degree (e.g. BA, JD, MBA, MA, MD, PhD, etc.) in a certain field as a minimum requirement. This format lists information in reverse chronological order (starting with the most recent positions/schools and working backward), and achievements and skills are detailed underneath each position.

In contrast, the *skills-based résumé* serves candidates who are transitioning between fields, who are shifting from a military to a civilian career, or who have gained skills in a variety of different settings (workplace, academic, volunteer). The focal point is a well-developed *Skills & Achievements* section, in which skills are organized into categories. The functional résumé still includes an *Employment Experience* section and likely an *Education* section, but these sections are streamlined to include only the basic information about each position held or each school attended. The functional résumé describes responsibilities, accomplishments, and quantifiable achievements under categories in the skills section. It typically opens with a brief *s*ummary/profile detailing strengths (one to three sentences).

It is worth noting that, especially in the case of advanced positions, many recruiters expect to see a chronological résumé with traditional sections like Employment and Education. In most cases, it is best to give recruiters the résumé they expect. However, both the college student and the more experienced candidate may choose a functional résumé for these reasons:

- To highlight skills and achievements rather than past employment/companies.
- To minimize a less-than-extensive work experience history.
- To emphasize other achievements, honors, and abilities.
- To de-emphasize gaps in employment or career mobility.
- To include categories like communication, teamwork, and leadership skills, as well as volunteer experience or athletic achievements.

Following, you will find a brief student example of each style.

Sample Chronological Résumé

In this first example **(Figure 5.2)**, an anonymous student creates a chronological résumé for a job posting. Notice especially the *reverse chronological order* in the Experience section.

STUDENT NAME

Email: studentname@gmail.com | *Phone:* (333)-222-1111 | *Address:* 232 President Dr., Apt. 1, Plano, TX, 70074

EDUCATION

OKLAHOMA STATE UNIVERSITY — **December, 2016**
B.Sc. Mechanical Engineering — **GPA – 3.82/4.00**

EXPERIENCE

***System Engineering*, Texas Instruments (Dallas, TX)** — **03/2017 - Present**

+ Execute capital/expense projects for systems such as HW, ChW, HVAC, and Cathodic Protection

***Teaching Assistant*, OKLAHOMA STATE UNIVERSITY (Stillwater, OK)** — **01/2016 – 12/2016**

+ Assisted professors in coursework related to Thermodynamics II and System Dynamics

***Project Engineer*, M INDUSTRIES – JOHN Z CO LLC (Tulsa, OK)** — **05/2016 – 08/2016**

+ Wrote material requisitions and data sheets for vendors
+ Performed property, area, and cost analysis on refractory materials
+ Visited refinery in *Minnesota* to help resolve issues related to pilots and duct burner Piping
+ Reviewed and revised P&ID, GA and fabrication drawings
+ Created shipping lists using BOM to be sent to customer
+ Generated quote using Salesforce and sent to customer
+ Created cost estimate tool using VBA

***Engineering Business Development Intern*, ARNE (Houston, TX)** — **05/2015 – 08/2015**

+ Completed objectives given by Senior LIBD Analyst
+ Built volumetric and commercial models to analyze impact of downstream sales
+ Assisted Business Development Managers with preparation of ZPR, RIC and customer projects
+ Practiced creative thinking and performed strategy studying for

PROJECTS

Design Heating and Cooling system for an office

+ The project involved calculating the heating and cooling loads, selecting relevant heating/cooling equipment and diffusers, and finally designing the ductwork for an office at a given location.

Designing an Airline Pod Handling System

+ The project required the design team to develop a cost effective, robust and safe system to retrieve and deliver passenger pods for a range of aircrafts from A320 to A380 sized.

Designing a Turbine

+ Based on given specifications of a power plant, the task was to estimate the number and detailed design of turbines and penstocks required to extract all the power possible from the water reservoir.

SKILLS

Computer Skills: MS Office, VBA, Python, EES
Other Skills: Problem Solving, Effective Communication, Public

ACTIVITIES

Project Lead - Safe Schools
Project Lead - Slow the flow

AWARDS

> OSU Regents Scholarship
> CEAT Scholarship
> President's and Dean's Honor Roll Certificates

Presentation, Adaptability, Motivational Leadership & Time management ***Languages:*** English & Hindi	***Memberships*** - Golden Key International Honor Society & Phi Theta Kappa Honor Society ***House Captain*** - High school ***Head*** - Pupil Representative Council	> International Informatics Olympiad, 6th Rank > T.I.M.E Examination, 12th Rank Nation-Wide

REFERENCES

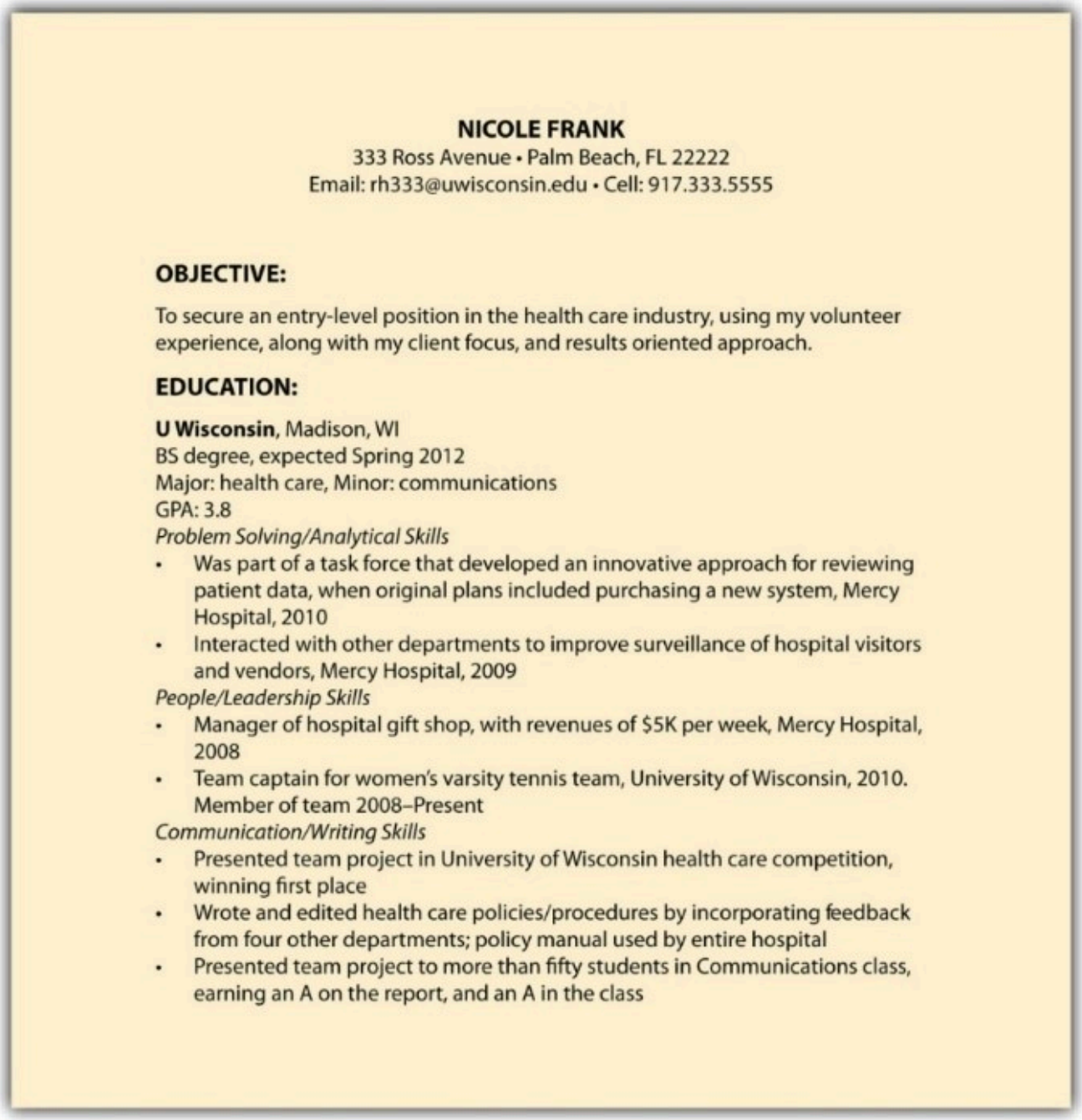
Name, *Title*	**Name, *Title***
Organization	**Organization**
Relationship	**Relationship**
E-mail	**E-mail**

Figure 5.2: Detailed chronological résumé with original color and design choices, created using Excel.

Click here to download a copy of the example resume in Figure 5.2

Sample Skills Résumé

In the second sample résumé **(Figure 5.3)**, student Nicole Frank creates a résumé for a position in the healthcare industry, as she describes in her Objective statement. Notice how the document focuses on three specific skills the student wants to highlight, then creates a list of evidence showing those skills in action.



NICOLE FRANK
333 Ross Avenue • Palm Beach, FL 22222
Email: rh333@uwisconsin.edu • Cell: 917.333.5555

OBJECTIVE:

To secure an entry-level position in the health care industry, using my volunteer experience, along with my client focus, and results oriented approach.

EDUCATION:

U Wisconsin, Madison, WI
BS degree, expected Spring 2012
Major: health care, Minor: communications
GPA: 3.8

Problem Solving/Analytical Skills

- Was part of a task force that developed an innovative approach for reviewing patient data, when original plans included purchasing a new system, Mercy Hospital, 2010
- Interacted with other departments to improve surveillance of hospital visitors and vendors, Mercy Hospital, 2009

People/Leadership Skills

- Manager of hospital gift shop, with revenues of $5K per week, Mercy Hospital, 2008
- Team captain for women's varsity tennis team, University of Wisconsin, 2010. Member of team 2008–Present

Communication/Writing Skills

- Presented team project in University of Wisconsin health care competition, winning first place
- Wrote and edited health care policies/procedures by incorporating feedback from four other departments; policy manual used by entire hospital
- Presented team project to more than fifty students in Communications class, earning an A on the report, and an A in the class

Figure 5.3: Basic functional resume that emphasizes three skill sets.

Résumé Drafting and Design

Based on your qualifications, goals, and information from the job ad, use the information from the previous section to choose from the two major résumé types. Below, you will find information on basic conventions for résumé design, in addition to a brief description of the content your résumé should include.

You might consider using a template as a helpful starting point. However, if you do use a common template to help with layout and section format, be sure to modify it in some way so it does not look identical to another candidate's résumé.

Design Conventions

The design conventions below should help you to create a résumé, regardless of your target career field. Check with your instructor for more advice on how you should write and design contents for your document.

- Choose a clear, readable, professional, ten-to-twelve-point font.
- Use the same font in your résumé and your cover letter to create coherence.
- Place your name and contact information at the top of the résumé to make it obvious to readers who the candidate is.
- When describing work experience (and possibly education), include bullet points. Use the formula **VERB** + **DETAILS** + **RESULT**: Start your bullet with an action verb describing a skill or achievement. Follow it with the details of that skill or achievement, and then describe the positive impact of your achievement.
    - Developed (**VERB**) new paper flow procedure (**DETAILS**), resulting in reduced staff errors and customer wait times (**RESULT**).
    - Provided (**VERB**) friendly customer-focused service (**DETAILS**) leading to a 15% improvement in customer satisfaction and loyalty (**RESULT**).
- Choose design graphics and design features carefully so your résumé does not distract the reader's eye.
- Be strategic and consistent in your use of capitalization, bold, italics, punctuation, and underlining.
- Place more space between sections than within a section to create visual groupings of information. This way your reader will be able to easily distinguish between the key sections of your résumé, and between the items in each section.
- Learn about field-specific conventions. Length, formality, design, delivery method, and key terms are just some of the factors that may vary across disciplines.
- Quantify your skills and achievements. This means including references to technologies and equipment you have used; types of documents you have produced; procedures you have followed; languages you speak; technical languages you know; types of clients you have worked with (demographic information

that might be relevant in your new workplace); and so on.

- Avoid filler words, or fluff that does not show meaningful skills. Filler words include: team player, results-oriented, fast-paced, and self-motivated. If you MUST use these phrases, find concrete examples to back them up. For example, instead of using *team player*, include a time you "collaborated with peers to save the company over $500/month on delivery methods" or "co-managed a team of six to interview/hire vendors for annual company picnic."
- Use key terms gathered from the job description and research into your field. If your potential employer is using a résumé-scanning program, these key terms may make the difference between getting an interview or a rejection.
- Proofread your résumé several times, use spell check, and ask an exceptional proofreader to review it.

What to Include

Despite variations in résumé type, formatting, and design, there are understood rules of thumb on what to include and exclude. As their foundation, most résumés integrate three sections or types of information: the résumé header with contact information, education section, and work experience. This section will also discuss optional sections you may choose to add, if the rhetorical situation calls for such information.

Résumé Headers

Your résumé header should include your: **full name**, **address**, **email address**, **phone number**, and possibly your **professional website or LinkedIn page**. If your first name is difficult to pronounce, you could include your nickname in quotation marks or parentheses (e.g., Xioang "Angie" Kim or Massimo "Mass" Rapini). Names are typically bolded and centered on the page, but aligning your name to the right or left is also appropriate, depending on the template or style you have chosen. You may include your school address or your permanent home address, or both. Most recruiters prefer both because, at times, they may need to send information to both addresses at different times of the year. In **Figure 5.4** below, you can see an example of a header with one address and with two.

It is important to choose a professional e-mail address because employers frown upon addresses such as greeneyes2@gmail.com or runningguy44@verizon.net. Instead, consider using your first name and your last name in a simple format. If you continue your job search after graduation, you might not be permitted to use your school email address, nor should you once you have graduated.

Include only one phone number on your résumé and record a professional voicemail in case the employer calls. Do not play music on your voicemail. If in a loud area, do not answer your cell phone, especially when you do not recognize the number. Allow the call to go to voicemail, listen to it in a quiet place, and return the call as soon as possible. A professional voicemail might sound like the following: "You've reached John Smith

at 555.555.5555. Please leave a message and I will call you back as soon as possible." Be sure to check your voicemail on a regular basis.

Figure 5.4: Resume header examples with contact information, both a school address and a permanent address.

Education Section

The Education section will likely appear before your Experience section. Once you are a working professional, you may choose to flip these two sections, in order to emphasize the information that is more important to a particular employer, or to follow the conventions in your field. Within the education section, it is standard to include your GPA (especially if it is 3.0 or better), along with your expected graduation date, major(s), and minor(s). You may include your overall GPA, or you may decide to list the GPA of your major. Certain industries are more concerned with GPA than others, including consulting, investment banking, and trading, which can require a 3.6 or 3.7 and above.

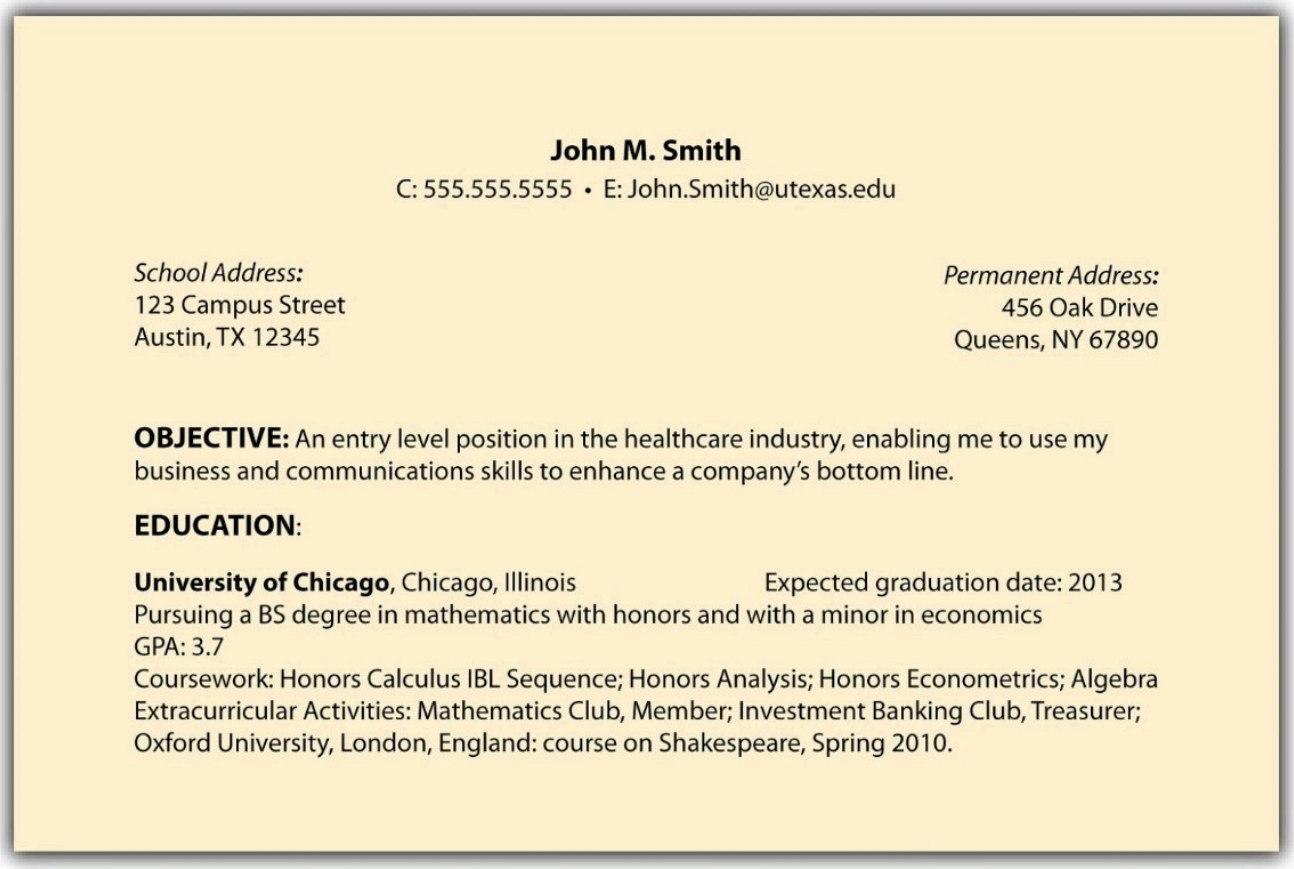
Be sure to **research each industry** to familiarize yourself with such requirements. If you attended only one college, only that college should be listed in this section. If you transferred from another college, you should list both schools in this section. The first school you list is the current school you attend, followed by the previous school. If you attend graduate school, law school, and so forth, your postgraduate institution would be listed first. You also have the option of including relevant courses that prepared you for the job you are seeking and any special accomplishments related to school—like projects, offices held, service, and awards or scholarships.

If you have many of the latter, you might alternatively consider placing them in their own section marked Honors. Below, you can see sample Education sections for a student who has transferred from one school to another **(Figure 5.5)** and a student who has only attended one school **(Figure 5.6)**.

University of Chicago, Chicago, Illinois
Expected graduation date: 2013.
Pursuing a BS in mathematics with honors and with a minor in economics.
GPA: 3.7
Coursework: Honors Calculus IBL Sequence; Honors Analysis; Honors Econometrics; Algebra
Extracurricular Activities: Mathematics Club, Member; Investment Banking Club, Treasurer.

Northwestern University, Chicago, Illinois
2009–2010
Obtained 24 credits toward BS degree before transfer.

Figure 5.5: Education information showing two universities attended.



John M. Smith
C: 555.555.5555 • E: John.Smith@utexas.edu

School Address:
123 Campus Street
Austin, TX 12345

Permanent Address:
456 Oak Drive
Queens, NY 67890

OBJECTIVE: An entry level position in the healthcare industry, enabling me to use my business and communications skills to enhance a company's bottom line.

EDUCATION:

University of Chicago, Chicago, Illinois Expected graduation date: 2013
Pursuing a BS degree in mathematics with honors and with a minor in economics
GPA: 3.7
Coursework: Honors Calculus IBL Sequence; Honors Analysis; Honors Econometrics; Algebra
Extracurricular Activities: Mathematics Club, Member; Investment Banking Club, Treasurer;
Oxford University, London, England: course on Shakespeare, Spring 2010.

Figure 5.6: Resume header followed by contact information, an objective statement, and education.

Employment Section

The Employment section should highlight most the most relevant jobs you have held. This section is arguably the most important of your résumé because **recruiters often look for past work experience as a predictor of future work experience**. The conventional method of listing your work experience is in *reverse chronological order* (as with your Education section). List your most recent job experience first and include the following information:

- Name of the company.
- City, state, and country.
- Years of employment. (If you have had several jobs at one company, include the overall years of experience; for separate jobs, note specific years of experience.)
- Three to seven bullet points describing your responsibilities and the results of your work, depending on years of experience.

You should use bullet points as a means of clearly and succinctly listing your responsibilities and achievements.

Optional Sections

In addition to contact information, education, and work experience, you may be wondering what other sections to include while developing your résumé. Your options are many, but here are a few additional ideas.

- **Objective Statement**: Some sources will recommend that you include an objective statement, while others will warn strongly against it. Proponents will tell you that recruiters appreciate clarity, and an objective can help a recruiter understand exactly what you offer. Naysayers argue that the résumé is meant to be scanned in a matter of minutes and the objective statement only slows this process down with details that will likely be explored in the cover letter. If included, objective statements should be very targeted and mention a specific position. Show what you can do for the company in no more than two sentences. See the example below **(Figure 5.7)**, created for an entry-level healthcare position.

Figure 5.7: Resume header with contact information followed by an objective statement.

- **Skills and Additional Information**: This section of your résumé includes, but is not limited to, the following information.
  - Computer Skills: Most employers expect Microsoft Word, Excel, and PowerPoint, but include additional software knowledge (e.g., Dreamweaver).
  - Language Skills: Include your honest level of fluency (e.g., Spanish, fluent, French, beginner).
  - Study Abroad: Include the name of the university, the city and country, and the coursework.
  - Community Service: Include volunteer work such as park cleanups, walk-a-thons, or fundraising events. Be specific about your responsibilities and your results, including dollars raised, hours

spent, leadership position, and end-user experience (e.g. fund-raising efforts reached over $20K, providing for five developmentally disabled students and their parents to travel to Florida to swim with the dolphins).

- Licenses and Certifications: Individuals can achieve literally hundreds of professional licenses in the areas of health care, finance, real estate, insurance, and so forth. Examples include Chartered Financial Analyst (CFA) Level I or Licensed Real Estate Agent.

In constructing this section, be sure to keep your options in mind. If you want to highlight certain information, or if you need to add a lot of detail, you might consider making a separate section for an item, or you might decide to combine similar items within the same section. See the example in **Figure 5.8** for a skills section that highlights computer and language skills, certifications, and community service experience.

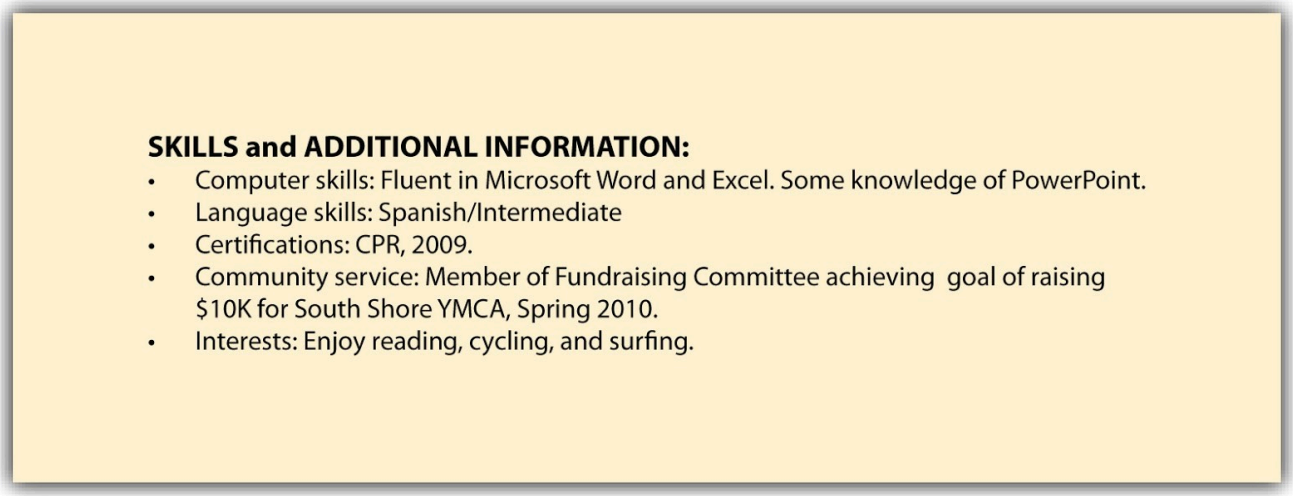
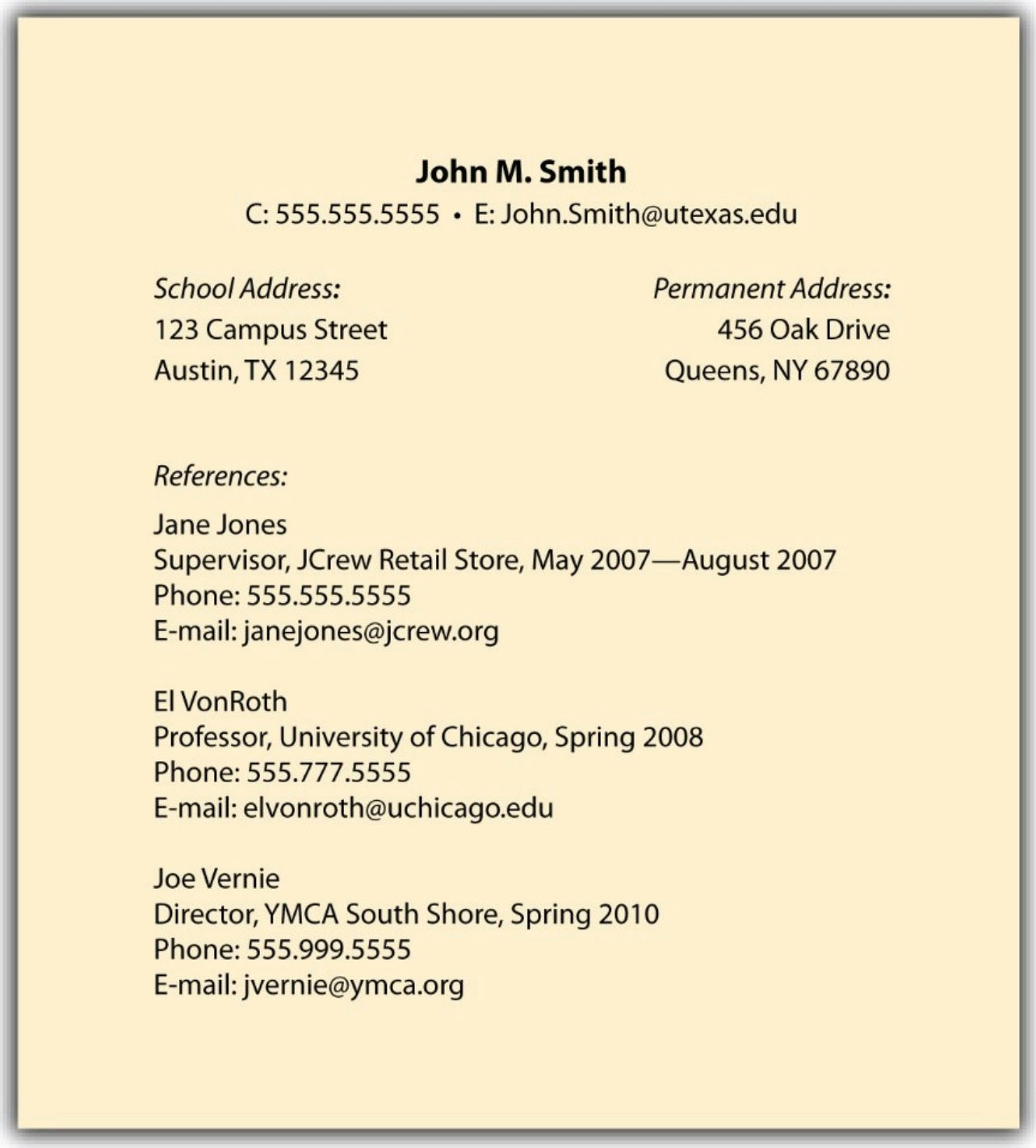


Figure 5.8: A skills section that groups together additional qualifications from computer skills to language.

- **References**: One of the famous last lines of a résumé is "References furnished upon request." This is not necessary because employers can simply ask for references when they want them. In fact, if you simply include a references page with your résumé, it may save an interested employer the trouble of having to ask in the first place; a proactive, impressive strategy would be to create a single-page document that includes the following information.
  - Header (that matches the résumé header) to include your name, address, and contact information
  - Reference's name
  - Reference's company and title
  - Reference's relationship to you (e.g., manager, peer, vendor, and so forth)
  - Reference's contact information, including e-mail address and phone number

Be sure to notify those who have agreed to serve as references that they may be receiving a call or email from a potential employer.

See the example below **(Figure 5.9)** for section listing three references (a fairly typical requirement for most jobs).



John M. Smith

C: 555.555.5555 • E: John.Smith@utexas.edu

School Address:
123 Campus Street
Austin, TX 12345

Permanent Address:
456 Oak Drive
Queens, NY 67890

References:

Jane Jones
Supervisor, JCrew Retail Store, May 2007—August 2007
Phone: 555.555.5555
E-mail: janejones@jcrew.org

El VonRoth
Professor, University of Chicago, Spring 2008
Phone: 555.777.5555
E-mail: elvonroth@uchicago.edu

Joe Vernie
Director, YMCA South Shore, Spring 2010
Phone: 555.999.5555
E-mail: jvernie@ymca.org

Figure 5.9: List of three references (a standard number), with applicant's contact information repeated at the top.

Writing Cover Letters

In the era of social media, the idea of writing a cover letter to introduce your résumé may seem outdated. However, the cover letter still serves several crucial functions. If the résumé is characterized by *breadth* (giving a broad overview of your qualifications), the cover letter is characterized by *depth* (choosing some of your most significant information to cover in detail). Written in paragraphs rather than bullet points, this letter is the first writing sample your employer will see from you. It offers an opportunity to market your unique qualifications and to show how you will fit with the culture of the company. An effective cover letter will create a picture of you as a potential employee and inspire a potential employer to learn more about you. Keep the following tips in mind as you write your cover letter:

- Your letter is essentially an argument for why you should be granted an interview. Make sure to support the claim that you are qualified for the position – use evidence from your experiences.
- Demonstrate your authority by speaking in detail about your qualifications.
- Show the reader that you have skills and abilities necessary to do the job at hand. The more detail you offer and the more precise your language is, the more the reader will be able to picture you doing the job.
- Conduct additional research to help you connect with the company and to choose the appropriate tone, level of formality, and level of technicality.

At some point you may find yourself asking, "Is it worth writing a cover letter knowing it might never be read?" The short answer is yes. Some recruiters go straight to the résumé and make an initial decision, while other recruiters carefully weigh the information in the letter. There is no way of knowing which will be the case, so you are better off putting your best foot forward every time. A well-written cover letter is an opportunity to present yourself well and influence a recruiter, so always take full advantage of that opportunity. It can also be viewed as your first conversation with a future employer, so its quality should be exceptional.

When writing a cover letter, remember that the immediate objective of your cover letter and accompanying résumé is to attract the reader's attention. The ultimate goal is to obtain an interview. As you write your application letter, strive to complete three tasks: 1) catch the reader's attention favorably, 2) convince the reader that you are a qualified candidate for the job, and 3) leave a lasting impression. Below, you'll learn skills to complete this task: how to read job descriptions and use the information in your materials, and how to make sure you have a cover letter with all the required content.

Deciphering the Job Description

Most job descriptions can be copied from the employer's website. Once you have identified a position that interests you, copy the job description into a text document. (If you only have a hard copy of the ad, it

might be worthwhile to type it into a new Word document, so that you can copy pertinent phrases from the job description into your letter.) You can complete two prewriting steps before writing to decipher the job description: 1) List each skill and qualification on a separate line and 2) Group like with like. If communication skills are listed as important, in addition to giving presentations, list one after the other. An example of a job description and the deciphering process is given below.

Sample Job Description

Entry-Level Sales

The CML Company, a leading provider of recruiting and staffing services, is currently seeking motivated, career-oriented individuals to join our recruiting team. Our recruiters work with our clients and inside sales team identifying, screening, interviewing, and presenting qualified candidates for contract and permanent positions. CML promotes from within. Entry-level sales staff start as recruiters. Once they master that role and have a desire to become a member of our sales team, they can be considered for promotion. Qualified candidates for the recruiter position will:

- Develop recruiting strategies designed to identify qualified candidates through various recruiting tools.
- Evaluate candidates' strengths compared with clients' requirements by evaluating, screening, and interviewing the candidate.
- Negotiate wage rates and other terms and conditions of employment with candidates and gain commitment from candidates for current and future job requirements.
- Complete necessary pre-employment processes, including reference and background checks and drug tests.
- Work with account executives to identify top accounts, client skill sets, and key market segments, and to assess clients' staffing requirements.
- Interact effectively with others to create a productive team environment.
- Communicate with peers by sharing recruiting best practices and providing accurate, thorough documentation on contract employees in our applicant-tracking system.
- Maintain relationships with industry contacts to provide customer service, gain industry knowledge, and get referrals and sales leads.

Qualified candidates for the recruiter position must also:

- Have a bachelor's degree or related sales or recruiting experience.
- Be available to work before and after typical office hours as work may demand.
- Possess strong written and oral English communication skills.
- Be familiar with Microsoft Word and MS Outlook (or similar e-mail applications).

- Have work experience in a service-oriented business.
- Reflect a desire to learn and advance in a fast-paced sales environment, and be capable of regularly using good judgment and discretion to accomplish goals.
- Be currently authorized to work in the United States for any employer.

Sample Deciphering Process

As you consider the preceding sample, study each component of the job description and how it relates to your skills so that you can apply for and gain an interview for the position. Also simplify the job ad description as you list and group. Your streamlined list of requirements might look something like this:

Requirements:

- Bachelor's degree
- Able to work flexible, long hours
- Strong written and verbal communication skills
- Computer literate
- Desire to learn in a fast-paced sales environment
- Good judgment
- Discretion
- Authorized to work in the U.S.

As you compare your abilities and credentials to your list, ask yourself how closely your qualifications match the items that are listed. Do your skills match all of these requirements, or the vast majority of them? Highlight the skills that do match and consider where you might reference them directly in your job letter. Then, identify and write down any requirements that are NOT stated directly. For example, the job ad seems to imply: 1) individuals must be motivated, 2) they must have the ability to master the work, and 3) they must have a desire to be a part of the sales team in order to be promoted.

Do not rule yourself out if every requirement does not match; instead, think about how your skills and knowledge relate to that requirement. For example, if you have never worked in a fast-paced sales environment, focus on your desire to learn. Highlight the fact that you have observed fast-paced sales environments, and those situations appeal to you. At the very least, you could use the fact that you have always been very proactive in completing tasks as efficiently as possible. Or maybe you have taken a course or two in economics or marketing that might have provided tangentially relevant knowledge. In contrast, if you are a strong match for most of the requirements, generate specific, results-oriented examples to demonstrate these skills.

Oftentimes, you will not have a clear indication as to which skills are more important than others in the job ad,

so use your best judgment call. Treat each skill as if it is the most important. For instance, when considering communication skills have a specific, results-oriented example of your verbal skills and your written skills. At some point, however, you will want to select the three skills you think are most important, match them to your strongest skills, and then write your cover letter. These three skills, if positioned properly, will make the case for why you should be hired.

Cover Letter Structure and Contents

Cover letter formatting should be neat and professional. It is recommended that you use left alignment for all text. Common business letter formats include the block letter, the semi-block letter, the alternative letter, and the simplified letter. Block format, among the most widely used business letter formats, is recommended for cover letters. The cover letter includes five main sections: 1) heading and salutation, 2) introductory paragraph, 3) middle paragraphs, 4) closing paragraph, and 5) complimentary close. At the end of this section, you will find two sample cover letters for job openings.

Heading and Salutation

The beginning of your cover letter orients readers to the rhetorical situation by telling them who is writing the letter, and to whom. These elements, usually placed at the top left of the letter's first page, are highly conventional – that is, a reader will know they're looking at a letter if they see the heading and salutation at the top of the document.

Heading

The heading of a letter contains the following elements, in order:

1. *Writer's Address:* one line each for the writer's name, street address, and country/postal code information.
2. Leave one line blank.
3. *Date:* date is needed in headings on letterhead stationery.
4. Leave one line blank.
5. *Inside Address:* one line each for the recipient's name (using the appropriate professional title), the name of the company (exactly as that company writes it), street address, and country/postal code information.

Salutation

The greeting or salutation directly addresses the recipient of the letter and is followed by a colon. You should

use the recipient's professional title (like Mr. Pough or Dr. Agbozo). If you do not know the recipient's gender, you may use their full name. In some cases, you may address the salutation to a department name, committee name, or position name: Dear Personnel Department, Dear Recruitment Committee or Dear Hiring Committee.

Introductory Paragraph

In the introductory paragraph, **introduce yourself to the hiring manager or recruiter**. The paragraph should include the following general information, intended to familiarize the reader with you as a candidate in very quick fashion:

- Why you are contacting them (to apply for X position—give its specific name).
- How you heard about the position (for example, give the name of the website where you found the ad).
- The date of the ad if applicable.
- What the minimum requirements for the job are and how you meet them (for example, if the job requires a degree and three years of experience, you will want to mention right away that you meet these requirements).
- Optional: Something specific about the company or the job itself that has made you interested in the position (for example, does the company have a good environmental track record? Do they mention on their website that they like to promote from within? Have they won awards? Are they working on any projects that pique your interests?).

Middle Paragraphs

The middle paragraphs of the cover letter should **make the case for why you would be an exceptional hire**. Select two to four strengths necessary to excel and assign each strength to a bulleted section **(Figure 5.10)** or brief paragraph **(Figure 5.11)**. Boldly indicate your strengths and include your best examples of how you excel at each strength. For a one-page cover letter, some candidates have two paragraphs, while others have three. Oftentimes, one of these paragraphs will focus on education and the ways it has prepared the candidate for the position, while another discusses work experience and applies skills learned to the position. Anything listed as a strength in the résumé needs to include visible proof of that strength. For example, if you mention having strong interpersonal skills, be sure to give a concrete example, like writing about a course that required group work to finish a large project. Show exactly how the example built or showcased the skill you reference.

Closing Paragraph

The closing paragraph should **reiterate any major points or takeaways that you want readers to remember**. It will likely do the following:

- Re-state your interest in the position and/or organization.
- Highlight how your strengths mesh well with the required skills.
- If applicable, inform them when you will contact them (within a certain number of weeks, usually).
- Invite them to contact you (and include contact information, typically your professional email address).
- Refer them to your enclosed résumé.
- Thank them for their time and consideration.

Complimentary Close

The end of a business letter is called the **complimentary close**. Other common closing phrases are *Sincerely yours*, *Respectfully*, or *Thank you*, or *All the best*. Notice that only the first letter is capitalized, and it is always followed by a comma. Usually, you type your name four lines below the complimentary close and—if the letter is a physical copy—sign your full name in between.

Sample Cover Letters

Below, you will find two sample student documents that use the genre conventions above to create cover letters applying for a specific position. In the first letter **(Figure 5.10)**, the student is applying for an internship position and uses a bulleted list to highlight skills he believes have prepared him for the job. In the second letter **(Figure 5.11)**, a student is applying to an entry-level accounting job; she uses her letter to explain how she found out about the position, then divides her strengths into three separate paragraphs, which she fleshes out with specific examples to support her case.

Joe Student
555 Campus Center Street
Hadley, MA 55555

Company Name
Company Address
City, State Zip

November 20, 2010

Dear Hiring Manager,

I am writing about the Marketing Summer Internship Program that I researched in my school's career services department. I am currently a junior at Success University with a major in marketing and a GPA of 3.6. I have executed several challenging marketing projects and I'm confident that I can succeed at your internship. Attached is my résumé in addition to my design portfolio.

My professional experience and various educational activities have prepared me well for this internship as I've honed the following skills:

- Research: Last fall, I researched over one dozen potential speakers to select the final list of three speakers that were invited to speak at my school's Women's Leadership Conference, which was attended by over 1,000 students. My team of five successfully invited the local leaders of various art galleries, in addition to other prominent leaders in the marketing field. The formal program featured solid advice given to participants on how to succeed in business with a particular focus on marketing, and we received extremely strong feedback from participants. The speakers also commented upon the overwhelming interest of the audience members and the quality of the students they spoke to directly.
- Creative problem solving: I have created many websites and logos to ensure that the brand image of each was relevant and strong. While working at XYZ Company last month, I designed a visual template for the new website using the research I conducted on potential marketing targets. My manager complimented me on my listening skills as they were critical to creating quality results.
- Communication: I am the lead campus event coordinator for our five "sister" campuses in the Massachusetts area. I've used my clear and transparent communication skills most recently when planning a marketing conference this past April for all five campuses. The entire project took approximately six months to plan, and during the first four months, each coordinator met via a conference call every two weeks. We constructed very clear project plans outlining everyone's responsibilities and due dates. We were vigilant in our communications because it was the only way to ensure success for the 500 participants, and the 10 speakers who attended. The conference received a 90 percent approval rating from participants.

I would like to reiterate my interest in your marketing internship. I am excited about the prospect of working for your company and I'm confident that my above mentioned skills will ensure my success. I will call you next week to follow up. In the meantime, please feel free to reach out to me at the phone number or email below.

Best regards,

Joe Student

Figure 5.10: Job letter addressed to a general hiring manager (as specified in the job ad) that incorporates bullet points.

Jane Smith
555 East 28th Street, Apartment 9E
New York, NY 10022

Company Name
Street
City, State, Zip

September 25, 2011

Dear Hiring Manager:

I would like to express my interest in the full-time position with your company which was posted on your website. I will graduate this spring from Fordham University with a BA in public accounting. My classmate, Alicia Smith, has shared with me her tax internship experience at ABC Company and she spoke very highly of her experience there. I am interested in this position because you have the largest tax practice in the United States, and I excel in large companies with a culture that is both inclusive and proactive.

My previous experiences make me a very strong candidate. I had two summer internships with XYZ Accounting, and partnered closely with my manager to set up the internal control system which helped us to meet regulatory requirements. In addition to improving the efficiency of our process, it saved our company significant time and money.

At EFG Inc., I organized and analyzed large amounts of data using excel and access. This work was shared with all accountants and strategies were created to compensate for areas of weakness. I'm proud to say that these programs and processes are still being used today, even though I worked at the company two years ago.

At Fordham University, teamwork and leadership are critical to our learning. I have been the vice-president of our accounting club for the past year. I managed the budget of $7K but more importantly, worked closely with other student clubs leaders to hold a successful recruiter's panel discussion, which was attended by over 100 students. The panels resulted in many positive career discussions and will hopefully result in full-time jobs for my fellow students. This successful event would not have been possible without the teamwork of the accounting club, and the partnership we built with Career Services and the companies that were represented.

My experience and skills in addition to my enthusiasm for taxes, will allow me to make an immediate and meaningful contribution to your company. I am very interested in discussing my qualifications with you.

Thank you in advance for your consideration.

Sincerely,

Jane Smith
xxxxx@fordham.edu
(xxx) xxx-xxxx

Figure 5.11: Job letter organized around three body paragraphs that highlight previous experience, ability to organize/analyze data, and teamwork/leadership.

Interviewing

Interviewing for a job position comes with its own set of challenges. However, having made it to this moment in the hiring process means that you have already faced and beaten many obstacles. Be encouraged! Even if you do not receive (or accept) a job offer after interviewing, the interview itself provides valuable preparation for career advancement. Some universities offer mock interviews to help students prepare, so you may want to check with your adviser, department, and career services to be aware of these opportunities.

There are ways of preparing for possible interview scenarios—for example, drafting a set of potential questions that you may be asked and writing out or speaking possible responses in advance. Keep your support system involved. Just as you may have asked family or friends to look over job materials, so also might you ask a friend or family member to help you practice responding to interview questions. The following information is not meant to be a comprehensive guide to interviewing; however, it will provide you with information on the types of interviews you may encounter.

On-Campus Recruiting

If you are participating in on-campus recruiting (when a company comes onto your campus to recruit potential hires), three interview scenarios are possible: open, closed, or mixed schedule. The school dictates the type of schedule, and it is important to know in which type you are participating.

- An **open schedule** allows any student to go to the career services office to submit their résumé for the specific position in which they are interested. An open schedule is open to any candidate who wishes to be considered for an interview. The company recruiter will then review all of the résumés and select the top ten or twelve candidates they will interview on campus. (For example, thirty-minute interview schedules would allow for twelve students to be interviewed, while forty-five-minute interview schedules would allow for nine students to be interviewed.) The company will select the length of interviews when they initially book the schedule with career services.
- A **closed schedule** happens when the recruiter selects all of the ten or twelve individuals they will interview from the résumé book, from interactions they have had on campus, or from a colleague's recommendation. Perhaps they met a student who impressed them at a marketing event. The recruiter could choose to include that student in a closed schedule.
- A **half open/half closed schedule** is a hybrid of the two preceding schedules. Half the students will be selected from students who have submitted their résumés, and the recruiter will select the other half

from the résumé book, a recommendation, or a direct interaction with students while they were on campus.

Whether you submit your résumé for an open schedule or you are selected to participate in a closed schedule, the recruiting cycle is fast-paced and job materials can be missed or overlooked due to no fault of the writer. Sometimes recruiters review hundreds of documents to find the ten or twelve they will pursue, and sometimes materials can be missed because of something as simple as pages sticking to one another. Should you not be selected, you can write to the recruiter, using your cover letter to make a strong case for why you should be considered. In some cases, this may work to get you an interview. The recruiting process is not perfect, so it is recommended that you apply for as many positions as possible. Never rely solely on the submission of one résumé. Instead, when on-campus recruiting takes place, apply for all positions that fit your strengths and interests.

Off-Campus Recruiting

Do not limit your search to only on-campus opportunities because off-campus opportunities can also be fruitful. Conducting both an on-campus and off-campus job search increases the number of opportunities you can consider. You may pursue off-campus opportunities for three reasons:

1. Your school does not have a robust career services department that attracts a variety of employers.
2. You are interested in a company that does not recruit on campus.
3. You want to hedge your bets to have as many opportunities as possible, representing a mix of on-campus and off-campus possibilities.

The main difference between on-campus and off-campus recruiting is that in off-campus recruiting, you manage the entire process. You are responsible for getting your résumé into the hands of the company recruiters or hiring managers, along with scheduling the interview and following up on your own. An off-campus job search demands that you are organized and proactive enough to keep things moving. After completing a job interview, send a follow-up thank you note or email to the interviewer – usually within about a week is best.

Conclusion

Job application materials are some of the first professional writing you will do – in many ways, these documents are part of your entry into the professional world, since they are often the avenue through which you obtain and interview, and thereafter, a job. It's helpful to practice such common technical writing documents because they can help introduce us to thinking like a technical communicator. In the next chapter,

you'll learn how to extend your skills, using your rhetorical knowledge to tailor your materials for the people who are most likely to read them.

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CHAPTER 6: TAILORING JOB MATERIALS

Kat Gray

Introduction

Chapter 6 provides an overview of how you can use the rhetorical analysis skills you already have to create personalized, tailored job documents that help you put your best foot forward on the job search. It's important to think about this because when you apply for a position, you are one of many candidates – to have the best chance at moving to the interview stage, you should think carefully about how your documents portray you as a professional.

In the first section, you will learn how projecting a professional persona is, by and large, a product of good audience analysis during your planning, drafting, and revision stages. Then, you'll learn specific steps to take when you are doing research to decide how to tailor your career documents. Afterwards, you'll learn about the PARC document design principles for résumés and cover letters: **P**roximity, **A**lignment, **R**epetition, and **C**ontrast. Finally, the chapter closes with tips about establishing a personal brand through your materials and online presence. You can use this chapter as you work through Project 2, especially if you are creating documents that you plan to submit to a real job application.

Tailoring: The Art of Audience Analysis

In the Project 2: Career Documents section, you learned briefly about the **professional persona** and why it is important to develop this aspect of your personality in your job materials. In this section, you will learn more about why you should take time to tailor materials for every job application you submit. You'll also learn and practice technical writing principles and skills that you can use to improve your materials every time you apply to a job.

As you read in Chapter 5, it's common for job-seekers to have **base documents** (usually a résumé and cover letter, though you might also create a separate references document to send upon request). These documents serve as the starting point for an individual job application, but the work doesn't stop there. As Peterson indicates, you must find information about the job requirements, the organization for whom you hope to work, and, as in all technical writing genres, *you must research your audience*.

Technical writing is an **audience-centered** subdiscipline of writing studies. This means that all technical

writing projects attempt to factor in their audience from the beginning of the planning process all the way through the end of the project. Technical writers research their audiences at the outset of a project (one example is *localization*, or researching the local area where a document will be deployed in order to better understand the audience who will use that document). Further, technical writing often involves testing – think of a set of instructions for heavy machinery, which will need to be tested before it is released to workers because if the instructions aren't clear, someone could get hurt. Finally, technical writers consider their audience during revisions, changing their documents to better communicate a clear message to a specific audience.

However, job application materials have a different kind of audience than, say, the audience for a car stereo user manual. One way technical writers analyze their audiences is through *eye tracking studies*. According to The Ladders, a career advisory organization at Boston University, eye tracking is "a technologically advanced assessment of eye movement that records and analyzes where and how long a person focuses when digesting information or completing activities." Reporting on an eye-tracking study of job recruiters (2018), The Ladders found that "recruiters spent almost 80% of their resume review time on the following data points: name; current title/company; previous title/company; previous position start and end dates; current position start and end date; and education." Will Evans, the study's author, found a surprising figure: "recruiters spent about 6 seconds on their initial 'fit/no fit' decision." In other words, recruiters decide very quickly whether or not a candidate looks like a good fit for a job. If your documents don't grab the recruiter's attention, you may never get your foot in the door.

What does that mean for you, as a job candidate? Evans has a few key takeaways:

- Recruiters ranked highest job documents with *good organization* and *clear visual hierarchy*.
- Recruiters experienced higher *cognitive load*[1] with documents they perceived as poorly organized.
- Recruiters became distracted by job documents with *too many visual elements*.

With some careful thinking and knowledge of basic design principles (which you'll learn about below) you can use this information to your advantage to produce job documents that grab recruiters' attention for all the right reasons.

Below, you'll find a list of audience analysis questions you might ask in the process of tailoring your Career Documents project.

1. Cognitive load is the amount of brain processing power a person has to use to understand something, in this case job documents.

Audience Analysis Questions for Technical Writers

While you're planning...

- What is the name of the company to which you are applying? What is its industry or area of interest? What role does the position you're applying to play in the company?
- To whom will you send your application materials? *Hint*: If the job ad includes a name, search for that person on the company's website, or on other career sites like LinkedIn.
- Based on the job ad, what will this audience most want to see in your materials? Will they be looking for education or degrees? Certifications? Particular skills, like knowing a programming language? Particular experiences, like having worked in the field previously?

When you're seeking feedback...

- When the reader looks at your documents, what's the first thing he/she notices about your professional persona? That is, how do your materials portray you as a job candidate?
- What skills, experiences, or certifications does the reader think your documents highlight best?
- Does the reader find your document easy or hard to read? What parts are organized well? What parts are confusing your reader?

While you're revising...

- Based on the feedback you've received, which parts of your career documents need clarification to communicate a clear message?
- If you had more than one reader, did you get the same feedback from them? If so, this is an indication of a change you might make in revision.

Once you've thought about who your audience is and what they need from you in order to receive a clear message and a detailed picture of you as a job candidate, you can move into the tailoring process. In the next section, you'll find an overview of specific tailoring steps to take when applying to a job.

Tailoring Your Materials: A Process Overview

This section will walk you through the steps a job-seeker might take when thinking about how to tailor job application materials. As Peterson indicated in Chapter 5, the best way to *start* tailoring your materials is by gaining a clear understanding of the job ad itself. However, you shouldn't stop there. You don't *just* need information about this particular job position – you'll also need to know about the company to which you're applying and to whom you're speaking when you write your documents. It may also be helpful to look at example career documents from other candidates in your field to decide how you want to organize and present your own materials.

How to Use Job Ads

As Katrina Peterson wrote in Chapter 5, the first place you start when you are tailoring application materials is the job ad for the position to which you are applying. It's important to have a copy of the job ad's exact wording, since that is your best set of clues about what the organization wants from a job candidate. As Peterson mentions, however, *a company often takes a job posting down after a certain period of time*. That means that if you want a copy of the exact wording, you should copy it as soon as you decide you are applying to the position. You can copy and paste it into a new document, use the "print" feature on a web browser (which you can use to print the document *or* to save it as a PDF), or save screenshots.

Once you have a copy of the job ad, you are ready for the next step: *annotating* the job ad. Much like you'd annotate a source you plan to use in a document, annotating a job ad helps you highlight the most important information so that you can respond to it. The strategies below will help you to annotate your ad.

Annotation Strategies for Job Ads

To annotate a job ad, find a way to make comments on the copy of the document you saved. You might use a text editing program to highlight and comment on important information. If you prefer, you could print the job ad and make comments and marks on a printed document. You'll use any notes you make to help you create your materials.

1. **Start with the basics.** You'll want to know: the name of the company posting the job ad;

the title of the available position; the location of the position; whether the position offers remote work options.

2. **Understand the required and preferred qualifications.** Most job ads will list *required qualifications*, which are the minimum skills and certifications they will accept from applicants for the position. Many job ads also list *preferred qualifications*, which list skills that are not required but strongly preferred. Candidates who can show these preferred qualifications may have an edge over candidates who cannot.
3. **Learn about the organization.** Job ads usually give information about the company posting the ad. As a job-seeker, you will want to understand who you're working for – but you'll also want to read closely to understand the company's values, goals, and motivations.
4. **Make careful note of any submission instructions.** Often, the company posting the job ad will give particular instructions for applying or submitting your materials. The ad may ask that you submit all materials as attachments to an email, or that you make an account on a hiring website or the company's website and apply in that manner.

Before you can begin composing your job application materials, you will want to know a little bit more about the audience you are attempting to persuade. The basic information you gather from the job ad will serve as a jumping off point for further research.

How to Research a Company or Organization

The job advertisement provides enough information for you to derive an understanding of the position and its requirements. You may learn *some* information about the company itself from a job ad, but the more information you have about your audience, the better you will be able to understand how to communicate with them in your application materials. Use the questions below to help you dig deeper.

Questions for Researching a Company, Organization, or Hiring Committee

1. **Start with the company's website.** Most modern companies use this space to communicate not just information about the organization's products and services but also

about the organization's structure, values, and goals. You might ask...

- What is the company's history?
- What does this organization seem to value most based on their website?
- How is the organization structured? Who is in charge, and what are their positions? Is the organization split into 'divisions' – like Engineering, Human Resources, or Digital Media? How many people work for the organization?
- Who are the clients or customers of this company?
- What does this website hope to communicate to current clients and employees? What about to potential clients and jobseekers?
- Does the company have social media accounts? Which networks? How active are those accounts? What do they tell you about the company?

2. **Use web search information, but use it carefully.** A company's website can provide a lot of information, but it's important to get other perspectives too. The questions below will help you think through the information you might find when you web search a company, but you should also remember to fact-check this information. Many of these sites allow anyone with an account to post, so you will want to verify your findings.

    - When you use a web search like DuckDuckGo or Google, what information do you learn about the company?
    - Does the company have any ratings on GlassDoor?
    - Does the company have any Yelp reviews?
    - Do you find any information on the company from forums like Reddit?
    - You might also consider asking some questions about the company on a social forum – but remember that you may not necessarily be anonymous in these spaces.

3. **Use your personal and professional contacts.** Another important step is to talk with any people you know, personally or professionally, who have worked with this organization. You might ask questions like...

    - When did you work for this organization, and for how long?
    - What was a typical work day or work week like for you?
    - What were your experiences working for this organization, good and bad?
    - What did you like most about the organization?
    - Why did you leave the company?

The questions above will help you dig much deeper into the organization to which you'll send your

documents. This will give you a clearer sense of your audience and more information to include in your materials. It is important not only to show your audience that you are qualified for the job – they also want to know that you've done your research on the organization and understand how you might fit within it as an employee.

How to Research Documents in Your Field

Finally, before you start working on your own materials, it can be very helpful to look at other job-seekers' materials. In doing so, it's important to know that *career documents vary based on field*. For example, a software engineer's résumé will look different from a nurse's résumé and both of these documents will look different from a graphic designer's résumé. Not only will the information vary, so will the order in which that information is presented, and the document design used to convey it. A graphic designer's résumé needs to show an understanding of clean, attractive document design, while a software engineer's or nurse's résumé will focus on showing qualifications, education, and experience. Luckily, many of these documents are digitized and easily available to us; the strategies and questions below will help you find them.

Strategies and Questions for Researching Documents in Your Field

Research Strategies

1. **Ask people you know.** The best option you have is to talk with people you know, either personally or professionally, who already work in the field you are targeting. Ask family members, friends, acquaintances, or coworkers if they will allow you to see their job application documents – be specific that you plan to use them to help you understand how to construct your own.
2. **Search the internet.** Using a search engine, try phrases like "software engineer résumé examples" or "public health résumé examples." Remember to look at both the web links your search returns *and* the image search results.
3. **Use templates.** Finally, you can use image creation apps (Canva is only one example) to view template documents. Try some of the same search terms you used in Step 2, above – "software engineer résumé" or "nurse résumé."

An important note: Step 1, above, is the best way to guarantee that you are looking at real

examples of career documents. The web search results or the templates you find may not accurately reflect the way job-seekers construct documents in your field.

Research Questions

- Do the example résumés use a *chronological* or *skills-based* template? That is, are they ordered based on when the writer has held specific positions or received specific certifications? Or are they ordered based on personal and professional skills the writer wants to emphasize?
- How do the example cover letters order information? What types of information do they focus on? Do they focus on degrees earned? Experiences in the job field? Projects worked on or completed?
- What information is most emphasized in these documents? Is this information emphasized through text? Document design? The order of information? Something else?
- What types of document design do you see in these documents? Do career documents in your field seem to focus primarily on the text content? Are there document design choices that seem consistent across these materials?

Once you have this information in hand, you're ready to start creating your own documents. This means not only creating the text, but also using thoughtful *document design* to match your documents with your professional persona. Next, we'll discuss some basic document design principles that will help you to think about not only what your documents say, but how they are organized and how they appear to the reader. Both written text and document design are rhetorical; that is to say, both the text and design of a document act persuasively on your audience.

Beginner Document Design Principles

Document design is tricky: when a document is designed well, we may hardly notice the design elements a writer uses to guide us through the text and emphasize important messages. When a document is designed poorly, however, we might miss the point, become confused, or stop reading altogether. Document design, then, is an incredibly important piece of your relationship (as the writer) with your audience.

To think about document design, we'll start with the **PARC** design principles: *proximity*, *alignment, repetition,* and *contrast* (Williams, 2004).

Proximity

Proximity governs how we group related elements in a document. For example, writers tend to place a caption directly under the photo it describes or explains. Readers assume that, since the caption text is right beneath the photo, it gives more information about the photo's contents. Using proximity thoughtfully "helps organize information" and "gives the reader a clear structure" (Williams, 2004).

To use proximity in your document designs, you should *group related items together*. These items should be physically close to one another on the page so your audience can view them together, as a cohesive unit. In other words, the placement of elements on your page should give the reader helpful information about the organization of your document. Readers should know where to start reading and have a clear idea of when they're done. Further, they should understand clearly which items are related, and which aren't. As Williams (2004) wrote, "[t]he closeness *or* lack of closeness indicates the relationship" (p. 21) – if items are close to one another, readers interpret them as related and if they aren't, readers interpret them as unrelated.

Alignment

Alignment is a way to think about how we place items on a page and how that placement creates visual connections with other elements on the page. If a writer centers an image on the page, the audience's eyes are drawn towards the center of the page and the information the image contains. The image and its caption create a *visual unit*, which readers interpret as belonging together. In other words, as Williams (2004) said, "[e]very item should have a visual connection with something else on the page" (p. 31).

To start with, you can consider three different types of alignments for your document:

1. *Left-aligned:* text that lines up along the left margin of the page. Left-aligned text is common in documents written in languages that we read left-to-right, such as English. Because the text lines up against the same margin on the left, it is easier for our eyes to follow the text without getting confused.
2. *Right-aligned:* text that lines up along the right margin of the page. Right-aligned text has some of the same advantages as left-aligned text: it creates a hard edge on the right side of the page so that your reader can very clearly see the text alignment. It may be slightly more difficult for readers who usually read left-to-right to read right-aligned text, since that edge occurs on the right side of the page.
3. *Centered:* text aligned to the center of the page. Centered text creates a soft edge – since it runs down the center of the page, the amount of white space on either side of the words differs.

As always, consider your audience when you make these document design choices. What information do you

need the audience to understand from your document? How can you use alignment to make sure they see that information and receive your message?

Repetition

Repetition utilizes the human ability to recognize and interpret patterns to visually organize a document. The headings in this chapter are a prime example: they repeat the same font and size to draw your eye to the topic of the text that follows and to help you understand the organization of the topics – and which subtopics fit with which larger topic. Repeating this pattern consistently throughout the chapter helps readers understand the document and how to use it.

You might think of repetition as *consistency*. That is, repetition shows readers that each page is part of the same document; this, in turn, increases your document's readability. Most of us already use repetition without thinking. We know, for example, to use the same style of bullet points throughout a document when we create lists. We know that all the headings in a document should use the same font. Utilizing the principle of repetition effectively means becoming more conscious of these practices and using them thoughtfully to help communicate your message to the audience.

Contrast

Contrast is a tool that communicates meaning through *difference*. Headings also work on the principle of contrast, since they are usually bigger than the text around them. Because of this, the reader is able to better understand how to interpret the information given in the headings (usually the topic of the paragraphs to follow). Contrast can be shown in a wide variety of ways: font, font size, shape, color, line thickness, and more.

Contrast serves two important purposes: it increases visual interest on the page and, more importantly, it helps us create organizational hierarchy in a document, which in turn increases readability. Where repetition leads readers through a document using repeated design elements, contrast leads readers through a document by creating difference. The headings in this chapter also utilize contrast. Because the heading is larger than the text around it, the reader understands that the difference *means something* – and it does, because the heading text helps to visually introduce the reader to a change in topic.

Building a Personal Brand

As you may have guessed from reading the information about design principles above, creating a personal brand for your documents is a matter of audience awareness, what you hope to accomplish with your texts, and

your own personality and style. The PARC principles can help you make these decisions with more confidence and consistency. By making *intentional* design choices, you present yourself as a technical communicator who is thoughtful and attentive to details – a plus in most rhetorical situations!

To use this information to build a personal brand, you will need to think about both *design* and *content* choices. Through these choices, you convey your professional persona to the audiences who interact with your materials. Remember, too, that the materials you use to convey your professional persona aren't *just* your career documents. Your professional persona should also be reflected in places like your LinkedIn page, or any social media accounts to which your materials link. By thinking carefully about how you project your professional persona into the world, you can have more control over the first impression you make on your audience.

Creating Branded Materials

The choices you make when building your personal brand rely on the answers to two related questions:

1. What do materials in your field usually look like? What information do they include? In what order or format?
2. What design choices can you make to emphasize your message about yourself? What design choices can show your personality, or who you are as a candidate?

As you create your materials, you generally have two options: customizing templates and building from scratch.

Customizing Templates

Document design and creation programs and apps usually offer a wide variety of document design templates. These templates can make your life a lot easier, especially if you don't have a lot of experience designing documents. However, other job-seekers also have access to these templates – you and another candidate might choose the same look for your documents, which defeats the purpose of thinking about branding in the first place!

This doesn't mean you can't use a template. It *does* mean that you should think carefully about how to customize the template you choose to reflect your own professional persona. To do so, you might ask questions like...

- What organization best reflects your skills and capabilities, as they relate to the position to which you want to apply?

- How can you use the visual elements in the template to emphasize the most important information in the document? Tip: eye-tracking studies suggest that the upper left-hand quadrant of a document is where many readers focus most clearly – place your most important information here!
- What choices can you make about colors for your document? What makes sense for your profession, or for the field you hope to enter? Remember: think about contrast – your reader needs to be able to clearly distinguish between the colors you use.

Building from Scratch

If you feel confident in your document design skills, you can build materials from scratch. This means starting with a blank page in a text or image editor and building your professional documents from the ground up. You'll need to choose, and then figure out how to execute, every document design element you want to add. This approach gives you a great deal of freedom over how your documents look, but it can be intimidating to start with a blank page.

However, the advantage of creating documents from scratch is twofold. First, taking the time to build from scratch means that you can customize your documents to suit your specific needs. Second, creating your own documents means that you'll gain skills in document design and creation that you can also apply on the job! Remember to give yourself a little extra time to work if you want to design your documents from scratch.

As you decide on design and organization elements, you might ask yourself the following questions...

- What content best highlights your qualifications and achievements as a job candidate? How can you place this content early in the document?
- What headings will you use to organize your document? How will you distinguish these headings visually so that your audience can easily see topic changes and document organization?
- What fonts will you choose? Consider readability, as well as how you can use size and emphasis (bold, italic, underline) to emphasize particular messages.
- What design elements will you use to emphasize the most important information in your document?
- What design elements will you repeat across your documents to create a sense of cohesion or unity?

Conclusion

As this chapter indicates, it takes time to do the work of tailoring your documents. This process requires you to do careful research not just on the job position to which you are applying, but also the company or organization you'll be working with, and the people you may be meeting early in the hiring process. However, tailoring is also a way to show that you are an attentive, intelligent professional who takes your potential career

seriously; through tailoring, you gain more thoughtful control over your first impression on an employer. Putting your time and effort into this process pays off!

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PART III

PART 3: RESEARCHING PROBLEMS AND PROPOSING SOLUTIONS

Part 3: Researching Problems and Proposing Solutions contains content that covers the third and fourth projects in the class: the Problem Primer and the Collaborative Grant Proposal. These projects are framed as a response to the UArk Cares Foundation Community Improvement Grant Request for Proposals (RFP), linked below. This document, from a fictional nonprofit organization, frames the rhetorical situation for your next two major projects.

You will begin work on this project by selecting a problem you want to investigate with a group, then doing both primary and secondary research on those problems. As an individual, you will create a problem primer report that details your findings. Then, you will come back together with your group and talk about which of your solutions you will write about for the collaborative grant proposal. As a group, you will create a proposal that responds to the UArk Cares Foundation RFP, then remix that information into a multimodal resource for your stakeholders. Finally, you will create a transmittal letter to accompany your project and discuss your process.

Part 3 contains the following sections:

- **UArk Cares Foundation Community Improvement Grant RFP**: This Request for Proposals document frames the work you will do for the next two projects in the course: the Problem Primer and Collaborative Grant Proposal.
- **Project 3: Problem Primer**: The assignment sheet for Project 3 describes the process of selecting a problem and gives an outline of the process for writing the primer.
- **Chapter 7: Explore Potential Problems**: This chapter explores the idea of technical writing as problem-solving and reviews processes for exploring a problem to solve with your group. Additionally, it gives details about the intermediate step of creating a community profile.
- **Chapter 8: Research a Technical Writing Problem**: This chapter discusses the process of secondary research for technical writing. It also explains the idea of information literacy, details note-taking for research projects, and explains how to create the project pitch on which you will receive feedback before starting your work.
- **Chapter 9: Design and Run a Pilot Study**: Chapter 9 explains how to construct a pilot study for your problem primer project. First, it details human research ethics, then research methods that you might use for technical writing projects. Finally, you will learn about the type of progress report you will

write for this project, the research progress memo.

- **Chapter 10: Synthesize and Report Research**: Chapter 10 discusses the high-level research writing skill of synthesis, and explains how you will use those skills to create a problem primer. The chapter also explains what a report is, and talks through the style of report you will write for Project 3. Finally, you will learn about visual design for reports.
- **Project 4: Collaborative Grant Proposal**: The assignment sheet for Project 4 describes how to take the research you've done in the past few weeks and transform it into a grant proposal with your group.
- **Chapter 11: Create a Grant Proposal**: This chapter discusses the specific type of proposal you will write for Project 4. Additionally, the chapter explains the process of collaborative writing and gives you documents and tools to manage collaborative work. Finally, the chapter explains the type of progress report you will write for Project 4: the design memo.
- **Chapter 12: Remix Research for a Public Audience**: Chapter 12 describes the next step of Project 4: turning your research into a multimodal resources for the stakeholders who will be most affected by your project. You will learn about how to talk to a public audience, then about multimodal composition. Finally, the chapter closes with recommendations for a design process to help you design your remix.
- **Chapter 13: Write a Transmittal Letter**: This short chapter explains the correspondence subgenre you will write to finish Project 4: the transmittal letter. You will learn about the parts and contents required for this project, as well as how such documents are usually used in technical writing projects.

UARK CARES FOUNDATION COMMUNITY IMPROVEMENT GRANT

Kat Gray

Grant Applications Are Open![1]

Dear University of Arkansas (UArk) students and Northwest Arkansas (NWA) community leaders,

UARK Cares, with the financial support of the University of Arkansas, is pleased to offer grants to support community-engaged projects that benefit the Northwest Arkansas region and its community members. The purpose of UARK Cares is to help connect the resources offered by the foundation to the community members and organizations who know best how to use them in service of the NWA area at-large.

1. UArk Cares is a fictional foundation created for the purpose of helping students practice writing in contexts that approach the professional experiences they are likely to have writing these documents. This approach is inspired by Dr. Shyam Pandey's presentation "Beyond Persuasion: Exploring Innovative Approaches to Grant-Writing in TPC," given at ATTW 2025. The UArk Cares Foundation will be the audience for your grant proposal project.

We accept grant proposals once a year in the Fall. Proposals will be reviewed and rated by the UARK Cares Advisory Board.

We invite grant proposals from any NWA community members with projects aimed to support the community in the following areas:

- Community access and belonging
- Environmental preservation
- Educational access and literacy development
- Food access and insecurity
- Mental health
- Technology and design

The maximum funding UARK Cares will provide per grant is $25,000.

Recently Funded Projects

- Initiative 1: Local brewery used UARK Cares fund to open a new public tornado shelter in South Fayetteville in response to an uptick in tornadoes affecting the NWA region.

- Initiative 2: UARK Food Nutrition and Health (FNAH) students partner with a local vegan food truck to create a community fridge and combat food insecurity.

- Initiative 3: UARK Communication students work with a local PR firm to create a campaign to educate vulnerable community members about housing resources.

- Initiative 4: UARK football players work with the City of Fayetteville to create a new community garden to battle food insecurity and save the bees.

- Initiative 5: UARK students used funds to host a music festival celebrating, honoring, and educating the public about local musical traditions and histories.

- Initiative 6: Local book club requests funds to create a multilingual school literacy program in Springdale, AR.

Eligibility

The proposed initiatives and programs must be free and open to the public. Individuals and groups submitting grant proposals will be more successful if they are affiliated with a local organization or group (other than the University of Arkansas). As an organization affiliated with the University of Arkansas, UARK Cares prefers and typically funds grant proposals that are sufficiently grounded in peer-reviewed research and community expertise.

Please upload your grant proposal as a single pdf file. Every submission should include:

- Name and contact information
- Transmittal letter
- Project description
    - Introduction
    - Purpose
    - Community stakeholders
    - Funding request and plans for use
    - Anticipated outcomes
- Budget for project
- References
- Relevant appendices
- Resume/CV of grant applicant(s)

On behalf of UARK Cares, I look forward to receiving and evaluating your proposals.

All the best,

Jamie G. Freeman, UARK Cares Foundation President

PROJECT 3: PROBLEM PRIMER

Kat Gray

Project 3 Assignment Sheet[1]

The purpose of this project is to practice the early stages of the research process for a larger technical writing project. With a small group, you will define a problem you want to solve and begin researching solutions. Each group member is responsible for creating a Problem Primer, an informational report that explores one specific aspect or cause of the problem and identifies stakeholders, community partners, and subject matter experts who might provide further information. The revised draft of your proposal should be 4-6 pages double-spaced, or around 1000-1200 words.

To be considered complete, your final draft should include:

- Your revised problem primer of 1000-1200 words (4-6 pages double-spaced)
- Your works cited or references page (minimum 3 academic, peer-reviewed sources)
- Your revision note, which includes a discussion of your revisions

To get started, work with your group in class to brainstorm about problems you're interested in writing about.

- Tip 1: Think locally! What problems can you identify on campus? In Fayetteville or Northwest Arkansas?
- Tip 2: Think about technology! What kinds of problems involving technology impact students or locals in Fayetteville? Think about digital access (access to technology or resources), digital infrastructure (Wi-Fi, for example), and privacy, to name just a couple of examples.
- Tip 3: Choose a problem with multiple possible causes, solutions, and affected stakeholders. Since each group member needs to write about a different aspect of the problem, you should choose a problem that is complex and requires research to solve.

When you're ready to begin the writing process, think about the following:

1. Please note: this assignment is a template – please see your instructor's assignment sheet for specific details.

- How can you clearly and persuasively explain your problem? What types of research can you use to support your explanation?
- How can you clearly and persuasively explain your solution? What types of research can you use to support your explanation?
- How much will your project cost? How will you show the cost breakdown to your audience? What do you need to price for the project?
- How long will your project take? Can it start immediately, or will there be a research and development or design stage first? Do you have to account for factors like acquiring sponsorship, filing paperwork, getting permission, shipping delays, or weather delays?
- How experienced is your organization with similar projects? Who are the team members working on the project? What are their qualifications and expertise?
- How will your organization be accountable for your work? That is to say, how will you make sure the project is complete, ethical, on time, and within the client's budget?
- How can you use graphics and document design to emphasize your points? Which parts of your report would be most effectively supported by document organization and visual choices?

Collaboration Requirements

You will work with your team to research a local problem and research possible solutions. While you will research and problem-solve collaboratively, your major assignment for this unit will be individually composed.

Content and Design

For help understanding this assignment and what types of content you might create for it, please visit the following resources:

- Chapter 7: Explore Potential Problems
- Chapter 8: Research a Technical Writing Problem
- Chapter 9: Design and Run a Pilot Study
- Chapter 10: Synthesize and Report Research

Final submission should be uploaded on Blackboard as a PDF or Word file.

Sample Assignment Outline

- Title Page

- Introduction: What is the problem?
  - What is the problem at hand?
  - Why is it important to solve this problem?
  - What is the main question your research seeks to address?
  - What communities are affected by the problem?
- Research Design
  - What are the steps you took to answer your question?
  - How did you choose the secondary research you reviewed for this project?
  - How did you choose your research method (interview, survey, observation)?
  - How did your positionality affect your research design choices?
- Literature Review
  - According to subject-area experts, what are the various causes of the problems?
  - What are key themes in the peer-reviewed research?
- Community-Engaged Research Findings
  - What do community members think about the problem?
  - What are community members doing already to address the problem?
- Conclusion: Looking Forward
  - Based on your primary and secondary research, what are the various solutions to these problems?
  - Which solution(s) responds best to the needs and interests of the community members most impacted by the problem?
- Works Cited/References
  - Match the style (APA, IEEE, Chicago, etc.) you've chosen for the document
  - List all sources you have quoted, paraphrased, or summarized

Due Dates

Project Due Dates

Project Stage	Due
Group Community Profile	[WEEK 5]
Problem Pitch	[WEEK 6]
Research Progress Memo	[WEEK 7]
Conferences + First Draft	[WEEK 8]
Peer Review	[WEEK 9]
Final Draft	[WEEK 9]

Revision Note

When you are ready to submit your final draft in Week 9, you must include a revision note at the beginning of this document, before your final draft begins. Your revision note must explain the revisions you made to your original draft and why.

Final Submission Checklist

[Give instructions to students on how to format their assignments here.]

- Research Primer
  - Length – 4 pages
  - Works Cited/References page
  - Annotated Bibliography
- Revision Note
  - describes feedback you received
  - describes how you used feedback to revise

CHAPTER 7: EXPLORE POTENTIAL PROBLEMS

Kat Gray; Tricia Hylton; and Robin L. Potter

Introduction

Now that you have worked through a project that asks you to think about how to communicate (using your professional persona) with a particular audience, it's time to think about what happens when the audience for technical writing broadens. Career documents are intended for a relatively narrow rhetorical situation – usually, you are writing for recruiters and hiring committees in the context of trying to get hired for a job. However, technical communication works with and towards a wide variety of audiences and contexts. Technical writers may write to public audiences (public service announcements, company social media posts), consumers (customer service emails/chats, user manuals), and other experts (grant proposals, memos, white papers). Technical writing might inform, educate, or persuade, and it might do so in contexts ranging from a corporate board room to a public community meeting. Projects in the course now turn towards considerations of broader and more complex audiences, purposes, and contexts.

Chapter 7 sets you up for the two largest projects in the course: Project 3 – Problem Primer, and Project 4 – Collaborative Grant Proposal. First, this chapter discusses how to see technical writing projects as opportunities to problem solve. This section offers two different problem solving models for you to try as you decide on a topic for Projects 3 and 4. In the next section, you will learn how to create a community profile that works ethically with community members to understand who is affected by a problem, and how.

Technical Writing as Problem Solving[1]

In the workplace, many of the communication tasks you perform are designed to solve a problem, improve a situation, or act on an opportunity. Whether you are working for a client, for your employer, with your team, or for someone else, you will typically use some sort of organized process to tackle and solve the problem,

1. Adapted from "From Challenges to Opportunities" (https://pressbooks.senecapolytechnic.ca/technicalwriting/chapter/problemsolving/) by Robin Potter and Tricia Hylton

pursue the opportunity, or transform a challenge into an opportunity. Along the way, your communications reflect the values and policies of the organization, which should also include active promotion of ethically responsible initiatives.

Using a design process can offer a clear, step-by-step plan for finding the best approach for addressing communication situations. Take a moment to search the Internet for the term "design process" and look at "images." You will find many variations. Have a look at several of them and see if you can find a common pattern.

One commonality you will likely find in examining other people's design process diagrams is this: The first steps in designing any solution is to clearly **define the problem**. When defining the problem, you are also determining, in part, a course of action. **Figure 7.1** shows NASA's basic design process. Think about the kind of communication that each step of this process might entail.

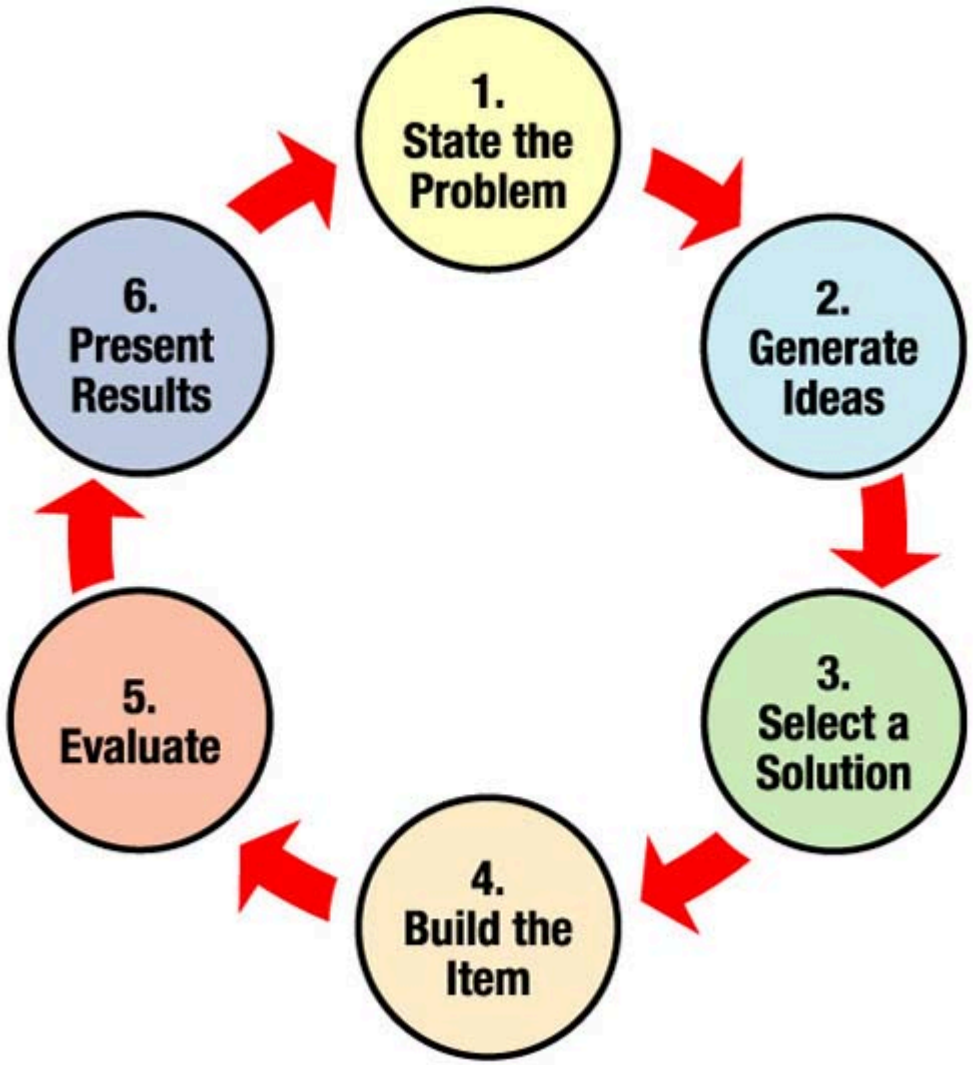

Figure 7.1 *NASA's Design Process Diagram (NASA, 2018).*

This critical first stage of the design process requires that you effectively communicate with the clients, stakeholders, or whoever has the problem that needs solving. Completing a good audience analysis will prepare you for the process. That's why it's important to investigate the stakeholders – that is, the people who have a stake in the results of your project. You will write up your findings about stakeholders in the Community Profile assignment that begins Project 3.

Defining the Problem

For our purposes, we will use Barry Hyman's Problem Formulation model (2002) to clearly define a problem. Hyman's Problem Formulation model consists of four elements:

1. **Needs Statement:** recognizes and describes the need for a solution or improvement to an "unsatisfactory situation." It answers the questions: What is wrong with the way things are currently? What is unsatisfactory about the situation? What negative effects does it cause? You may need to do research and supply data to quantify the negative effects.
2. **Goals Statement:** describes what the improved situation would look like once a solution has been implemented. The goal statement defines the scope of your search for a solution. At this point, do not describe your solution, only the goal that *any* proposed solution should achieve. The broader you make your goal, the more numerous and varied the solutions can be; a narrowly focused goal limits the number and variety of possible solutions.
3. **Objectives:** define measurable, specific outcomes that any feasible solution *should* optimize (aspects you can use to "grade" the effectiveness of the solution). Objectives provide you with ways to quantitatively measure *how well* any solution will solve the problem; ideally, they will allow you to compare multiple solutions and figure out which one is most effective (which one gets the highest score on meeting the objectives?).
4. **Constraints:** define the limits that any feasible solution *must* adhere to in order to be acceptable (pass/fail conditions, range limits, etc.). The keyword here is *must* – constraints are the "go/no go" conditions that determine whether a solution is acceptable or not. These often include budget and time limits, as well as legal, safety and other regulatory requirements.

Once you have this information, you can begin thinking about writing a problem statement – which will be an integral part of your Pitch assignment, discussed in Chapter 8. For now, review the short video below to understand what a problem statement contains, and why it's critical to have one:

> *One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=339#oembed-1*

(What is a Problem Statement?, 2015)

Communication as a Solution

This model can apply to a communications task as well as more physical design tasks. Imagine your communications task as something that will solve a problem or improve a situation. For example, you may want to think about how to increase severe weather safety in town – specifically, how to get threat warnings to residents in a timely way. This is a communications problem that allows you to further your design thinking (Tham, 2021) skills.

Before you begin drafting your community profile and pitch, define the problem you want to solve with these documents. The questions below will help you to develop a clear understanding of the problem:

- **Understand the Needs:** Consider what gave rise to the need to communicate.
  - Does someone lack sufficient information to make a decision or take a position on an issue? Who, and how does this lack of information affect them?
  - Did someone request information? Who was it, and why did they request it? What do they plan to use the information to do?
  - Is there some unsatisfactory situation that needs to be remedied by communicating with your audience? What specifically is unsatisfactory about it?
  - What does your audience need from you in this communication? That is, what will they expect to hear from you in response to the problem?
- **Establish Goals:** Consider your purpose in writing.
  - What do you want your reader to do, think, or know? Do you want your reader to make a decision? Change their opinion or behavior? Follow a course of action?
  - What is your desired outcome? And what form and style of communication will best lead to that outcome?
  - How do the goals you have set relate to your audience's goals?
- **Define Objectives:** Consider the specifics of your message and your audience to determine what criteria you should meet.
  - What form should the communication take? What content elements will you need to include?

What genre constraints exist for this type of document?
    - What kind of research will be required? How will you conduct it, and how long will you need? How will you make sure your audience's needs and knowledge are represented in your research?
    - What information does your audience want/need?
    - What do they already know?
- **Identify Constraints:** Consider your rhetorical situation. What conditions exist that present barriers or challenges to communication? How can you address them? What are the pass/fail conditions of this document? For example,
    - How much time is your audience willing to spend on this? How long can you make your document or presentation? (word length/time limit)
    - What format and style do they require? Is there a Style Guide you must follow? A template you can use?
    - How much time do you have to create it? Do you have a deadline or due date?
    - Are there requirements for using sources, like academic integrity rules, style guides, or a code of ethics?

Example: A Technical Writing Problem Statement

A large furniture company specializes in selling relatively inexpensive flat-pack furniture that consumers can put together for themselves. One of their most popular pieces is a 5-shelf bookshelf called Model B-5. The company includes instructions with each item, but there's been some memes on social media lately about how hard it is to put B-5 together. There are also a lot of videos on YouTube where consumers show other consumers how to put together Model B-5. This is not ideal for the company, since it means that customers may become frustrated and return items or leave bad reviews.

The company decides that its technical writing department should investigate the problem. They must understand the current problems with the instructions, then figure out what types of solutions will work best. Given the amount of circulation on public media, the company is thinking of this as an urgent problem – the team is given a month to finish their review and come up with recommendations.

Let's use the framework above to break down the problem.

- **Understand the Needs:** In this situation, something unsatisfactory has happened: customers are dissatisfied with the quality of assembly instructions for the Model B-5 bookcase. The audience will want to know that the company is paying attention and, ideally, that the company will do something about the problem.
- **Establish Goals:** The company has two goals with this communication: (1) give consumers a more helpful set of instructions so they can put together the Model B-5 without problems, and (2) establish a better relationship with their customers by showing they are listening to customer complaints. The audience probably shares the first goal, though, depending on their level of frustration, they may or may not respond to the second goal.
- **Define Objectives:** The team wants to give the audience instructions of some kind, but there are a few different ways they might do that. For example, they could revise the content of their current instructions, which come on a single sheet of paper, packed inside the box with the furniture pieces and hardware. If the only problem is unclear wording, these revisions might do the job – and they could be accomplished quickly. On the other hand, the team might decide, based on seeing users' YouTube assembly videos for Model B-5 that video instructions would work better. This will take more time to script, produce, and edit, but it might be worth it in the end. The technical writing team will want to talk directly to the audience, likely through surveys, polls, or focus groups, about their needs. They will want to know which specific parts of the instructions work, and which don't. They will need a clear understanding of their customers' "pain points" so they can go forward with revisions.
- **Identify Constraints:** The first instructions for the Model B-5 came on a single sheet of paper, printed with black type and diagrams. This template is used for all of the company's furniture, so major changes here will probably mean work down the line, changing the instructions for every item to more closely match the revised template for Model B-5. The company hopes to work with about the same size document, since this keeps printing costs down. On the other hand, the team might argue that video instructions won't be hard to make (they could be about the length of your average TikTok for example, if scripted cleverly). A link to the video instructions could simply be linked via a QR code printed on the package. If the team can make a case for video instructions, they might be able to have more time on the project – especially if their research indicates that customers would respond favorably to these changes.

In addition to the process above, the following video provides a slightly different problem solving process; however, it incorporates many of the same principles described above. Both processes can lead you to a workable solution.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=339#oembed-2

(How to Solve a Problem in Four Steps, 2015)

Together with a clear understanding of the problem, you need an understanding of the community affected by this problem. Below, we'll discuss some techniques for learning about your stakeholders, or the people who will be affected by both the problem you're researching and any solutions you hope to implement.

Creating a Community Profile

As you've learned in this class (and prior writing classes), all writing requires you to consider your audience. Thinking about your audience in technical communication is especially important because of the circumstances in which your documents are used – on the side of the road changing a tire, on a factory floor to run a machine, or to put together a computer at home. In other words, technical communication is often present in a person's life when they need help fixing a problem, as we discussed above. That's why the first step of Dr. Jason Tham's (2021) design thinking framework for technical communication is *empathize;* a technical communicator must understand the users' needs before it is possible to conceive of a solution.

To produce technical writing that helps audiences fix problems, technical writers must have an understanding of *both* the problem *and* the community or communities most affected by it. To start working on Projects 3 and 4, you'll build a profile of a community affected by a problem you want to research. This will help you to practice ethical technical writing skills for a long-term, complex research-based project.

Ethical Work with Communities

Technical writers should work closely with the people who will use their documents for a variety of reasons. For one thing, companies want to make sure that their products are used by consumers both successfully and safely; one way to do that is to think about the documentation that accompanies the products and services people use. Technical writing genres like grants – let's say for a new public cooling facility in town – need community insight to offer effective solutions for where and how to build it and how to get information about the facility to people who need it. Working ethically with members of a community takes effort and time, which pay dividends when it comes to solving problems that affect the lives of people.

One avenue to pursue when you search is academic research, which we will discuss in the next chapter. This includes both primary sources (like interviews, surveys, or observations) and secondary sources (like studies, white papers, or experiments). Libraries are a great place to start, since they can give you sources that show you how people have tried to solve problems similar to yours in the past. You can also conduct research yourself. For now, it's sufficient to say that for many projects, a firm grounding in academic research work is important for thinking about how to solve a problem.

Further, you might search for community organizations dedicated to the problem you want to research. If you'd like to renovate a local park, you might check with a town's Parks and Recreation organizations to learn who uses the park and who is currently responsible for its upkeep. If you're interested in helping elementary school kids learn more about ecology in their backyards, you might investigate Arkansas Master Naturalists' programs to understand how another organization did the same type of work. Community organizations do not stand in for working directly with community members, but these groups often have their finger on the pulse of a problem in a specific local area.

Though you have many options for finding information that helps you create a community profile, **there is no substitute for communicating directly with the people who are experiencing the effects of the problem you want to solve.** You might find community contacts through your personal network, or through a larger group like one of the community organizations discussed above. Regardless of how you find community contacts, you should ask politely for their time and treat it respectfully, should they agree to help you. It's important to respect all the stakeholders involved in your project, but beyond that, the relationship you cultivate with community members in a professional project has a bearing on how the project turns out. In Chapter 9, we will discuss how to design a pilot study that accounts for community needs and opinions.

Questions a Community Profile Should Answer

Regardless of the form your community profile takes, you should make sure it answers the following questions:

- Who is affected by the problem?
- How are they affected?
- What are the community's needs and goals?
- How urgent is the problem for this community? Why?
- Why does the community need to solve this problem?
- What, if anything, is already being done? By whom? How successful is this work, and why?

Though you may ultimately decide to include more information as you research your community, these questions serve as a basis for the deep understanding required to understand, plan, create, and complete technical writing solutions that are not only successful, but also helpful and attuned to the needs of the users.

Conclusion

Now that you know how to think about professional and technical communication through a problem-solving lens, you have the skills to understand any technical writing task you face, whether in a professional or personal setting. After completing your community profile, you will also have a clear understanding of the stakes of the problem you will investigate for projects 3 and 4. In the next two chapters, you'll learn how to use that understanding to plan and execute research on a technical writing project.

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CHAPTER 8: RESEARCH A TECHNICAL WRITING PROBLEM

Kat Gray; Michael Beilfuss; Suzan Last; and Will Fleming

Introduction[1]

At some point during your college career, and likely also in your professional career, you will be asked to conduct research and then use that research to support your ideas. While this may seem intimidating, remember that engaging in research is basically just **using a systematic process to find out more information about your topic**. Nicholas Walliman, in his handbook *Research Methods: The Basics*, defines research methods as "the tools and techniques for doing research." These techniques include collecting, sorting, and analyzing the information and data you find. The better the tools and more comprehensive the techniques you employ, the more effective your research will be. By extension, the more effective your research is, the more credible and persuasive your argument will be.

Here are some basic terms and definitions you should be familiar with:

Research: the systematic process of finding out more about something than you already know, ideally so that you can prove a hypothesis, produce new knowledge and understanding, and make evidence-based decisions.

Research Methods: techniques of collecting, sorting, and analyzing information/data.

Data: pieces of information gathered in the process of research.

Data can be categorized in several ways, detailed in the table below **(Table 8.1)**:

1. Adapted from Will Fleming's "Chapter 6: Research and Information Literacy," in *Technical Writing at LBCC* and Suzan Last's Chapter 5: Conducting Research from *Technical Writing Essentials*.

Table 8.1: Types of Research Data

Primary data Data that have been directly observed, experienced and recorded close to the event. This is data that you might create yourself by • **Measurement**: collecting numbers indicating amounts (temperature, size, etc.) • **Observation**: with your own senses or with instruments (camera, microscope) • **Interrogation**: conducting interviews, focus groups, surveys, polls, or questionnaires • **Participation**: experience of doing or seeing something (visit the site, tour the facility, manipulate models or simulations, Beta test, *etc.*) ***Note***: primary research done in an academic setting that includes gathering information from human subjects requires strict protocols and will likely require ethics approval. Ask your instructor for guidance and see Chapter 9: Design and Run a Pilot Study.	**Secondary Data** Comes from sources that record, analyze, and interpret primary data. It is critical to evaluate the credibility of these sources. You might find such data in • **Academic research***:* refereed academic studies published in academic journals • **Print sources***:* books, trade magazines, newspapers, popular media, etc. • **Online research***:* popular media sources, industry websites, government websites, non-profit organizations • **Non-written Material***:* TV, radio, film, such as documentaries, news, podcasts, etc. • **Professional Documents***:* annual reports, production records, committee reports, survey results, etc.
Quantitative Data Uses numbers to describe information that can be measured quantitatively. This data is used to measure, make comparisons, examine relationships, test hypotheses, explain, predict, or even control.	**Qualitative Data** Uses words to record and describe the data collected; often describes people's feelings, judgments, emotions, customs, and beliefs that can only be expressed in descriptive words, not in numbers. This includes "anecdotal data" or personal experiences.

In other words, you may encounter a wide variety of data during research for a technical writing project. You will likely need to combine (or *synthesize*) your understanding of academic and trade publications, quantitative data you have collected, and information about stakeholder needs, goals, and constraints. You'll need to think about how to do this in a way that combines accountable information gathering with honest and above-board information sharing.

For a brief overview of this process, please watch the video below, "Research in Technical Writing," by William Smith:

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Technical Writing Research Methods[2]

Research is not just collecting facts for a technical writing document; it is a process in which information is uncovered and expressed in meaningful ways to the audience. Before you begin creating any documents, you need to gather all the required information. In technical writing, you will use a variety of different research methods to do this work.

Primary Research

Primary research comes from studies you conduct and from published records and documents. Primary research methods allow you to gather first-hand information from data, users, stakeholders, and subject matter experts (SMEs). This information helps technical writers understand the problems they hope to solve and the solutions they might implement in greater depth.

Examples: lab experiments, product testing, surveys, observations, measurements, interviews, site visits, prototype testing, beta testing, print media, websites, published raw statistical data, historical records, legal documents, firsthand historical accounts, discussions with subject matter experts (SMEs) like engineers, developers, or project managers.

Secondary Research

Secondary research comes from studies that others (usually researchers, academics, or SMEs) conduct. Secondary research provides the backing of professional researchers who are researching similar problems to your own. This information helps technical writers broaden their understanding of the problems and solutions they are researching. For example, seeing how a traffic congestion problem was solved in a city of a similar size to Fayetteville might help you understand how to write about the likely results of such a project here in town.

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2. Based on Suzan Last's Chapter 5: Conducting Research from *Technical Writing Essentials* and Michael Beilfuss' Chapter 4: Ethics from *Technical and Professional Writing Genres: A Study in Theory and Practice*

Examples: library databases, research papers, studies, white papers, reviews, analyses, critiques.

Tertiary Research

Finally, tertiary research involves using general information sources – such sources consolidate primary and secondary information into compressed, brief formats. They are, in other words, often summaries of the knowledge on a topic. They help technical writers to corroborate facts and to gain a general understanding of both your topic and major concepts, lines of inquiry, or schools of thought in a particular field (like architecture, engineering, or chemistry).

Examples: dictionaries, encyclopedias, handbooks, bibliographies.

Research Tips

As you prepare to research any writing project, keep these takeaways in mind:

- Primary research is research *you* conduct. How you choose to conduct it depends on what types of questions you need to answer.
- Secondary research is research others have conducted. Typically, you read secondary research *before* you do primary research to get an idea of what is already happening in your professional field or academic discipline.
- Tertiary research helps you to confirm facts and get a quick overview of a topic.
- Strong research projects thoughtfully blend primary, secondary, and tertiary research.

Using Reliable Sources

Whether you are writing for class, colleagues within a workplace, or outside vendors, customers, or stakeholders, you will want to utilize your writing as an opportunity to build a positive, ethical reputation with your audience. Your goal is to maintain and enhance your credibility, and that of your organization, at all times.

Credibility can be established through many means: citing respected sources, providing reliable evidence, using sound logic, and writing with clear, concise language. Make sure as you start your research that you always question the credibility of the sources you find. You should know the answers to the following questions:

- Are the sources popular or scholarly?
- Are they peer reviewed by experts in the field?
- Can the information be verified by other sources?
- Are the methods and arguments based on solid reasoning and sound evidence?
- Is the author identifiable and do they have appropriate credentials?

You can also learn more about evaluating sources in the "Note-Taking for Research Projects" section, below.

Be cautious about using sources that are not reviewed by peers or editors, or in which the information cannot be verified, or seems misleading, biased, or even false. Be a wise information consumer in your own reading and research in order to build your reputation as an honest, ethical writer.

Quoting the work of others in your writing is fine, provided that you credit the source fully enough that your readers can find it on their own. If you fail to take careful notes, or the sentence is present in your writing but later fails to get accurate attribution, it can have a negative impact on you and your organization. That is why it is important that when you find an element you would like to incorporate in your document, in the same moment as you copy and paste or make a note of it in your research file you need to note the source in a complete enough form to find it again.

Giving credit where credit is due will build your credibility and enhance your document. Moreover, when your writing is authentically yours, your audience will catch your enthusiasm, and you will feel more confident in the material you produce. Just as you have a responsibility in business to be honest in selling your product or service and avoid cheating your customers, so you have a responsibility in professional writing to be honest in presenting your ideas, and the ideas of others, and to avoid cheating your readers with plagiarized material.

Information Literacy and the Research Process[3]

Regardless of the type of information you need for a technical writing project, you will need a careful plan (a research process) to help you gather information before you begin writing a document. In this section, you will learn about the concept of information literacy – a particular framework for thinking about the information we gather – as a precursor to understanding how to think about the research process. Further, you will learn practical tips that will help you practice your information literacy skills when you do research, no matter why you need the information.

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3. Adapted from Will Fleming's "Chapter 6: Research and Information Literacy" in *Technical Writing at LBCC*.

What is Information Literacy?

Information literacy can be defined as a critical perspective, point of view, or framework that guides how people consume, evaluate, produce, use, and archive information. In fact, the United Nations Educational, Scientific, and Cultural Organization wrote that "[i]nformation literacy empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals" ("Information Literacy," 2023). It is a cluster of core, interconnected competencies people possess to identify, find, evaluate, apply, and acknowledge information.

For more information on what it means to be information literate, watch the video "The Five Components of Information Literacy" from Seminole State Library:

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Why Is Information Literacy Important?

Through information literacy, we learn to recognize that not all information is created equal. For instance, content on the internet is easy to access, and there's a lot of it – but it doesn't always come from credible sources, as anyone can publish content for others to access. This means that there is a lot of bad or useless information to sort through when performing research. In an age of misinformation and disinformation, it's not always easy to determine which are credible sources and which are not, which makes becoming an information literate researcher all the more crucial. Information literacy helps us to recognize misleading, out-of-date, or false information. It also helps us sort through the data and interpret it intelligently.

Being information literate means we're able to:

- Recognize problems and create questions
- Make a plan for finding information and solutions
- Formulate hypotheses and make predictions
- Find information and data from libraries and the Internet
- Evaluate the credibility of the sources (i.e. is the material peer-reviewed or held to an ethical standard?)
- Organize and synthesize all gathered information
- Make conclusions and process understanding

Developing your information literacy skills pays off. You won't just use these skills in a college classroom – you might use information literacy skills to help you make a decision about which car to buy, to decide how to vote in your next local election, or to inform your decision to evacuate (or not) in front of an incoming hurricane. There are many times in our lives, in fact, when we need to use information literacy skills to make the best decision possible for our situations. Further, if the goal of an ethical technical writer is to honestly and clearly communicate information to an audience, that commitment must begin with finding the best information you can to support the content you create.

Using Information Literacy for Research

Implementing information literacy practices in your research process takes careful planning before you start. In particular, you will want to go into a research session with a clear list of questions to answer. The questions you ask are likely to change depending on where you are in the research process. Earlier in the process, it's important to confirm and extend your understanding of your topic, while in the later parts of the research process, you will probably be looking for information that helps you to refine the details of your document. It's also important to plan for effective research sessions before you begin your search. You will want to create a list of keywords to use in your searches, and you will also want to have a good understanding of what kinds of sources you need, which will subsequently affect where you look for information.

Have Clear Research Questions

By the time you are ready to start working on your problem primer, you should have a basic understanding of what problem you are investigating, who is affected by the problem, and why it is important to find a solution. To do that, you need to create a list of research questions you need to answer. You might ask research questions that help you...

- Understand the problem
- Understand stakeholders
- Investigate causes
- Investigate solutions
- Evaluate solutions
- Understand the audience, purpose, and context for the document

Plan for Effective Research Sessions

Once you develop a list of research questions, you're almost ready to start searching for information. Before you can do that, however, you will want to create a plan. Planning your research sessions helps you to work

more effectively. Having a clear list of questions is a part of that plan. However, you will also need to think about how to create keywords, what types of sources you'll need, and where to look for them.

Effective research sessions necessitate that you...

1. **Know your goals:** Why are you undertaking this project? Why are you creating this document? The answers to these questions will help you center your research process on finding the information you need.
2. **Double-check information:** Even if you are certain you know a fact, double-checking your information for accuracy lets you catch problems or mistakes before the document goes out to your audience.
3. **Verify information using multiple sources:** Whenever possible, verify your information is correct by cross-checking it using multiple sources. If you find the same estimated percentage of food insecurity in NWA in three different sources, odds are, that number is probably correct.
4. **Talk with experts in the field:** Another option for verifying your information, talking with experts in the field can help you to ensure that the information you are communicating with your audience is both accurate and precise.

Keyword Searches

Once you know the questions you need to answer, you will need to determine keywords that you can use to search different resources. That is, instead of putting your research questions directly into the search bar, you need to develop short phrases that represent the most important themes represented in your questions. For example, if you wanted to research how much it would cost to build a community garden in the common area of your apartment complex, you might try search terms like *community garden*, *community garden program*, *sustainable gardening*, and *community garden planning*.

Developing keywords by looking through your research questions. You should be able to pick out the most important words and phrases from those questions; then, you can attempt to use those phrases to find more information that will help you build your project. It is important to have a wide range of keywords because not all search terms will return the same information. You might also use a keyword search to find out what terms other people use to talk about the topic or to learn about related terms and concepts.

You should have a basic understanding of how you can use Boolean operators, which allow you to combine keywords or exclude information from searches. These words refine your search results to be more relevant to your needs. Below **(Table 8.2),** you can find a brief explanation of how these terms work, based on this resource from the University of Minnesota.

Table 8.2: Boolean Operators for Research

Operator	How It Works	Example
AND	Using AND combines keywords. All search results must contain *both terms*. The more concepts you link with AND, the fewer results you will receive.	Aspirin AND Children AND Reye's Syndrome
OR	Using OR broadens results to include synonyms. Retrieves results in which either or both terms appear. The more concepts you link with OR, the more results you will receive.	Kidney disease OR Renal disease
NOT	Using NOT excludes concepts not relevant to your search. Using NOT reduces the number of search results you receive.	Dementia NOT Alzheimer's
"..."	Using quotation marks around a search term narrows your results to contain only those words, *in that specific order* and with no other words between them. Putting a search term in quotation marks reduces the number of search results you receive.	"food desert"

For more specific help searching for and evaluating sources and deciding which types of sources are best suited for your project, consult with your instructor.

Note-Taking for Research Projects[4]

Research in technical writing involves finding information that will help you create a correct, clear, ethical document that accomplishes both your goals and the audience's goals. Research for such projects takes a lot of time, and researchers can't memorize all the information they find – that's why it's important to have some idea of how to take notes on your sources. To further complicate this process, as the section on information literacy above suggests, you must also make space in your notes to evaluate your sources. The information below will help you ensure that you work with your sources in a way that promotes deep understanding of both the problem you are investigating and the work you are producing.

Basic Source Information

To begin with, make sure that you document all the information that you will need to correctly cite each source you find. Having this information in your notes will not only help you to cite ethically – you will also be able to find the source again if you need to access it a second time. This includes:

4. Based on Suzan Last's "Finding and Evaluating Research Sources," from *Technical Writing Essentials*.

- Title
- Author's name
- Publication date
- Associated organizations (publishing house, website, university, etc.)
- Type of media (journal article, book, newspaper, video, social media post, etc.)
- Digital location (if you accessed your source digitally, save either the web URL or the Digital Object Identifier [DOI] number)

Next, you will want to take notes that help you remember the contents of each source. You'll also want to jot down any ideas you have about how you might use this source in your current project. Consider adding the following elements to your research notes:

- A brief source summary so you can easily remember a source's contents when you need to reference your notes later.
- Memorable quotes you may want to use in your own project. **Remember to always put quotes around other people's words in your notes.** This will help you to make sure you don't accidentally present their words as your own.
- Further questions you have about either the source itself or the topic after you have read and understood the source.
- Connections between this source and the other sources you've investigated. What ideas link these sources together? How do the sources differ?

Evaluating Sources

Once you comprehend a source's message, you can evaluate that source. When you evaluate sources, you are looking for *credible* sources that can provide *reliable* and *useful* data to support your ideas. Using credible sources also improves your relationship with your readers, who will feel more confident in your findings if they know you did your due diligence.

Scholarly articles published in academic journals are usually required sources in academic research essays; they are also an integral part of engineering projects and technical reports. Many projects require a **literature review**, which collects, summarizes and sometimes evaluates the work of researchers in this field whose work has been recognized as a valuable contribution to the "state of the art." However, they are not the only kind of research you will find useful. Since you are researching in a professional field and preparing for the workplace, there are many credible kinds of sources you will draw on in a professional context. **Table 8.3** lists several types of sources you may find useful in researching your projects.

Table 8.3 Typical Research Sources for Technical Projects

Source Type	Description
Academic Journals, Conference Papers, Dissertations, etc.	Scholarly (peer-reviewed) academic sources publish primary research done by professional researchers and scholars in specialized fields, as well as reviews of that research by other specialists in the same field. For example, the *Journal of Computer and System Sciences* publishes original research papers in computer science and related subjects in system science; *International Journal of Robotics and Animation* is one of the most highly ranked journals in the field.
Reference Works	Specialized encyclopedias, handbooks and dictionaries can provide useful terminology and background information. For example, the *Kirk-Othmer Encyclopedia of Chemical Technology* is a widely recognized authoritative source. **Do not** cite *Wikipedia* or *dictionary.com* in a technical report.
Books **Chapters in Books**	Books written by specialists in a given field and contain a References section can be very helpful in providing in-depth context for your ideas. For example, *Designing Engineers* by Susan McCahan et al. has an excellent chapter on effective teamwork
Trade Magazines and Popular Science Magazines	Reputable trade magazines contain articles relating to current issues and innovations, and therefore they can be very useful in determining the "state of the art" or what is "cutting edge" at the moment, or finding out what current issues or controversies are affecting the industry. Examples include *Computerworld*, *Wired*, and *Popular Mechanics*.
Newspapers (Journalism)	Newspaper articles and media releases can offer a sense of what journalists and people in industry think the general public should know about a given topic. Journalists report on current events and recent innovations; more in-depth "investigative journalism" explores a current issue in greater detail. Newspapers also contain editorial sections that provide personal opinions on these events and issues. You should be aware of the ideological leanings of journalistic sources; for help determining this information, you can use the Media Bias Chart at this link.
Industry Websites (.com)	Commercial websites are generally intended to "sell," so you have to select information carefully, but these websites can give you insights into a company's "mission statement," organization, strategic plan, current or planned projects, archived information, White Papers, technical reports, product details, costs estimates, *etc.*
Organization Websites (.org)	A vast array of .org sites can be very helpful in supplying data and information. These are often **public service** sites and are designed to share information with the public.

Government Publications and Public Sector Web Sites (.gov/.edu)	Government departments often publish reports and other documents that can be very helpful in determining public policy, regulations, and guidelines that should be followed. University web sites also offer a wide array of non-academic information, such as strategic plans, facilities information, *etc.*
Patents	You may have to distinguish your innovative idea from previously patented ideas; you can look these up and get detailed information on patented or patent-pending ideas.
Public Presentations	Public Consultation meetings and representatives from industry and government speak to various audiences about current issues and proposed projects. These can be live presentations or video presentations available on **YouTube** or **TED talks**.
Other	Can you think of some more? (Radio programs, Podcasts, Social Media, *etc.*)

The importance of critically evaluating your sources for authority, relevance, timeliness, and credibility cannot be overstated. *Anyone can put anything on the internet*; and people with strong web and document design skills can make this information look very professional and credible—even if it isn't. Since much research is currently done online, and many sources are available electronically, developing your information literacy skills is crucial to finding valid, credible evidence to support and develop your ideas. In fact, this has become such a challenging issue that there are sites like Beall's List of Predatory Journals that regularly update its online list of journals that subvert the peer review process and simply publish for profit.

When evaluating research sources and presenting your own research, be careful to critically evaluate the **authority**, **content**, and **purpose** of the material, using questions in **Table 8.4**.

Table 8.4 Evaluate the Authority, Content, and Purpose of Information

Authority Researchers, Authors, and Creators	Who are the researchers/authors/creators? Who is their intended audience? What are their credentials/qualifications? What else has this author written? Is this research funded? By whom? Who benefits? Who has intellectual ownership of this idea? How do I cite it? Where is this source published? What kind of publication is it? **Authoritative Sources:** written by experts for a specialized audience, published in peer-reviewed journals or by respected publishers, and containing well-supported, evidence-based arguments. **Popular Sources:** written for a general (or possibly niche) public audience, often in an informal or journalistic style , published in newspapers, magazines, and websites with a purpose of entertaining or promoting a product; evidence is often "soft" rather than hard.
Content Methodology and Data	**Methodology** What is the methodology of their study? Or how has evidence been collected? Is the methodology sound? Can you find obvious flaws? What is its scope? Does it apply to your project? How? How recent and relevant is it? What is the publication date or last update?
	Data Is there sufficient data here to support their claims or hypotheses? Do they offer quantitative and/or qualitative data? Are visual representations of the data misleading or distorted in some way?
Purpose Intended Use and Intended Audience	Why has this author presented this information to this audience? Why am I using this source? Will using this source bolster my credibility or undermine it? Am I **cherry picking** – the use of inadequate or unrepresentative data that only supports my position (and ignores substantial amount of data that contradicts it)? Could **cognitive bias** be at work here? Have I only consulted the kinds of sources I know will support my idea? Have I failed to consider alternative kinds of sources? Am I representing the data I have collected accurately? Are the data statistically relevant or significant?

We all have biases when we write or argue; however, when evaluating sources, you want to be on the look out for bias that is unfair, one-sided, or slanted. Consider whether the author has acknowledged and addressed opposing ideas, potential gaps in the research, or limitations of the data. Look at the kind of language the author uses: is it slanted, strongly connotative, or emotionally manipulative? Is the supporting evidence presented logically, credibly, and ethically? Has the author cherry-picked or misrepresented sources or ideas? Does the author rely heavily on emotional appeal?

Critical thinking lies at the heart of evaluating sources. It is important to use data ethically and accurately, and to apply logic correctly and validly to support your ideas. You want to be rigorous in your selection of evidence, because once you use it in your paper, it will either bolster your own credibility or undermine it.

Creating a Project Pitch

A pitch is a short speech (75-100 words) typically delivered in around 30-60 seconds. Jennifer Herrity (2015) explained the genre as a "concise introduction" to both yourself and something you are trying to promote – a project or a relationship (a collaboration or mentorship, for example).

Pitches are a common technical writing genre. You may have also heard the term *elevator pitch*, which helps to explain how such genres are meant to be used: to introduce yourself to someone you don't know but are hoping to network with. Though a pitch is short and may be used in a relatively casual setting (like an elevator ride, or introducing yourself to someone at a conference), the genre still takes thought and practice.

A good pitch will accomplish two key goals. First, a pitch seeks to make a good impression on the listener. Second, a pitch makes clear your strengths and values as a professional. The pitch should give your audience a good idea of who you are, what matters to you, and why it's worth it for the audience to develop or continue a relationship with you.

You are being asked to create an individual project pitch for project 3. This assignment should:

- Identify a research method for your pilot study
- Clearly state your research questions
- Cite one local media source

Four Steps to Create a Pitch[5]

Since pitches are a compact genre, it's important to be *clear* and *concise*. This means you will want to carefully compose your pitch to communicate information in words that are both accurate and interesting. The four steps below, derived from Indeed.com's "How to Craft and Deliver an Effective Elevator Pitch" can serve as a guide for your work.

1. **Introduce yourself.** Make sure to give your name and organizational affiliation, if you have one. Follow with a polite greeting like "It's nice to meet you."
2. **Summarize what you do.** What is your specialty, educational background, or field? Tailor this information towards which parts of your professional background are most relevant to your audience.
3. **Explain what you want.** Why did you start this conversation? Clarify your goals, whether that is to seek a job opportunity, collaboration, mentorship, or to give a project overview. Emphasize your professional values.
4. **Finish with a call to action.** What are the next steps? You might ask for a call or meeting with your audience, or exchange contact information.

Example: Project 3 Pitch

Project 3 asks you to create a pitch about a problem you want to examine for the Problem Primer and Collaborative Grant Proposal. Here's a brief example of how that might look.

- **Introduce:** Hi, I'm Cody, and I'm a junior here. It's nice to talk with you all today!
- **Summarize:** I'm getting a degree in Computer Engineering, and I'm most interested in cybersecurity.
- **Explain:** I want to work on a project that looks at cybersecurity issues at the city level in Fayetteville.
- **Call to Action:** This could be a really important project because residents need to log in to

5. Steps derived from Indeed.com's "How to Craft and Deliver an Effective Elevator Pitch (with Examples)" (https://www.indeed.com/career-advice/interviewing/how-to-give-an-elevator-pitch-examples).

> the website to pay their water and sewer bills, and last month, a cybersecurity incident happened that meant about 50% of users had their payment information exposed. I want to understand why that happened and how we can make the city's systems more secure. I want to do interviews with both city workers and customers to understand what happened and suggest some possible solutions.

As you prepare to deliver your pitch, remember that you will need to practice. In a professional situation, you'll want to be able to deliver the pitch without notes, which you can only do by practicing. Practice also helps you to understand whether your wording is going to work – sometimes trying to read our words aloud calls our attention to revisions that help us communicate more clearly. Further, you should always think about tailoring your pitch towards your audience. What information will help your audience not only to understand your message but also to want to follow up on your proposal?

Conclusion

This chapter has reviewed the elements of the technical writing research process with an aim of helping you understand how to begin preparing for your problem primer. The second part of researching your problem primer is conducting a pilot study, which is the topic of the next chapter. You'll use the secondary research to support the design of this study and to fully explain the problem you are investigating.

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CHAPTER 9: DESIGN AND RUN A PILOT STUDY

Kat Gray; Suzan Last; Nicole Hagstrom-Schmidt; and Matt McKinney

Introduction

After investigating your problem with a research report in Project 3, you and your group will use the information you have collected to create a collaborative grant proposal. Proposals are another common technical writing genre, which we will review more closely in Chapter 11. A grant proposal is a type of proposal with particularly high stakes, since a grant is a monetary reward for a proposed project. Granting organizations want to see a proposal for a project that is logically planned, realistic, and well-researched.

However, before you can create a successful proposal, you need more information about your problem. In this chapter, you'll learn about how to design a pilot study that engages ethically with your stakeholders and also helps you answer your research question. First, the chapter discusses research design ethics for projects that require human subjects research. Then, the chapter expands on three of the most common types of primary research for technical writing projects: interviews, observations, and surveys. The chapter closes with a brief discussion of the research memo you will write for this project.

Research Design Ethics[1]

Primary research is any research in which you collect raw data directly from the "real world" rather than from articles, books, or internet sources that have already collected and analyzed the data. If you are collecting data from human participants, you are engaging in "human research" and you must be aware of and follow strict ethical guidelines at your academic institution or organization. Doing this is part of your responsibility to maintain academic integrity. You can learn more about these requirements at the University of Arkansas from the Division of Research and Innovation on their page about Human Subjects Research.

In all post-secondary educational institutions, we must ensure that research involving human subjects is ethical

1. Based on Suzan Last's "Chapter 5: Conducting Research," in *Technical Writing Essentials*.

and complies with all related laws (you can find a brief summary of those policies at the American Psychological Association's website here). These rules are in place to protect people and communities from potential risk or harm and to ensure ethical conduct while doing research. To conduct ethical research that collects data from human subjects, you must follow all ethics requirements carefully.

Guidelines for Students Conducting Human Research

In order to adhere to the ethical requirements involved in conducting human research for your course project, you should abide by the following ethics guidelines when recruiting participants, gaining their informed consent, and managing the data you collect.

Ethics Guidelines for Conducting Course-Based Human Research

Recruiting Participants

When recruiting potential participants, you must give them the following information before you begin:

- ***Student researcher name(s):*** give your name and contact information.
- ***Affiliation***: provide (a) the name of your institution, (b) your course name and number, and (c) your instructor's name and contact information.
- ***Purpose***: describe the purpose of your research (your objectives), and the benefits you hope will come from this research (overall goal). Your research should not involve any deception (*e.g.*: claiming to be gathering one kind of information, such as "do you prefer blue or green widgets?", but actually gathering another kind, such as "what percentage of the population is blue/green color blind?").

Informed Consent

You must gain the informed consent of the people you will be surveying, interviewing, or observing in non-public venues. This can be done using a consent form they can sign in person, or an "implied consent" statement on an electronic survey. The consent form should include all the information in the "recruiting" section above; in addition, you should...

- Inform participants that their participation is voluntary and that they may withdraw at any

time without consequence, even if they have not completed the survey, interview, or observation process.
- Disclose any and all risk or discomfort that participation in the study may involve, and how this risk or discomfort will be addressed.
- Ensure that all participants are adults (18 years of age or older) and fully capable of giving consent; do not recruit from vulnerable or at-risk groups, and do not collect data regarding age, gender, or any other demographic information not relevant to the study (e.g.: phone numbers, medications they are taking, whether they have a criminal records, etc.).

Managing the Data

Participants should be told what will happen to the data you gather:

- In the case of surveys, the data is anonymous if you will not track who submitted which survey. In anonymous surveys, let participants know that once they submit their survey, it cannot be retrieved and removed from the overall results.
- Let survey participants know (a) that your research results will be reported without their names and identifiers, (b) where the data will be stored, (c) how it will be "published", and (d) what will happen to the raw data once your project is complete
- Let interview participants know how their information will be used and if their names will be included or cited.
- Let observation participants know how they will be identified in the data, should they appear.

There may be additional issues that must addressed, such as accessibility and cultural considerations. If you are unsure whether a particular line of inquiry or method of data collection requires ethics approval, you should consult with your instructor about how to construct your pilot study. Most importantly, you should always be completely upfront and honest about how you are conducting your research. People participating in your research need to be reassured that you are doing this for legitimate reasons.

Stakeholder Engagement and Consultation

One important area of primary research undertaken when embarking on any large scale project entails public engagement, or *stakeholder consultation*. Stakeholder engagement can range from informing the public about plans for a project to engaging in consultative practices like getting input and feedback from various groups, and even to empowering key community stakeholders in the final decision-making process.

For projects that have social, economic, and environmental impacts, stakeholder consultation is a critical part of the planning stage. Creating an understanding of how projects will affect a wide variety of stakeholders is beneficial for both the company instigating the project and the people who will be affected by it. Listening to stakeholder feedback and concerns can be helpful in identifying and mitigating risks that could otherwise slow down or even derail a project. For stakeholders, the consultation process creates an opportunity to be informed, as well as to inform researchers about local contexts that may not be obvious, to raise issues and concerns, and to help shape the objectives and outcomes of the project.

What is a Stakeholder?

Stakeholders include any individual or group who may have a direct or indirect "stake" in the project – anyone who can be affected by it, or who can have an effect on the actions or decisions of the company, organization or government. They can also be people who are simply interested in the matter, but more often they are potential beneficiaries or risk-bearers. They can be internal – people from within the company or organization (owners, managers, employees, shareholders, volunteers, interns, students, etc.) – and external, such as community members or groups, investors, suppliers, consumers, policy makers, etc. Increasingly, arguments are being made for considering non-human stakeholders such as the natural environment (Driscoll and Starik 2004).

Stakeholders can contribute significantly to the decision-making and problem-solving processes. People most affected by the problem and most directly impacted by its effects can help you to

- understand the context, issues and potential impacts more fully;
- determine your focus, scope, and objectives for solutions; and
- establish whether further research is needed into the problem.

People who are attempting to solve the problem can help you

- refine, refocus, prioritize solution ideas;
- define necessary steps to achieving them; and
- implement solutions, provide key data, resources, etc.

There are also people who could help solve the problem, but lack awareness of the problem or their potential role. Consultation processes help create the awareness of the project to potentially get these people involved during the early stages of the project.

Stakeholder Mapping

The more a stakeholder group will be materially affected by the proposed project, the more important it is

for them to be identified, properly informed, and encouraged to participate in the consultation process. It is therefore critical to determine who the various stakeholders are, as well as their level of interest in the project, the potential impact it will have on them, and the power they have to shape the process and outcome. You might start by brainstorming or mind-mapping all the stakeholders you can think of. See **Figure 9.1** as an example.

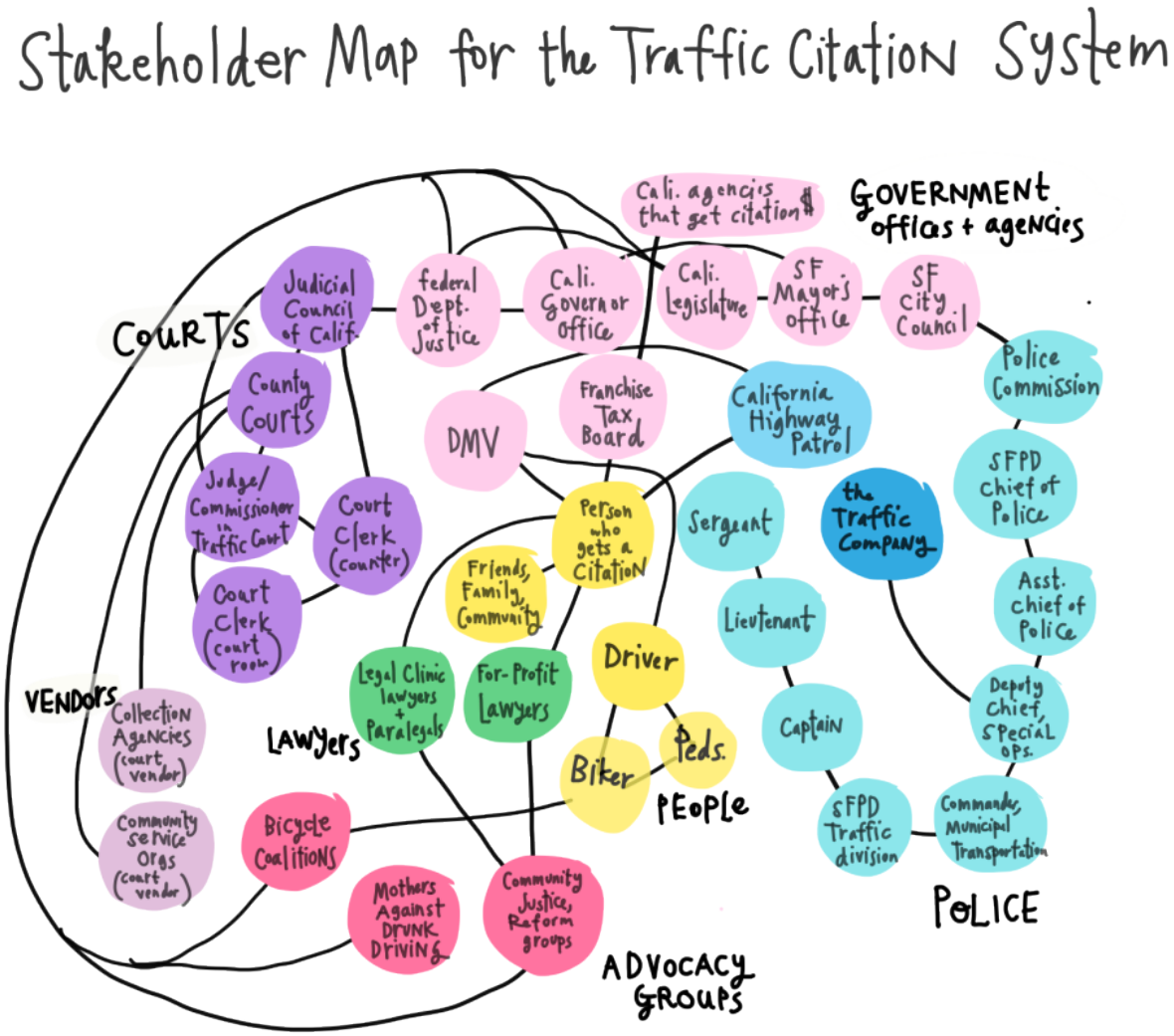

Figure 9.1: Sample Brainstorm Stakeholder Map. [2]

Once you have identified stakeholders who may be impacted, organize them into categories or a matrix. One standard method of organizing stakeholders is to determine which ones are likely to be in support of the project and which are likely to oppose it, and then determine how much power or influence each of those groups has

2. M. Hagan, "Stakeholder mapping of traffic ticket system," Open Law Lab [Online] Aug. 28, 2017. Available: http://www.openlawlab.com/2017/08/28/stakeholder-mapping-the-traffic-ticket-system/ . CC-BY-NC-SA 4.0.[Accessed Feb 24, 2019].

(see **Figure 9.2**). For example, a mayor of a community has a strong level of influence. If the mayor is in full support of the project, this stakeholder would go in the top right corner of the matrix. Someone who is deeply opposed to the project, but has little influence or power, would go at the bottom left corner.

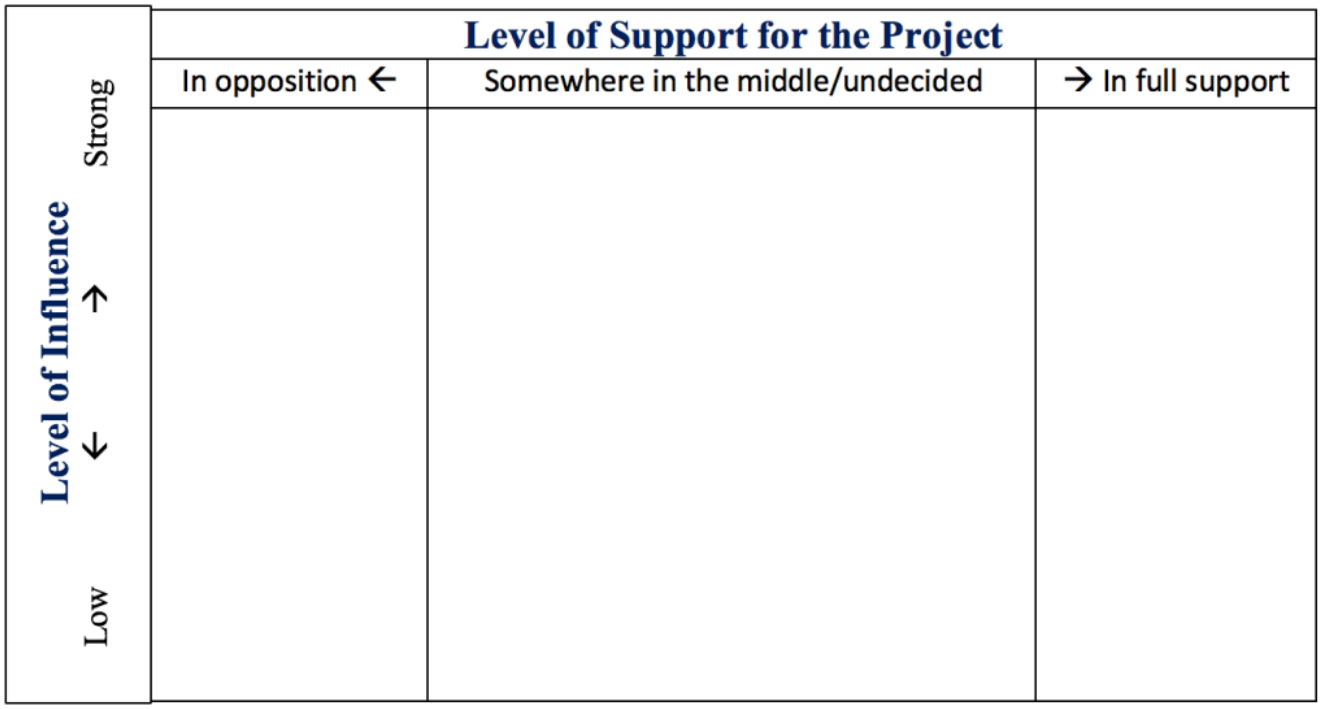

Figure 9.2: Sample stakeholder mapping matrix

A matrix like this can help you determine what level of engagement is warranted: where efforts to consult and involve might be most needed and most effective, or where more efforts to simply inform might be most useful. You might also consider the stakeholders' level of knowledge on the issue, level of commitment (whether in support or opposed), and resources available.

Planning Stakeholder Engagement

There are various levels of stakeholder engagement, ranging from simply informing people about what you plan to do, to actively seeking consent and placing the final decision in their hands. This range, presented in **Figure 9.3**, is typically presented as a spectrum or continuum of engagement from the least (left) to most (right) amount of engagement with stakeholders.

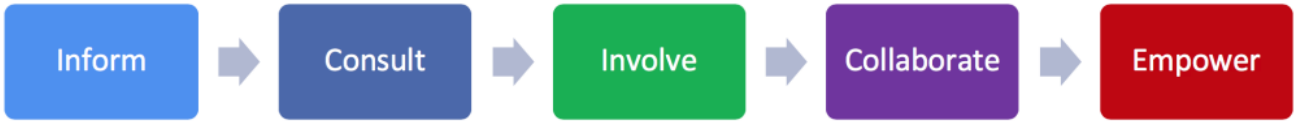

Figure 9.3: Spectrum of public engagement

A more in-depth understanding of each step will help you understand how stakeholder engagement changes between levels:

1. ***Inform***: Provide stakeholders with balanced and objective information to help them understand the project, the problem, and the solution alternatives. There is no opportunity for stakeholder input or decision-making.
2. ***Consult***: Gather feedback on the information given. Level of input ranges from minimal interaction (online surveys) to extensive. Can be a one-time or ongoing/iterative opportunities to give feedback to be considered in the decision-making process.
3. ***Involve***: Work directly with stakeholders during the process to ensure that their concerns and desired outcomes are fully understood and taken into account at each stage. Final decisions are still made by the consulting organization, but with well-considered input from stakeholders.
4. ***Collaborate***: Partner with stakeholders at each stage of the decision-making, including developing alternative solution ideas and choosing the preferred solution together. Goal is to achieve consensus regarding decisions.
5. ***Empower***: Place final decision-making power in the hands of stakeholders. Voting ballots and referenda are common examples. This level of stakeholder engagement is rare and usually includes a small number of people who represent important stakeholder groups.

Depending on the type of project, the potential impacts and the types and needs of stakeholders, you may engage in a number of levels and strategies of engagement across this spectrum using a variety of different tools (see **Table 9.1**):

Table 9.1 Typical tools for public engagement

Inform	Consult	Involve / Collaborate / Empower
• Public meetings • Briefings • News media • Public Presentations • Info Kiosks • Hotlines • Newsletters • Bulletins • Social media • Websites • Fact sheets • Arts and entertainment	• Public meetings, hearings, workshops • Focus groups • Study circles • Interviews • Surveys • Opinion polls • Questionnaires • Social Media • Suggestion boxes • Comment forms	• Consensus workshops • Charrettes • "World Cafes" • Study groups • Focus groups • Task Force • Think Tanks • Advisory boards, committees • Citizen panels or juries • Polling • Votes, referenda • Social media

There is no single "right" way of consulting with stakeholders. Each situation will be different, so each

consultation process will be context-specific and will require a detailed plan. A poorly planned consultation process can backfire, as it can lead to a lack of trust between stakeholders and the researchers. It is critical that the process be carefully mapped out in advance, and that preliminary work is done to determine the needs and goals of the process and the stakeholders involved. In particular, make sure that whatever tools you choose to use are fully accessible to all the stakeholders you plan to consult; an online survey is not much use to a community that lacks robust wifi infrastructure.

Use the steps below to plan stakeholder engagement and consultation:

1. ***Situation Assessment***: *Who needs to be consulted about what and why*? Define stakeholders, determine their level of involvement, interest level, and potential impact, their needs and conditions for effective engagement.
2. ***Goal-setting***: *What is your strategic purpose for consulting with stakeholders at this phase of the project?* Define clear goals and objectives for the role of stakeholders in the decision making process. Determine what questions, concerns, and goals the stakeholders may have and how these can be integrated into the process.
3. ***Planning/Requirements***: Based on situation assessment and goals, determine what engagement strategies to use and how to implement them to best achieve these goals. Ensure that strategies consider issues of accessibility and the needs of vulnerable populations. Consider legal or regulatory requirements, policies, or conditions that need to be met. Determine how you will collect, record, track, analyze and distribute the data.
4. ***Process and Event Management***: Keep the planned activities moving forward and on-track, and adjust strategies as needed. Keep track of documentation.
5. ***Evaluation***: Design an evaluation metric to gauge the success of the engagement strategies; collect, analyze, and act on the data collected throughout the process. Determine how will you report the results of engagement process back to the stakeholders.

Example Stakeholder Engagement Plans

Example 1: Public Participation Guide, EPA

The US Environmental Protection Agency (EPA) hosts an online Public Participation Guide. The agency describes the document as a "primer" for "government agencies" that will help "manage

processes where public input is key to decision-making." The document details how to decide on the right amount of public planning and provides tools to help government agencies plan and execute public participation projects, including conflict resolution skills.

Example 2: Public Participation Plan, NWARPC

The Northwest Arkansas Regional Planning Commission (NWARPC) is an organization dedicated to large-scale regional transit and transportation planning. On their website, they provide a Public Participation Plan (PPP) that details how they intend to solicit stakeholder input. Their stated goal is to "provide opportunities for citizens, employers, and transportation providers to contribute ideas and opinions early and at every stage of the planning process." Specifically, their plan has three goals:

- "Prioritizes providing complete information, timely notices, access to decisions, and early, ongoing public involvement";
- "Adapts to regional growth and changing demographics with flexible tools";
- "Builds on successful past efforts and identifies future strategies without listing every potential engagement opportunity" (NWARPC, 2025).

Designing and Running a Pilot Study[3]

For project 3, you will design and run a pilot study that will help you to write your problem primer and later, your grant proposal. The library at the University of Melbourne describes a pilot study as "a small initial study that is conducted to test the practicality and feasibility of a full research project" (n.d.). Once you've conducted the pilot study, you can use it as evidence for your problem primer, and possibly for your grant proposal.

3. Based on Suzan Last, "Chapter 5: Conducting Research," in *Technical Writing Essentials*; Adam Pope, "Chapter 7: Research Methods for Technical Writing," in *Open Technical Writing*; and Suzan Last, Nicole Hagstrom-Schmidt and Matt McKinney, "Chapter 11: Research Methods and Methodologies," in *Howdy or Hello: Technical and Professional Communication*.

Defining Your Project's Scope

Often, when you begin a project, the problem is fairly general and open-ended. This allows you to approach the problem in a variety of ways, but also requires you to do some work to decide which approach you will take. Most projects will require careful consideration of **scope**.

You must define the scope by considering:

- Who is your primary audience? Who else might read this?
- Who are the people who will be affected by this project? Who are the stakeholders?
- What is the specific outcome you want this document or project to achieve? What do you want your readers to do, think, or decide after reading it?
- What is the best format to use to present this project to these readers? What format or specific information have they requested?
- Are there limitations in terms of geography, demographics, or available technology?
- Is there a time frame? A budget?
- Are there legal considerations, regulations, policies, and guidelines that must be taken into account?

Your project will first require background research to clearly define the problem you are tackling – that is why we are taking time to do academic research in addition to the pilot study. Project 3 is intended to help you answer several key questions: How do you know there is a problem? What measurable impacts can you point to? What will you need to prove that this is a significant problem that needs to be addressed? Can you provide data to show the extent of the "unsatisfactory situation" and how it negatively affects people? Is there an expected goal or target that any proposed solution is expected to meet?

In presenting your solution(s), you will have to find research to provide support for the basic premise of your research question (is this idea feasible?) and prove your hypothesis (it will be effective/beneficial). You might do this by showing that similar ideas have been implemented and/or researched in other areas, or that the ideas you are presenting are based on sound evidence. The primary data from your pilot study should help you show how your ideas are feasible in the local community context.

Clearly you can't solve the problem of climate change in one paper or project and no reasonable reader would expect you to. However, you might be asked to explore effective ways to reduce carbon emissions in a specific industry in a given period of time and/or geographical region. Or you might investigate whether a particular form of alternative energy would be effective in a particular situation. Even then, you would have to consider approaches. Would you recommend changing a policy or law to try to address the causes of the problem? Providing incentives to industry or consumers? Innovating a current technology or process? Creating a new technology or process? Evaluating a currently proposed solution?

Research Methods

For Project 3, you will design a pilot study that uses one of three methods: interviews, surveys, or observations. Which method you choose depends on what type of information will be most helpful to you as you assemble the information that will become evidence for your problem primer and grant proposal. You should brainstorm questions you need to answer, then decide which method is most suitable for that work.

- **Interviews**: one-on-one or small group question and answer sessions. Interviews will provide detailed information from a small number of people and are useful when you want to get an expert opinion on your topic. For such interviews, you may need to have the participants sign an informed consent form before you begin.
- **Observations**: watching and taking organized notes about an event or process related to your research. The goal is to be as unobtrusive as possible, so that your presence does not influence or disturb the normal activities you want to observe. If you want to observe activities in a specific place, you must first seek permission and let participants know the nature of the observation. Observations in public places do not normally require approval. However, you may ***not*** photograph or video your observations without first getting the participants' informed voluntary consent and permission.
- **Surveys**: a form of questioning that is less flexible than interviews, as the questions are set ahead of time and cannot be changed. These involve much larger groups of people than interviews, but result in less detailed responses. Like interviews, surveys require that you get the participants' informed consent before you begin.

Below, you will find more information about each method so that you can make the best possible decision about the research design for your pilot study. If your research design requires informed consent, talk with your instructor about how to incorporate these documents into your plan.

Interviews

Interviewing requires you to prepare fully and act with purpose. When you plan an interview, you need to know what you're hoping to get out of the process. You can't simply go into an interview and let things develop—you're going to waste your own time and that of your subject(s). Instead, think about what you want to know. Do you want to know about a specific experience? Do you want a broad overview of how a problem happens? Carefully consider your goals and the scope of your questions. One interview shouldn't do too much or too little.

Time and timeliness also comes into play. Think about how much time you have to complete your pilot study, and what your schedule looks like. Align the type of interview you want with your goals and your timeline –

be realistic about what is possible in the time you have. Contact your potential interviewee as soon as possible. Individuals, especially those who work outside academia, may operate on different timelines.

Writing Successful Interview Questions

Preparing good interview questions takes time, practice, and testing. An interview is not simply a conversation – while treating it as such can generate information, you will often find that important questions have not been addressed. It is therefore critical to think about both the content and order of your questions as you design your interview.

Carter McNamara offers the following suggestions for wording interview questions. This passage is quoted in its entirety:

- **Wording should be open-ended.** Respondents should be able to choose their own terms when answering questions.
- **Questions should be as neutral as possible.** Avoid wording that might influence answers, e.g. evocative, judgmental wording.
- **Questions should be asked one at a time.** Avoid asking multiple questions at once. If you have related questions, ask them separately as a follow-up question rather than part of the initial query.
- **Questions should be worded clearly.** This includes knowing any terms particular to the program or the respondents' culture.
- **Be careful asking "why" questions.** This type of question infers a cause-effect relationship that may not truly exist. These questions may also cause respondents to feel defensive, e.g., that they have to justify their response, which may inhibit their responses to this and future questions.

Further, you will want to **craft questions with your goals in mind**. When you write questions, craft them to get the information you need. Think about who your subject is and why their particular viewpoint or expertise is valuable, and craft questions to draw out that information. That is, you should **give your interviewee prompts to direct their answers**. You can vary the level of specificity as needed.

- **Example Open-Ended Question:** What do you think about the proposal to expand the Razorback Greenway to the other side of town?
- **Example Specific Question:** If the Razorback Greenway opens an extension near Rupple Road, how will that affect the challenges you face with transportation to and from work?

Interview Strategies

Interviews are a very personal form of research – often a one-on-one conversation. Setting the stage for a

successful interview requires work on your part to ensure that participants are comfortable and that they understand what is about to happen. The following strategies can help you set the stage for a successful interview:

1. **Create a sense of comfort.** Prepare your interview location beforehand. If you are interviewing in person, try to find a quiet, comfortable space where you won't be interrupted. Dress to reflect your professional persona – aim to be professional, but comfortable.
2. **Be clear about the interview structure.** Let your subject know what to expect from the interview: what you'll discuss, the types of questions you will ask, and the length you're aiming for. This helps them understand what you want and be less anxious about the interview process.
3. **Consider how you ask questions.** Think about your tone as you write and speak your questions. You don't want to be accusatory or aggressive if your aim is to keep your subject comfortable, nor should you be too personal or sensitive.

Recording Interviews

Regardless of how you choose to do so, you should record information during your interview. Below, we'll discuss the use of video, audio, and notes for recording, but before we start, it is important to remember that you owe your interview subjects disclosure if you will record them. **If you plan to use video or audio, you must tell your subjects beforehand and give them an opportunity to respond**. Interviewing is in large part about the relationship you cultivate with your interview subject, so when it comes to taking notes or recording data, being as transparent as possible helps you to do your research ethically.

You have several options for recording notes:

1. **Video.** Using video can preserve body language, facial expressions, and other environmental elements, which may be useful for you as you analyze your interview data. However, video cameras often make people uncomfortable, so you should be aware that this option may affect your interviewee's behavior.
2. **Audio.** Using audio can record the wording and tone of voice of the interview. You may need to transcribe an audio interview, so allow time for that if this is your recording method. As with video, knowing that there is an audio recorder may make your subjects uncomfortable.
3. **Notes.** Recording notes by hand can be challenging if you don't practice beforehand – you won't be able to write down every word your interviewee says, so you will need to think carefully about how to take notes during the process. Be aware that if you make notes as though something is important, your interviewee may pick up on that.

Finally, if you are going to be using anonymous data, you will need to transcribe the interview recordings and

anonymize them and then destroy the originals. **Voice recordings or video are not anonymous** and if you've promised that to your subjects, you'll need to make sure to honor that promise.

Observations

Another research method is observation – one of the simplest of all research methods, depending on the implementation. Use observation to witness people experiencing a problem or going through a process that is relevant to your research questions. Observation is a tool to figure out how folks experience something without intruding into their experience and altering it. You simply sit back and watch the situation, taking notes of things as they happen.

In public, observation can be extremely unobtrusive in that you can sometimes simply blend into the background. You may, for example, want to see how folks navigate the signage in the campus cafeteria. You could simply park yourself near the front of that cafeteria and observe patterns and when folks stop to interpret things. Obviously this would be more useful when you have large groups of folks using these facilities for the first time, such as during orientation week or when a visiting group are present.

In more closed locations, you should have permission to observe. Before observing in such locations, you will need to make sure that you are allowed to be there. You will likely want to keep your recording to written notes, and you may need to get your notes checked with those that you're working with before you use them or take them out of the location, especially when sensitive information is involved.

Doing Field Observations

To set up for and conduct a field observation, you will need to consider the following:

- **Gain appropriate permissions for researching the site.** Your site is the location you are observing. Sites could include potential locations for a community garden, a classroom where you're observing student behaviors or a professor's teaching strategies, or a local business. Certain sites will require specific permission from an owner or other individual. Depending on your study, you may also need to acquire IRB permission.
- **Know what you're looking for.** While people-watching is interesting, your most effective field research will be accomplished if you know roughly what you want to observe. For instance, say you are observing a large lecture from a 100-level class, and you are interested in how students use their laptops, tablets, or phones. In your observation, you would specifically focus on the students, with some attention to how they're responding to the professor. You would not be as focused on the content of the professor's lecture or whether the students are doing non-electronic things such as doodling or talking to their classmates.

- **Take notes.** Select your note-taking option and prepare backups. While in the field, you will be relying primarily on observation. Record as much data as possible and back up that data in multiple formats.
- **Be unobtrusive.** In field research, you function as an observer rather than a participant. Therefore, do your best to avoid influencing what is happening at the research site.

Recording Observations

Be aware that sensitive information can be relayed during an observation, even if you are doing this work in a public venue. Take care that you're not going to be recording in a way that will disrupt locations or violate privacy. You may be asked to leave a room during a private observation, and you may need to ignore anything you hear in a more public venue if the content that is being shared would be embarrassing or otherwise troublesome to record and share. Default to written notes with observation, unless there is good reason to do otherwise – this choice allows you to be your own editor as far as what is recorded and what is not. In addition, you should check with those you will be observing to see what types of sensitive information you should ignore or not record.

Interpreting Observational Data

Observation excels at helping you understand how a process, system, or problem actually happens in the physical world. By observing a situation, you can see how folks navigate a situation – when something works, when people become frustrated, and more. In private situations, you get a better sense of how work flows in a given location and the types of interactions that happen in a given space. Each type of information can be valuable for you as a technical writer because it gives you even more information to take into account when you consider the choices you make in your own designs and documents.

Surveys

Surveys allow you to ask a set number and type of questions to a large group of users. Virginia Tech Libraries' *Research Methods Guide: Survey* Methods (2025) argues that survey methods allow you to accomplish two goals:

1. "Collect information from a small number of people to be representative of a large number of people to be studied"; includes "information about their attributes, behaviors, preferences, attitudes, and opinions" (VT Libraries, 2025);
2. "Systematically draw information from a certain population in order to describe demographic information (e.g., age, gender, school year, affiliation), draw patterns from the population studied, [and] explain trends" (VT Libraries, 2025).

You can conduct surveys in a variety of ways, including phone, face-to-face, paper and pencil, and online or web-based (VT Libraries, 2025). Below, you'll find some tips on writing and designing survey questions that will get you the types of answers you need to complete your pilot study.

Writing Survey Questions

When designing surveys, remember the rhetorical situation:

- What are the goals of your survey?
- Who are you hoping will complete the survey? What will they know? What will they not know?
- How long can you expect them to engage with your survey?
- What is the best method of surveying them (online, say through Google Forms, or in person)?
- How many responses do you hope to obtain?

Use this information to inform the design of your survey and any preliminary materials you include. All surveys should feature clear statements of purpose, as well as specific directions for answering the questions and how to contact the researcher if participants have any questions.

After determining your audience and purpose, you will need to design your questions. Remember, in online surveys you will not be there to provide immediate clarification, so your questions need to be carefully worded to avoid confusion and researcher bias. As a rule, your survey questions should:

- **Be as specific as possible.** Avoid ambiguity by providing specific dates, events, or descriptions as necessary.
- **Ask only one question at a time.** Specifically, avoid survey questions that require the participant to answer multiple items at once. This will confuse the reader about what you are looking for and will likely skew your data.
- **Be neutral.** Present your survey questions without leading, inflammatory, or judgmental language. Avoid using language that is obviously biased.
- **Be logically organized.** Present questions in a way that makes sense. For example, if you introduce a concept in Question 1, don't return to it again in Question 12. Follow-up questions and linked questions should be asked in succession rather than separated.
- **Allow participants to decline answering.** Be wary of questions that require participants to divulge sensitive information, even if they are answering anonymously. This information could include details such as a trauma, eating disorders, or drug use. For research projects that require these questions, consult the university IRB (Internal Review Board).

Designing Survey Questions

After writing the questions, you will also need to consider how your participants can answer them. Depending on your needs, you may opt for quantitative data, which includes yes/no questions, multiple choice, Likert scales, or ranking. Note that what makes this data "quantitative" is that it can be easily converted into numerical data for analysis. Alternatively, you may opt for qualitative data, which includes questions that require a written response from the participant. A description and some of the advantages of these answer styles follow below:

- **Yes/No (Quantitative).** These simple questions allow for comparison but not much else. They can be useful as a preliminary question to warm up participants or open up a string of follow-up questions.
- **Multiple choice (Quantitative).** These questions allow for preset answers and are particularly useful for collecting demographic data. For example, a multiple-choice question might look something like this: "How many years have you attended your university?" Depending on the question, you may wish to allow a write-in response.
- **Likert scale (Quantitative).** The Likert scale is a rating, usually on a 1-5 scale. At one end of the scale, you will have an option such as "Definitely Agree" and on the other side, "Definitely Disagree." In the middle, if you choose to provide it, is a neutral option. Some answers in this format may use a wider range (1-10, for example), offer a "Not Applicable" option, or remove the neutral option. Be mindful of what these choices might mean. A wider scale could, in theory, mean more nuance, but only if the distinctions between each option are clear.
- **Ranking (Quantitative).** In a ranking-based answer, you provide a list of options and prompt your participant to place them in a certain order. For example, you may be offering five potential solutions to a specific problem. After explaining the solutions, you ask your reader to identify which of the five is the best, which is second best, and so on. Participants may assign these items a number or rearrange their order on a screen.
- **Written responses (Qualitative).** Ask for written responses when you want detailed, individualized data. This approach is beneficial in that you may receive particularly detailed responses or ideas that the survey did not address. You might also be able to privilege voices that are often drowned out in large surveys. However, keep in mind that many participants do not like responding to essay-style questions. These responses work best as follow-up questions midway or later in the survey.

Finally, before officially publishing your survey online or asking participants in person, make sure that you conduct preliminary usability testing on your survey. This testing allows you to seek feedback on confusion or ambiguity in question wording, lack of clarity in question order, typographical errors, technical difficulties, and how long the survey took a user to complete. Remember, surveys with unclear questions and sloppy formatting annoy participants and damage your credibility. Conversely, the more professional a survey looks and the easier it is for your reader to complete it, the more likely you will receive useful responses.

Research Progress Memos

As you take time to work through your pilot study, you will be asked to return to a technical genre with which you are already familiar: the memo. You are responsible for one research memo over the time you run your study. Below, you'll find a brief explanation of how the contents of this memo differ from the memo you composed for Project 1.

Research Memo Contents

A research memo is a subgenre of the memorandum – as we discussed in Chapter 3, memos are documents meant to communicate a clear, specific message about a relevant topic. In this case, you will be communicating with your instructor about your progress on the pilot study for project 3. This makes the research memo (and the design memos you will write during the next project) a very specific type of document: a progress report.

Your research memo you write should answer the following questions:

- How is your pilot study going?
- What academic sources have you identified to use in your project?
- What research do you still need to accomplish?

For a review of memo genre conventions, please see Chapter 3, "Memo Genre Conventions."

Conclusion

In this chapter, you've learned about concepts and tools that will help you to design and run a successful pilot study. The pilot study will inform your writing in the problem primer project; this primary research will provide grounding and connection with a local community who needs help with the problem you are investigating. Next, we'll explore how to put together your primary and secondary research in the problem primer itself.

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CHAPTER 10: SYNTHESIZE AND REPORT RESEARCH

Kat Gray; Will Fleming; and Katrina Peterson

Introduction

To write the problem primer for Project 3, you will need to think about how to synthesize and report research. That is, you will need to think about *how your sources talk to one another, and what those conversations mean*, and *how to talk about your research for a nonexpert audience*. For this assignment, you will be talking to the advisory board of the UArk Cares Foundation – they do not know your topic intimately, but they have experience with prior community improvement projects, and they run the Community Improvement Grant contest yearly.

This chapter will show you how to use the information you have about your topic and your rhetorical situation to compose effective reports. It begins by discussing synthesis, an advanced writing skill that helps you use research to support and enhance your message. This section also reviews quotation, summary, and paraphrase as key research writing skills and gives tips for avoiding plagiarism. Next, the chapter explicates the problem primer document, beginning with a brief exploration of reports as a technical communication genre. Each section of the problem primer is then discussed in detail. The chapter closes with a section that gives basic skills for designing and integrating visuals into reports.

What is Synthesis?

Once technical writers collect research and evaluate their sources, they can begin writing, incorporating the knowledge they have gained from their source materials, whether primary, secondary, or tertiary. When technical writers utilize research in their projects, they use a skill called *synthesis* to bring together what they've learned from that research with their own skills, expertise, and rhetorical needs.

According to MacPháidín Library at Stonehill College, synthesis "refers to the process of combining ideas and arguments from multiple sources and analyzing them to provide new insights" (2025). Synthesis should "[organize] information in such a way that helps the reader make sense of the sources and better understand how they overlap" (2025). The Center for Scholarly Communication at Indiana University of Pennsylvania argues that synthesis accomplishes a wide variety of tasks: synthesis can be used not only to "interpret and

analyze multiple sources," but also to "compare, contrast, and make insightful connections to create a new whole" (n.d.). Synthesis is a higher-order thinking skill that helps you to communicate clearly, accurately, and persuasively with your readers.

Before you start writing your problem primer, it will be helpful to think about how your sources relate to one another. One way writers prepare for writing with research is to complete a synthesis chart. Below, in **Table 10.1**, you will see an example of how you might fill out such a chart, using growing traffic congestion in Northwest Arkansas as a sample topic[1].

1. Please note: these sources and themes are fictionalized.

Table 10.1: Example of a Synthesis Chart

Themes	**Source 1:** Northwest Arkansas Regional Planning Commission Report	**Source 2:** City of Fayetteville Website – Planning Page	**Source 3:** Rogers City Council Meeting Minutes	**Source 4:** University of Arkansas Associated Student Government Annual Report	**Source 5:** City of Springdale Traffic Engineering Report
Theme 1: local population growth rates	all areas of NWA are experiencing population growth	influx of young and middle-aged people in the past decade	Walmart recruitment plans will mean a sharp increase in population in the coming years	growing student population in the past 5 years	more people using the roads inevitably means more roads to fix
Theme 2: traffic infrastructure	regional traffic infrastructure does not yet have the capacity to handle the predicted population growth	not enough walkable areas downtown for pedestrians, causing unsafe walking and driving conditions	parking at the AMP is limited to an extent that makes it difficult for event-goers to attend	challenges related to traffic congestion and on-campus parking	rising commute times due to congested interstate on-ramps during peak hours
Theme 3: public transportation infrastructure	reports plans for a light rail feasibility study, starting in two months	announcing a feasibility study for a consumer light-rail line connecting NWA population hubs, partnering with NWARPC	not enough bus/ public transportation lines to other locations in NWA	most students have to live off campus, but find public transportation options limited or difficult to access	public transportation lines don't run often enough in the evening
Theme 4: town and university relations	UArk and City of Fayetteville must plan together to handle increased demands on transportation infrastructure	city planners are working with university planners to plan a town hall meeting about projected population growth in the coming decade	n/a	n/a	n/a
Theme 5: long-term growth goals	discover long-term transportation solutions for a growing Northwest Arkansas	need to balance rising student population with rising overall population in the area	increase traffic capacity for concerts, sporting events, and other large-scale gatherings	n/a	come up with a sustainable road maintenance plan and expand interstate capacity

You can find a blank chart like the one above at the Arkansas English Resource. Use it to prepare your thoughts for writing your problem primer.

Incorporating Sources in Technical Writing Documents[2]

When you are ready to write, you will want to think carefully about how to use the information you gathered during the research process. In particular, this means thinking about the stakeholders for your project, your audience (should they be different from your stakeholders), and their needs in terms of clear, accurate information. There are three common techniques for using sources in researched writing: **Quoting**, **Summarizing**,and **Paraphrasing**.

Quoting

A direct quotation is a word-for-word restatement of another author's thoughts. The quote must match the original source word for word, and it should begin and end with quotation marks, which tells the reader that the information is directly quoted. Direct quotes are especially useful when the original writing is unique or difficult to summarize; when used effectively, they can also work to strengthen your support and credibility.

EXAMPLE:

According to the EPA's assessment: "Lead can enter drinking water when service pipes that contain lead corrode, especially where the water has high acidity or low mineral content that corrodes pipes and fixtures."

`Source: "Basic information about lead in drinking water." EPA.gov.`

Summarizing

Summaries are condensed versions of the original source, written in your own words. Summaries focus on the main ideas, but do not copy any of the original language. A 500 page book or a 2 hour movie could be summarized in a sentence. **Summaries do not contain the same level of detail as the original source.**

EXAMPLE:

Original text: "Lead can enter drinking water when service pipes that contain lead corrode, especially where the water has high acidity or low mineral content that corrodes pipes and fixtures. The most common problem

2. Based on Will Fleming's "Chapter 6: Research and Information Literacy," in *Technical Writing at LBCC*.

is with brass or chrome-plated brass faucets and fixtures with lead solder, from which significant amounts of lead can enter into the water, especially hot water."

Summarized text: Water becomes contaminated by lead when lead pipes, solder, or certain types of fixtures degrade, and hot water can increase the amount of lead released.

Source: "Basic information about lead in drinking water." *EPA.gov*.

Paraphrasing

Similar to summarizing, paraphrasing is a restatement of source material in your own words. The main difference is that paraphrasing tends to be closer in length to the original source. **Paraphrases have the same (or nearly the same) level of detail as the original.** Remember, though, if you copy from the original source even two or three words in a row, you must provide quotation marks around those words.

EXAMPLE:

Original passage: "Lead can enter drinking water when service pipes that contain lead corrode, especially where the water has high acidity or low mineral content that corrodes pipes and fixtures. The most common problem is with brass or chrome-plated brass faucets and fixtures with lead solder, from which significant amounts of lead can enter into the water, especially hot water."

Paraphrased passage: Water becomes contaminated by lead when lead pipes or lead solder degrades. Certain types of fixtures, such as those plated with chrome and brass, as well as hot water, acidic water, and water with lower amounts of minerals can make lead contamination significantly worse.

"Basic information about lead in drinking water." *EPA.gov*.

Regardless of whether you choose to directly quote, summarize, or paraphrase a source, **you must document the source material**. Failure to do so properly could be viewed as plagiarism and can lead to allegations of academic or workplace dishonesty.

What is Plagiarism and How Can I Avoid It?

Plagiarism is *the presentation of someone else's work as your own*. More formally stated, it is the act of claiming language, ideas, opinions, theories, software code, artistic material, or anything else developed by another person without acknowledging that person as the source of the material. Because of the ubiquity of information online and the ease with which we can cut and paste, it is very easy to commit plagiarism and

not even be aware of doing so. But whether the plagiarism is intentional or unintentional, it is considered dishonest, unfair, and unethical.

Plagiarism is fairly easy to avoid as long as you pay close attention to how you integrate your source material and make sure that you give credit to the source when using someone else's words or ideas. There are two ways to use someone's ideas: you may use them **word for word (verbatim)** as a quote, or you may paraphrase or summarize the idea **in your own words**. Either way, the original author should be credited for their words or ideas (usually with an in-text citation – these may look different depending on which citation style you use).

Credit must always be given to others for:

- their words, either quoted or paraphrased;
- their artistic material (photos, charts, slideshows, etc.);
- and their research findings, analyses, and conclusions.

The best way to avoid plagiarism is to simply list the sources you used in preparing your work (many writers find it helpful to jot down or bookmark all their sources as they find them). You may not end up using all of your sources, but saving them as you work will save you a lot of trouble down the road.

Ethical Citation Tips

As you incorporate research into your writing, you can use the tips below to help you cite all of your sources ethically and appropriately.

1. **Cite while you write.** To avoid missing citations, insert them while you are writing your document. Otherwise, you risk forgetting where you found a particular piece of information.
2. **Avoid copy/pasting from other sources.** Lean on summary and paraphrase to reproduce someone else's idea in your own words – you should still provide a citation for the original source. If you are quoting directly, remember to enclose the words in quotation marks.
3. **Use short quotations.** Limit quotations to one or two key sentences. Further, limit the total number of quotations in your document. Choose them carefully and use them effectively.
4. **Cite images and photos.** If you wish to use someone else's visuals in your own documents, make sure you obtain permission. Many copyright holders will allow you to reuse imagery if you properly cite and attribute the original source. Follow the guidance of the copyright holder regarding the best wording to use for attribution.
5. **Be careful about reusing your own work.** Reusing your own previous work or imagery is tricky. In the academic world, you might cite previous pieces to build on your prior work. However, in the professional world, you often give up copyright when you transfer your work to a publisher – and the

writing you do for your employer almost always belongs to the company, not you as an individual.

Creating a Problem Primer

The problem primer you will write for Project 3 is a type of informational report, customized to suit the needs of our course. The report is a very common technical writing genre used in a wide variety of rhetorical situations in the professional and academic worlds. In this section, you'll learn more about reports as a genre, then see a breakdown of the required parts of your problem primer assignment.

What is a Report?[3]

Reports are documents designed to record and convey information to the reader. The type of report is often identified by its primary purpose or function, as in an accident report, a laboratory report, a sales report, or even a book report. Reports are often analytical, or involve the rational analysis of information. Sometimes they simply report the facts with no analysis at all, but still need to communicate the information in a clear and concise format. Other reports summarize past events, present current data, and forecast future trends. A sales report, for example, is not designed to make an individual sale. It is, however, supposed to report sales to date, and may forecast future sales based on previous trends.

Types of Reports

The type of report you write depends on its function, or its **purpose**, often indicated in the thesis or purpose statement. The function will also influence the types of visual content or visual aids, which represent words, numbers, and their relationships to the report's central purpose in graphics that are easy for the reader to understand. The function may also contribute to parameters like report length (page or word count) or word choice and readability.

Reports also vary by style and format. This section discusses reports in general terms, focusing on common elements. Referencing similar documents or specific report examples may serve you well as you prepare your own reports.

There are two main categories for reports, regardless of their specific function or type. An **informational report** informs or instructs by presenting details of events, activities, individuals, or conditions without

3. Based on Will Fleming's "Chapter 7: Technical Reports," in *Technical Writing at LBCC*.

analysis. An example of this type of report is a police accident report or a workplace incident report. The report will note the time, date, place, contributing factors, like weather, and identification of those involved. It **does not establish fault** or include judgmental statements. You should not see, for example, "Driver was falling down drunk" in a police accident report. Instead, you would see "Driver failed sobriety tests and breathalyzer test and was transported to the station for a blood sample." The police officer is not a trained medical doctor and is therefore not licensed to make definitive diagnoses but can collect and present relevant information that may contribute to that diagnosis.

The second type of report is called an **analytical report**. An analytical report presents information with a comprehensive analysis to solve problems, demonstrate relationships, or make recommendations. An example of this report may be a field report by a Center for Disease Control (CDC) physician from the site of an outbreak of a virus, noting symptoms, disease progression, steps taken to arrest the spread of the disease, and recommendations for the treatment and quarantine of subjects.

Table 10.2 lists many common types of technical reports and their functions:

TABLE 10.2: Common Report Types

Report Type	Report Function
Laboratory Report	Communicates the procedures and results of laboratory activities
Research Report	Studies problems by developing hypotheses, collecting and analyzing data, and indicating findings or conclusions
Field Study Report	Describes one-time events, such as trips, conferences, seminars, as well as reports from offices and industrial plants
Progress Report	Describes a project in progress, gives updates on milestones and benchmarks
Technical Report	Communicates processes and products from a technical perspective
Financial Report	Communicates status and trends from a financial perspective
Case Study	Represents, analyzes, and presents lessons learned from a specific case or example
Needs Assessment Report	Assesses the need for a service or product
Comparative Advantage Report	Discusses competing products or services with an analysis of relative advantages and disadvantages
Feasibility Study	Analyzes problems and predict whether current solutions or alternatives will be practical, advisable, or produced the desired outcome(s)
Instruction Manuals	Communicate step-by-step instructions on the use of a product or service
Compliance Report	Document and indicate the extent to which a product or service is within established compliance parameters or standards
Cost-Benefit Analysis Report	Communicate costs and benefits of products or services.
Decision Report	Make recommendations to management and become tools to solve problems and make decisions
Benchmark Report	Establish criteria and evaluate alternatives by measuring against the establish benchmark criteria
Examination Report	Report or record data obtained from an examination of an item or conditions, including accidents and natural disasters
Physical Description report	Describe the physical characteristics of a machine, a device, or object
Literature Review	Present summaries of the information available on a given subject

Regardless of the type of report you write, you must consider your stakeholders – those who have an interest in the report. That may include the people the report is about, whom it is for, and the larger audience of the community, organization, or industry. Each element of the report supports the main purpose or function in its own way, playing an important role in the representation and transmission of information.

Composing a Problem Primer

Longer technical reports can take on many different forms (and names), but most, such as recommendation and evaluation reports, do essentially the same thing: they **provide a careful study of a situation or problem**, and often **recommend options to improve that situation or problem**. These are goals of the problem primer report you will create.

The structural principle fundamental to these types of reports is this: you provide not only possible recommendations, but also the data, analysis, discussion, and the conclusions leading to it. That way, readers can check your findings, your logic, and your conclusions to make sure your methodology was sound and that they can agree with your recommendation. Your goal is to create a document that helps your project group decide on a course of action to use for writing Project 4: the collaborative grant proposal. For your report to be most helpful in this way, you should use careful research, detailed analysis, and documentation.

When creating a report of any type, the general **problem-solving approach** works well for most technical reports; the steps below in **Table 10.3**, generally coincide with how you organize your report's information.

Table 10.3: A Problem-Solving Approach to Report Writing

1. Identify the **need**	What is the "unsatisfactory situation" that needs to be improved?
2. Identify the **criteria** for responding to the need	What is the overall goal? What are the specific, measurable objectives any solution should achieve? What constraints must any solution adhere to?
3. Determine the solution **options** you will examine	Define the scope of your approach to the problem. Identify the possible courses of action that you will examine in your report. You might include the consequences of simply doing nothing.
4. Study how well each **option** meets the **criteria**	Systematically study each option, and compare how well they meet each of the objectives you have set. Provide a systematic and quantifiable way to compare how well to solution options meet the objectives (weighted objectives chart).
5. Draw **conclusions** based on your analysis	Based on the research presented in your discussion section, sum up your findings and give a comparative evaluation of how well each of the options meets the criteria and addresses the need.
6. Formulate **recommendations** based on your conclusion	Indicate which course of action the reader should take to address the problem, based on your analysis of the data presented in the report.

Title Page

The title page of a report should give some basic information: the document's title, your name, and the date you are delivering (or turning in) the document. Depending on the citation style you choose, there may be additional requirements for the problem primer title page. Additionally, the title page is an opportunity for you to use your document design skills to draw the reader's attention and interest. You might think about how to incorporate images and fonts to emphasize your message and get the reader engaged before they begin to read. As with other parts of the problem primer, you should consult with your instructor about which elements are required.

Introduction: What is the problem?

The beginning of a report should give a clear idea of both a document's purpose and its topic. In a professional writing setting, readers often have a limited time to review documents, so it's best to paint as clear a picture as possible.

To start your report, give the reader a concise description of the problem you hope to solve. The problem statement should clearly discuss what unsatisfactory situation has given rise to this report, and the requirements that must be met in order to solve the problem. Your reader may also need background information to understand *why* the problem you are examining needs to be solved.

Additionally, your problem primer should give a clear picture of your research questions. Since your report will thoroughly detail your research findings, you will want to make sure that readers have an idea, early in the report, of what questions you set out to answer.

Finally, you should give an overview of the people and communities most affected by the problem you're investigating – that is, your stakeholders, or the people who will benefit most from a solution. You should give readers a clear understanding of who your stakeholders are, how the problem affects them, and any possible restrictions on the solutions necessitated by stakeholder research. Your writing should reflect an engagement with your stakeholders and an attempt to clearly articulate their needs.

Your introduction should answer the questions:

- What is the problem at hand?
- Why is it important to solve this problem?
- What is the main question your research seeks to address?
- What communities are affected by the problem?

Literature Review

To solve a problem, you must have a clear sense of its causes. In this section, you should use your peer-reviewed research to detail causes that led to the problem. You can use data, studies, and white papers; you want to deliver a clear, well-balanced picture of the problem that considers a variety of viewpoints. Being able to zero in on the causes of a problem lets you have a deep understanding not only of how the problem manifests in the present, but the history of the problem. This gives you a better chance of suggesting solutions that will succeed long-term.

Your literature review should answer the questions:

- According to subject-area experts, what are the various causes of the problems?
- What are key themes in the peer-reviewed research?
- How did you choose the secondary research you reviewed for this project?

Research Design

In the research design section, you should spend time discussing your pilot study. Specifically, this section details the steps you decided to take to answer your research questions. You will discuss which research method you chose, and how you have designed your study to work. This section helps a reader to clearly understand your methods; in turn, presenting a clear picture of your pilot study process can enhance your credibility as a writer.

Your research design section should answer the questions:

- What are the steps you took to answer your question?
- How did you choose your research method (interview, survey, observation)?
- How did your positionality affect your research design choices?

Community-Engaged Research Findings

After you explain your pilot study's design, you should present its results. Your *research findings* will help you to show your audience the answers to your research questions. From this point, you can begin thinking about possible solutions to the problem, so it is important that your audience have a clear understanding of what the results say, and how these results will affect future actions.

Your research findings section should answer the questions:

- What do community members think about the problem?
- What are community members doing already to address the problem?

Conclusion: Looking Forward

This section, which closes the report, should describe each possible solution so that readers can understand how each one works. Readers will need a sense of the process required by each solution so they can think through the process with you. This section helps readers follow the logic of your analysis so that they can understand the next steps in the problem-solving process. You should also spend some time talking about how the options compare to each other. You should close your report by summing up the relative strengths and weaknesses of each solution; where possible, you should indicate which option you think is the best choice.

Your conclusion should answer the questions:

- Based on your primary and secondary research, what are the various solutions to these problems?
- Which solution(s) responds best to the needs and interests of the community members most impacted by the problem?

References

Finally, your references (or works cited or bibliography) page should list all sources you have used to construct the paper. Specifically, any source you have quoted, summarized, or paraphrased should be included. Consult with your instructor for specific information on how to format this page, how to choose a citation style, and what types of sources to include.

Your references list should:

- Match the style (APA, IEEE, Chicago, etc.) you've chosen for the document.
- List all sources you have quoted, paraphrased, or summarized.

Designing and Integrating Visuals for Reports[4]

Visual elements such as graphs, charts, tables, photographs, diagrams, and maps capture your readers' attention

4. Based on Will Fleming's "Chapter 3: Design and Visuals," in *Technical Writing at LBCC*

and help them to understand your ideas more fully. These visuals help to augment your written ideas and simplify complicated text. They can help the reader understand a complicated process or visualize trends in the data. The key concept to remember is that visuals *clarify*, *illustrate,* and *augment* your written text; **they are not a replacement for written text**, but using them may help you emphasize your ideas. Visual elements in your document should supplement your written content.

It is important to choose the right kind of visual to convey the story you want your reader to understand. If visuals are poorly chosen or poorly designed for the task, they can confuse the reader and decrease the chance that they understand your message. It is also important to introduce visuals with text so that readers understand what message to take away from the visual. Ideally, visual design and text work together to enhance your document's message and make it more likely that you will achieve your purpose.

Document Design

Document design refers to the **physical characteristics of a document**—the size, shape, font, and design of an event poster, for example. In technical communication, the goal is typically to convey information for particular purposes: to explain, to describe, to teach, to persuade, and more. Designing your document effectively ensures that readers understand how to use it. Well-designed documents help readers navigate information, and that is why document design is one of the basic skill sets required of technical writers.

The foremost purpose of any document is to be read. Choosing effective document design enhances the ***readability*** of your document so that your document is more likely to achieve its intended purpose. Choose document design elements that make your document user-friendly for the target audience. Keep in mind that people read technical writing because they need to – they need the information. Your job as the document designer is to make their reading process easy, clear, useful and efficient by using all the design tools at your disposal.

For print documents, technical communicators usually focus on page design—text size, font type, color, sections with headers, and the placement of text and images on the page. For online documents, some of the design elements are the same, but there are additional elements to consider, such as navigation bars, headers and footers, search pages, links, and FAQ lists.

The following video from Gregg Learning, "What You Need to Know About Business Document Design," provides a good introduction to the basic elements of document design:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=343#video-343-1

Visual Design Choices

Visuals can help make abstract concepts concrete for readers; therefore, as a technical communicator, it is vital to know how to use visuals to your advantage. Visuals can work to help readers see what something looks like without having to describe it in writing, such as **photos**, **illustrations**, and **maps**. Visuals can also be effective in representing data, such as quantities or financial information, by using visually-pleasing and easy-to-understand **tables**, **charts**, and **graphs**. Technical communicators also use visual tools, such as flowcharts, **Gantt charts**, **diagrams**, and **infographics**, to help readers understand processes or relationships.

The principles of good technical writing—**clarity**, **conciseness**, **directness**, etc.—are equally important to consider when using visuals. Much of what's been discussed so far about **assessing audience** and **understanding purpose** in writing also applies to using visuals. Clear visuals with appropriate context can help readers focus on key elements of your document. Visuals without appropriate context run the risk of being misunderstood; even the best-looking visual will not help if your reader doesn't understand what it is or why it is there.

Watch the following video, "**Using Graphics in Technical Documents**" by Clinton Lanier, for more information on using visuals effectively:

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=343#oembed-1

Integrating Visuals in Technical Writing Documents[5]

Graphics can take many forms—tables, charts, photographs, drawings, to name a few—but their purpose rarely varies: they should help to clarify information presented in the report. Graphics can break up a text-heavy report, making the report more visually appealing. They should work together with the text to communicate, rather than replacing the text altogether.

As you begin thinking about possible visuals to include in your document, the first step is to consider which graphics are most appropriate for the message you want to convey. The table below provides some general guidelines on the graphics most suitable to convey specific types of information.

Table 10.4: Choosing Graphics to Convey Information

Information to Convey	**Visual Type**
Numbers, percentages, categories	Tables, charts
Processes	Flow charts
Geographic data	Maps
Chronological or prioritized lists	Numbered lists
Non-chronological lists	Bulleted lists

Integrating Visuals

In general, whenever you integrate any kind of visual into your documents, you should adhere to five key rules.

1. Give each visual a **numbered caption** and **title.**
2. Refer to the caption number within the body text and discuss its content.
3. **Label all units** (x and y axes, legends, column box heads, parts of diagrams, etc.).
4. Provide the source of the data and/or visual image if you did not create it yourself.
5. Avoid distorting the data or image.

Visual elements should also be surrounded with sufficient passive space (or "white space") to emphasize the image and enhance its readability. If using someone else's image, make sure all elements are clear and the print size is readable.

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5. Based on Will Fleming "Chapter 3: Design and Visuals," in *Technical Writing at LBCC and* Katrina Peterson's "Chapter 5: Document Design," in *Technical and Professional Writing Genres: A Study in Theory and Practice*

After carefully choosing your visuals, you should work to integrate them strategically into your text. In outlining and planning phases, begin by considering the best or most appropriate locations for your visuals. Some writers find it helpful to note areas where a visual might help readers better understand data, ideas, or a concept; once a draft is complete, the writer can then return to these "markers" to help plan the placement of their visuals. Some technical communicators will create a rough sketch of their visual, while others jot down some basic information about its contents.

Guidelines for Integrating Visuals

The following guidelines will help you effectively integrate, position, and identify your visuals to maintain consistency and uniformity:

- **Keep visuals relatively simple**: include only the information needed for discussion; remove any unnecessary labels, boxes, and lines.
- **Position text horizontally**: any explanatory text for the visual should be placed horizontally with adequate white space around the visual.
- **Make sure that**:
  - **Units of measurement** are specified,
  - **Relative sizes** are clear, and
  - **Distances** are explained or indicated where appropriate.
- **Use consistent terminology and formatting for visual documentation**: once you choose a format for integrating your visuals into your text, be sure to label them consistently throughout the report, so that readers become familiar with the layout and know what to expect.

Preparing Readers for Graphics

When developing graphics, you will want to consider where they should be placed and what information should surround them. To prepare readers for the information a graphic conveys, also consider these tips:

- Explain or introduce the information/topic of the graphic in the preceding paragraph.
- For easy reference, give each visual a title.
- Make sure the information within the graphic is clear and easy to understand.
- Include a caption or follow-up text after the graphic, such as an interpretation or a final comment about the implications of the visual. If the graphic contains extensive data, you may need to tell your audience what information to focus on.
- Intersperse graphics and text on the same page. Avoid placing graphics on pages by themselves; ideally, no visual should take up more than one-third of a page unless absolutely necessary. If a graphic does not fit on the same page, indicate that it appears on the next page.

- Include identifying details within the graphics such as illustration labels, axis labels, keys, and so on.

Captions and Callouts

Captions and callouts contain information that help readers to interpret graphics. Whereas captions are short phrases or sentences that describe the graphic, callouts (or labels) are used when parts of the image need to be labeled or each part requires a longer explanation. You can learn more about how to use both of these graphics integration options below.

Writing Style for Captions

Captions for graphics should be placed immediately under the graphic; they include the title and any explanatory material. Good captions guide readers not only to see, but also to understand.

The *FranklinCovey Style Guide for Business and Technical Communication* (5th edition) provides five recommendations for caption writing style.

1. **Use interpretive captions.** Interpretive captions provide a title and explanatory information to help readers understand the message that the writer wants to convey. *Example:* "**Figure 23-Check Valve**. The risk of bad air entering the changer is near zero because the check valve permits air flow in one direction only." The caption states clearly what the writer wants the reader to learn from the drawing.
2. **Avoid short or ambiguous titles.** Make sure that you give each image a title that provides information to the reader. Specifically, you want your reader to be able to understand the purpose of the image through the title and caption.
3. **Number figures and tables.** Use the word "Figure" or "Table," and start with number 1. Place the number before the caption. *Example:* "**Figure 1-caption**."
4. **Place captions thoughtfully.** Captions can appear above or below a visual, but consistency throughout the document is critical. Choose one, know the rational for your choice, and make sure that all images are captioned in the same way.

Guidelines for Callouts

Callouts are labels placed on a graphic that help a reader to understand the parts of the image.

Here are a few guidelines for writing successful callouts:

- **Determine the number of items to identify in the image.** Depending on the complexity of the image, you may have a lot of callouts to place. Think carefully about how many callouts to use, and balance that with your understanding of your reader's knowledge level

and the purpose of your image.

- **Use the same terms on the callout as in the text.** Remember that, even if you use callouts, you need to explain the image to your readers. If you call a part a "safety valve" in the callout, make sure you also call it a safety valve in your text. This helps the reader make the appropriate connections between the image and the text.
- **Use a standard font and size for readability.** Even if you have a lot of callouts to place, you should make sure that the font is large enough and clear enough that readers can clearly see the text.
- **Place callouts next to the elements in the graphic they identify, using a line to connect the two, if necessary.** Make sure that your readers can understand exactly which part of the image your callout is meant to identify. This can be especially important in highly technical drawings or diagrams.

The following graphic (**Figure 10.1**) adopts a consistent visual style in the way that it identifies the parts of a locomotive (a relatively complex machine). Labels are placed directly next to the graphic, connected by lines. The title is placed above rather than below the visual for easy differentiation from the callouts.

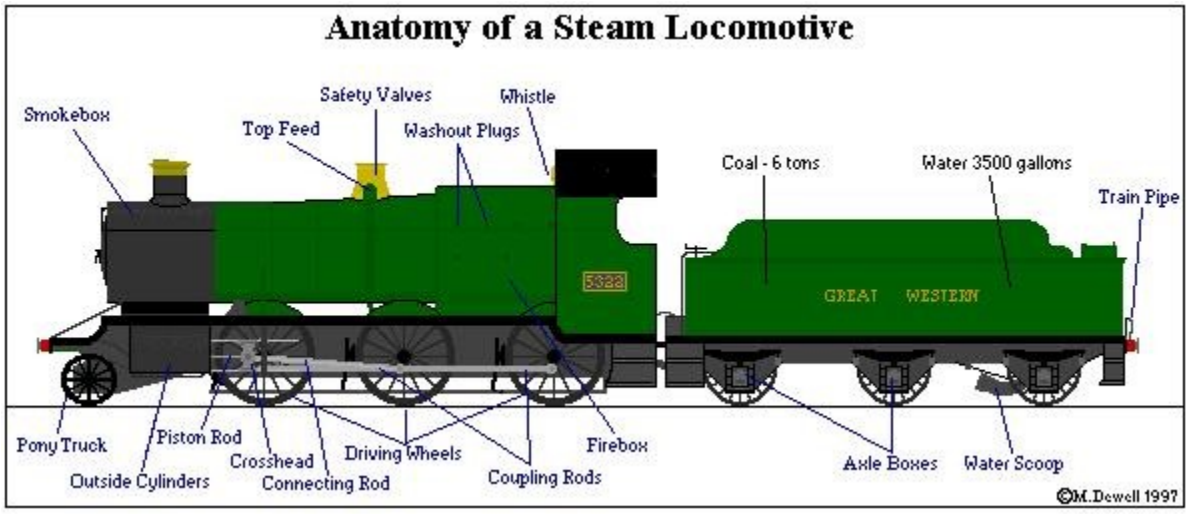

Figure 10.1: Locomotive graphic with a label and additional callouts.

Conclusion

This chapter should give you a clear sense of how to create a report that thinks carefully about audience, purpose, and context. Being able to tailor researched information for such audiences is a skill that will serve you well, both during your time in college and once you join a workplace. Thinking about how to utilize research is

a common technical communication problem, so practicing now will give you an opportunity to understand the process of problem-solving in the field.

Once you have completed your problem primer, you and your groupmates will reconvene, share your research, and decide how to move forward on a collaborative grant proposal.

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PROJECT 4: COLLABORATIVE GRANT PROPOSAL

Kat Gray

Project 4 Assignment Sheet

The purpose of this project is to develop a collaborative grant proposal and remix your work for a public community audience. When you have completed your Problem Primers, you will work together as a group to propose a solution to the UArk Cares Foundation. Once you review one another's findings, you will decide on one project to propose and write a detailed plan for this project. You will also remix this research for a community audience – the same community to which you spoke for project 3. The revised draft of your grant proposal should be 7-9 pages double-spaced, or around 1800-2200 words.

Completion Requirements:

- Collaborative grant proposal (1800-2200 words)
- Multimodal research remix
- Project transmittal letter

Project Steps

To begin this project, you will review your findings from Project 3. Together, you and your group will decide on a specific problem for which to propose a solution, using the UArk Cares Foundation Community Improvement Grant as a way to generate ideas. You will collaborate on two ways to present your research: a grant proposal to a granting foundation, and a multimodal remix of your research for a community audience.

Design Memos

At the end of Weeks 11 and 12, you will co-write Design Memos, which update your instructor on the progress of your project and describe how you are designing your project for a specific rhetorical situation. You may also use these memos to describe any questions or problems you are having as you work through your project.

During Weeks 12, 13, and 14, you will work on drafting and revising the two major components of your project: the Collaborative Grant Proposal and the Multimodal Remix, described below.

Collaborative Grant Proposal

The Collaborative Grant Proposal should propose a community project that addresses the problem you researched during Project 3. This document communicates the results of your research to your audience in support of a specific plan to address your problem – one that aligns with community needs. The completed report should be 7-10 pages.

Multimodal Remix

During Week 13, you and your group will compose a multimodal remix of your Collaborative Grant Proposal for an audience of relevant community members. As a remix, your work should be reformatted, revised, and reimagined for a new audience and purpose. The multimodal remix will include the use of different modes, including sound and images, in addition to written text. For example, you might transform your grant proposal into a public service announcement about a problem, or you might repurpose the literature review of your grant proposal into an informative social media carousel. You will discuss the process of writing and designing your multimodal remix in the transmittal letter due during Week 14.

Transmittal Letter

Finally, during Week 14, you and your group will revise your drafts based on feedback from your instructor and peers. You will create a transmittal letter for your project that explains your group's goals, choices, and writing and revision processes. This letter will accompany the final draft of Project 4.

Content and Design Tips

For help understanding this assignment and what types of content you might create for it, please visit the following resources:

- Chapter 11: Create a Grant Proposal
- Chapter 12: Remix Research for a Public Audience
- Chapter 13: Write a Transmittal Letter

Please upload your grant proposal as a single pdf file. Every submission should include:

- Name and contact information
- Transmittal letter
  - Explains your group's process and goals for your grant proposal
  - Explains your group's process of creating your research remix and making decisions about how to communicate with a public audience
  - Details feedback received and revisions made
- Project description
  - Introduction
  - Purpose
  - Community stakeholders
  - Funding request and plans for use
  - Anticipated outcomes
- Budget for project
- References
- Relevant appendices
  - Research remix
- Resume/CV of grant applicant(s)

Due Dates

Project Due Dates

Project Stage	**Due**
Group Research Design	[WEEK 10]
Design Memos x2	[WEEK 11, WEEK 12]
Proposal Draft	[WEEK 12-13]
Multimodal Remix Draft	[WEEK 13]
Peer Review	[WEEK 14]
Final Draft with Transmittal Letter	[WEEK 14]

Final Submission Checklist

[Give instructions to students on how to format their assignments here.]

- Collaborative Grant Proposal
- Multimodal Remix Draft

- Transmittal Letter

CHAPTER 11: CREATE A GRANT PROPOSAL

Kat Gray; Allison Gross; Annemarie Hamlin; Billy Merck; Chris Rubio; Michele DeSilva; and Suzan Last

Introduction[1]

In a technical writing course, a proposal assignment is an opportunity for you to present an idea to a specific, named audience (in this case, the UArk Cares Foundation) about an idea you have to solve a problem or improve an experience. Whatever topic you choose, you must be able to conduct thorough research and integrate it into your final proposal.

To begin planning a proposal, remember the basic definition: a proposal is an offer or bid to complete a project for someone. Proposals may contain other elements—technical background, recommendations, results of surveys, information about feasibility, and so on. But what makes a proposal a proposal is that *it asks the audience to approve, fund, or grant permission to do the proposed project*. Think about what sorts of information your audience will need in order to feel confident having your complete the project.

In this chapter, you will learn about how to create a collaborative grant proposal. In the first section of the chapter, you will learn what proposals are, and how you can plan a proposal with your rhetorical situation in mind. Additionally, you will learn proposal genre conventions and the parts you are required to include in your fourth project. In the second section of the chapter, you will learn about collaborative writing projects, including a workflow or process for collaborative writing, conflict management tips, and documents and tools that will help you to manage the work of a group project. Finally, the chapter briefly outlines the second type of progress report you will be asked to write in this class: the design memo.

Writing a Proposal[2]

To understand how to write your grant proposal, you will first want to have a good understanding of what

1. Based on Annemarie Hamlin, Chris Rubio, and Michele DeSilva, "Chapter 3.1: Some Preliminaries," in *Technical Writing*.

2. Based on Suzan Last's "Chapter 7.2: Proposals," in *Technical Writing Essentials.*

types of documents proposals are, and how they function rhetorically. Once you have this information, you will learn about the parts your group should include in your proposal for project 4.

What are Proposals and What Do They Do?

Proposals attempt to persuade the reader to accept the writer's proposed idea. The writer tries to convince the reader that the proposed plan or project is worth doing (worth the time, energy, and expense necessary to implement or see through), that the author represents the best candidate for implementing the idea, and that it will result in tangible benefits for all stakeholders.

Proposals are often written in response to a **Request For Proposals** (RFP) by a government agency, organization, or company[3]. The requesting body receives multiple proposals responding to their request, reviews the submitted proposals, and chooses the best one(s) to go forward. Their evaluation of the submitted proposals is often based on a rubric that grades various elements of the proposals. Thus, your proposal must **persuade** the reader that your idea is the one most worth pursuing. These might include proposals to:

- Perform a task (such as conducting a feasibility study, a research project, *etc.*)
- Provide a product
- Provide a service

To do this rhetorical work, proposals must be convincing, logical, and credible. Next, you'll learn about how to incorporate your understanding of the rhetorical situation (audience, purpose, and context) into proposal writing.

The Rhetoric of Proposals[4]

Technical writing is a highly rhetorical practice – that is, every technical writer must write with the audience, purpose, and context of a particular document in mind. Because of the way technical writing audiences interact with documents, it is critical to know both their needs and your own purpose.

To consider the rhetorical situation, we will focus on three primary areas: **audience** (the people who will

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3. For this project, you will respond to the UArk Cares Community Foundation Grant RFP, located here.

4. Based on Will Fleming's "Chapter 7.3: Proposals," in *Technical Writing at LBCC*, Annemarie Hamlin, Chris Rubio, and Michele DeSilva's "Chapter 3.6: Proposals and Audience," in *Technical Writing*, and Staci Bettes' "Chapter 9.3: Proposal Purpose and Audience," in *Technical and Professional Writing Genres*.

read or interact with your document); **purpose** (the reason you are creating the document); and **context** (the situation in which the document will be used). Thinking carefully about these elements gives you a firm foundation from which to begin writing your proposal.

The questions below will help you to articulate the rhetorical situation for your documents:

- **Audience.** Define who your reader is, and sketch out some of their qualities before you start drafting. If your readers are preteens, for example, you'll create a different kind of recipe than if you wrote for adults. Knowing who your readers are will help you effectively persuade the reader to approve your proposed project and guide to you shape the type of information you include in your proposal. Ask yourself:
    - *Who is your reader?*: Your reader should be someone with decision-making authority over your problem – an action-taker in a community, organization, business, or agency.
    - *What type of reader are they?:* Are they experts, technicians, executives, non-specialists, etc.?
    - *What is their knowledge of the topic?:* What are the readers' needs and interests? What will persuade them to approve your proposed idea?
- **Purpose.** Knowing your purpose means having a clear understanding of *all* the reasons you are writing. That is, technical writing documents usually have a primary purpose – perhaps to help a customer put together a flat-pack bookshelf. But they may also have one or more secondary purposes, like maintaining a good relationship with customers by providing clear, effective assembly instructions. Make notes on the following:
    - *What is the primary reason you are creating this document?:* Often, technical writers want to inform, teach, or help a reader accomplish a task. However, your primary aim might also be to sell an item or to persuade someone to fund your project.
    - *What are the secondary reasons for creating this document?:* Do you want to show customers that you are taking a problem seriously? Do you want to show your organization is an industry leader by publishing work on a cutting-edge technology that none of your competitors have researched?
    - *Why are your users interacting with this document?:* Do your users need to learn something? Do they need to complete a task? Do they need to make a decision? Be as specific as possible about why they are using your document.
- **Context.** You should have a clear understanding of the situation in which your work will be used. The context is the situation *in the world* in which your document will be utilized for a particular purpose. Understanding the context can often help you understand critical design elements – for example, if you are creating a set of life jacket instructions to go on a boat, you might want to laminate them to prevent them from being damaged by water. You will need to understand:
    - *How and when will your document be used?:* Under what circumstances will users use this document? For example, users might use an air compressor for a flat tire under fairly stressful circumstances, so any instructions will need to take that into consideration to be effective.
    - *What challenges could a user encounter with your document?:* Here, you might especially think

about the physical design of a document. Will a small booklet get lost? Will a large, fold-out poster take up too much space in a small office?

- *How can you make sure your document is accessible to its audience?:* In short, how can you make sure that the people who need the information in your document both a) get that information, and b) can understand it clearly?

Parts of a Proposal[5]

Proposals are common technical writing documents and, as such, have fairly solidified genre conventions. That is, most documents called "proposals" have the same characteristics – they are divided into the same sections, and they have similar visual design. The particulars of a proposal will vary depending on the circumstance. An organization you work for might have a template you are asked to use for a proposal. A request for proposals might specify which sections you should contain in your proposal. Or, you might have to determine for yourself which sections are most appropriate for your project.

The sections below present a brief overview of the required sections for Project 4. You should check with your instructor for more specific information about what to include in your proposal.

Title Page

You should design a title page for your grant proposal that includes, at minimum, the title of your grant proposal, the name and contact information of each group member, and the date you are submitting the document. As with your problem primer, the title page of your report is an opportunity for you to use document design to emphasize your message. Consider visuals, fonts, and the placement of the required elements as a way to effectively prepare your audience to engage with your proposal.

Transmittal Letter

The transmittal letter is a subgenre of professional correspondence that often accompanies a proposal being sent to an outside organization, such as a granting organization, another company, or a government office. In general, a transmittal letter briefly explains the purposes and goals of your grant proposal and orients the reader to the contents of your submitted package of documents. In the transmittal letter for Project 4, you will also account for your group's work process and detail the feedback received and revisions made.

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5. Based on Suzan Last's "Chapter 7.2: Proposals," in *Technical Writing* Essentials and Staci Bettes' "Chapter 9.4/9.5: Common Proposal Sections and Project-Specific Sections," in *Technical and Professional Writing Genres*

You can read more about the transmittal letter in Chapter 13.

Introduction

The introduction of your proposal is an opportunity to engage your audience with your topic and prepare them for what is ahead in the document. Remember that the objective of this grant proposal is to convince the UArk Cares Foundation to fund your project, so the introduction of your project is a space to make a good first impression. You should also try to engage your readers: get their attention with an interesting story, surprising statistic, or a question you want the reader to think about.

Your introduction section should also include a problem description. You should explain to your reader what brought about the need for the project—introduce, then state and discuss the problem, including what the basic situation is and what opportunities exist for improving things. It is helpful to cover the 5 Ws of the problem (*who, what, where, when*, and *why*).

You may also want to include background information on the problem. Some proposal audiences may understand the problem very well, but the background information allows you to focus the audience on your particular view of the problem. You might describe the causes of the problems, previous solutions to the problem, and the consequences—both short and long term—of leaving the situation unaddressed. Giving the background of the problem helps convince the audience that the problem or opportunity exists, has urgency, and should be addressed in a timely manner.

Stakeholder/Client Analysis

Describe the stakeholders or clients for the project – the people who will be most affected by the solution you offer in your document. You may need to discuss for whom the proposal is designed in some detail. Be prepared to pull on information from your community profile and problem primer as necessary.

Solution, Budget, and Schedule

You will need to include a section that focuses on the specific solution you would like the UArk Cares Foundation to fund. In most proposals, you will need to explain the process for completing the proposed work. This acts as an additional persuasive element; it shows the audience you have a sound, thoughtful approach to the project. You might also describe how the solution will function in day-to-day operation for the stakeholders, audience members, and involved organizations.

This proposal should also contain details about the costs of the project. You will need to think about the costs of equipment and supplies, the hourly rates of workers you may need for the project, and their project hours.

You may have to do extra research to find out the specific costs of your project, but the more specific you can be, the more persuasive your proposal. Remember to stay within the call for proposals limit of $25,000 per project.

Finally, this section should include a project schedule that shows not only the projected completion date but also key milestones for the project. If you are doing a project over an extended amount of time, the timeline should also show dates on which you will deliver progress reports. It may be helpful to *back plan* your schedule—work backwards from your due date to set important deadlines. If you cannot cite specific dates, estimate amounts of time for each phase of the project.

You can use your problem primer and pilot study research to help you fill out information in this section, but you should adapt this material to fit with the requirements and specific rhetorical situation of Project 4.

Conclusion: Anticipated Outcomes

You should also discuss the advantages or benefits of completing the proposed project. Showing the meaningful benefits of your proposal is an argument in favor of approving the project. Be sure to show that your solution will result in substantial benefits for the community stakeholders and the granting organization. Some proposals discuss the likelihood of the project's success. Your stated benefits should appeal to the reader's wants, needs, and values.

The final paragraph of the proposal should bring readers back to focus on the positive aspects of the project. You can close by telling the reader how they can contact you to work out the details, reminding them of the benefits of doing the project, and making one last argument for you or your organization as the right choice for the project.

References

The references (or works cited, or bibliography) page details all source information you used in your proposal. You should format this page according to the citation style you and your group have chosen for the proposal. You should list any sources that you quote, paraphrase, or summarize.

Appendices

Appendices contain information that may be interesting to the reader, but which are not completely necessary to understand the main idea of the proposal. They may include the full text of your survey questions and responses, tables of data, a list of your interview questions, or other information that helped shape the project.

Appendices are usually labeled with letters (Appendix A, Appendix B, etc.) and are the last components of the document.

For this project, you will have at least 2 appendices:

- Appendix 1: Resume/CV for grant applicants
- Appendix 2: Research remix

You and your group can add other appendices as needed.

Proposal Samples

The following proposal samples come from David McMurrey's *Online Technical Writing* textbook:

- **Proposal 1: Elementary School Garden**
- **Proposal 2: Nursing Staff Handbook**
- **Proposal 3: Student Guide for Solving Engineering Mechanics Problems**

Collaborative Writing

For your grant proposal, you will write collaboratively. It's important to have experience creating technical writing with a group since this is often how such documents are created in a professional workplace. That is, rarely does one person create a document (for example, a car's user manual); rather, teams work together to decide what content is needed, how to organize that content, and how to design the document that will contain it.

Collaborative writing can be challenging, and many of us aren't used to doing it. This section focuses on how collaborative writing works and how to build the skills necessary for group work. You will find special emphasis on project management tools and conflict management strategies.

What is Collaborative Writing?[6]

Put simply, collaborative writing is *the act of writing together*. The main goal of collaborative writing is to produce the best possible work by including the ideas and skill sets of multiple writers. Collaborative technical writing entails the collaborative efforts of a group of people to write documentation, produce images, provide subtext, and more, in an effort to bring a project to completion. Members can work in spaces that are face-to-face or virtual.

Teamwork is a key component of almost any workplace, but it is essential in fields or professional environments where you often find yourself working as part of a team on large projects. Imagine for a moment how many people must work together to design a product like the video game *Minecraft* (see the list of Credits for the team at Mojang Studios). For teamwork to be effective, all members of the team must understand and share the goals of the project, and all members must fully understand their roles, including what is expected of them and how they will be held accountable. An effective team leader or project manager will make sure that goals and roles are fully understood by all team members.

In *Designing Engineers*, Susan McCahan et al. (2015) define a team as "a group of people who come together to work in an interrelated manner towards a common goal." In order to work effectively, team members need to communicate clearly and constructively, and learn how to deal with the conflicts that will inevitably arise. In other words, team members see themselves as part of a collective working towards a common goal.

Collaborative Writing Processes[7]

Working as a team to write a document usually means that each individual writes less content. However, to create a coherent document written in one voice, teams must plan carefully and revise thoughtfully. Like any kind of teamwork, collaborative writing requires the entire team to be focused on a common objective. According to Lowry et al. (2004), an effective team "negotiates, coordinates, and communicates during the creation of a common document." The collaborative writing process is iterative and social, meaning the team works together and moves back and forth between tasks and roles throughout the process.

Successful collaborative writing is made easier when you understand the collaborative writing strategies you

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6. Based on Matt McKinney, Kalani Pattison, Sarah LeMire, Kathy Anders, and Nicole Hagstrom-Schmidt, "Chapter 13: Team Project Management Tools and Strategies," in *Howdy or Hello? Technical and Professional Communication*.

7. Based on Matt McKinney, Kalani Pattison, Sarah LeMire, Kathy Anders, and Nicole Hagstrom-Schmidt, "Chapter 13: Collaborative Writing Processes," in *Howdy or Hello? Technical and Professional Communication*.

can apply, the best ways to manage a document undergoing revisions, and the different roles people can assume. **Figure 11.1** outlines the activities involved with the various stages of the collaborative writing process.

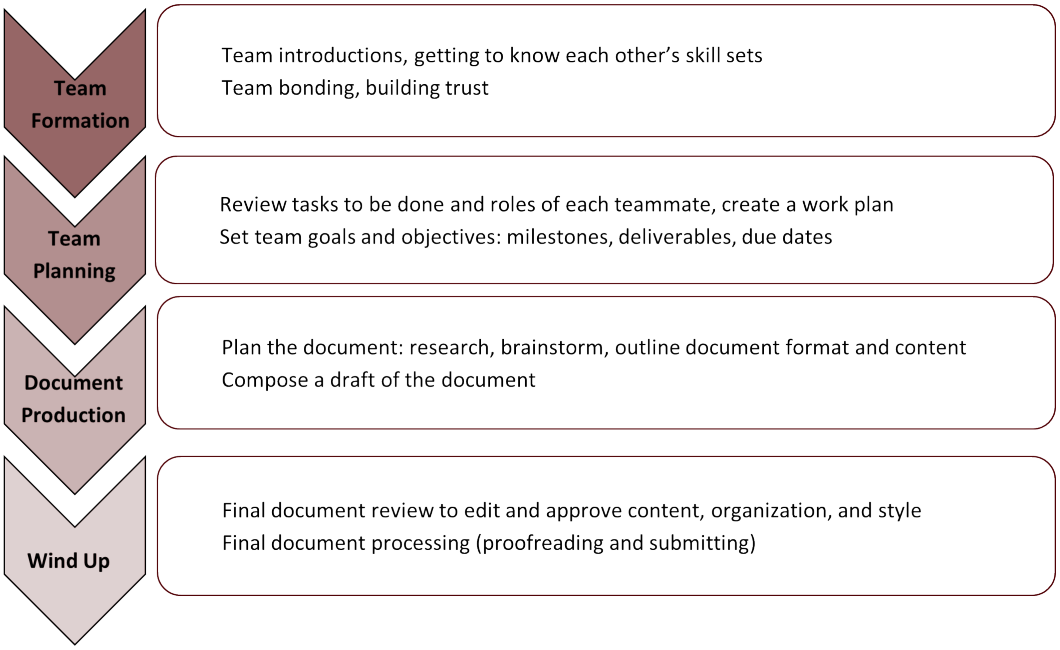

Figure 11.1: Four stages of collaborative writing

Collaborative writing strategies are methods a team uses to coordinate the writing of a collaborative document. There are five main strategies: single-author; sequential; parallel writing: horizontal division; parallel writing: stratified division; and reactive writing. Each strategy has its advantages and disadvantages. Effective teams tend to use a combination of collaborative writing strategies for different points of the project. When planning to switch between writing strategies, it is important to make sure the team is communicating clearly regarding which strategy will be used for which task. See **Table 11.1** (adapted from Last and Neveu, 2019) for a detailed breakdown of these strategies, their advantages, and disadvantages.

Table 11.1: Collaborative Writing Strategies

Writing Strategy	When to Use	Pros	Cons
Single Author One member writes for the entire group.	For simple tasks; when little buy-in is needed; for small groups	Efficient; consistent style	May not clearly represent group's intentions; less consensus produced
Sequential Each member is in charge of writing a specific part and writes in sequence.	For asynchronous work with poor coordination; when it's hard to meet often; for straightforward writing tasks; small groups	Easy to organize; simplifies planning	Can lose sense of group; subsequent writers may invalidate previous work; lack of consensus; version control issues
Parallel Writing: Horizontal Division Members are in charge of writing a specific part but write in parallel. Segments are distributed randomly.	When high volume of rapid output is needed; when software can support this strategy; for easily segmented, mildly complex writing tasks; for groups with good structure and coordination; small to large groups	Efficient; high volume of output	Redundant work can be produced; stylistic differences; doesn't recognize individual talents well
Parallel Writing: Stratified Division Members are in charge of writing a specific part but write in parallel. Segments are distributed based on talents or skills.	For high volume, rapid output; with supporting software; for complicated, difficult-to-segment tasks; when people have different talents/skills; for groups with good structure and coordination; small to large groups	Efficient; high volume of quality output; better use of individual talent	Redundant work can be produced; stylistic differences; potential information overload
Reactive Writing Members create a document in real time, while others review, react, and adjust to each other's changes and additions without much preplanning or explicit coordination.	Small groups; high levels of creativity; high levels of consensus on process and content	Can build creativity and consensus	Very hard to coordinate; version control issues

Document management reflects the approaches used to maintain version control of the document and describe who is responsible for it. Four main control modes (centralized, relay, independent, and shared) are listed in **Table 11.2**, along with their pros and cons.

Table 11.2: Document Management Strategies

Mode	Description	Pros	Cons
Centralized	When one person controls the document throughout the process	Can be useful for maintaining group focus and when working toward a strict deadline	Non-controlling members may feel a lack of ownership or control of what goes into the document
Relay	When one person at a time is in charge but the control changes in the group	Democratic	Less efficient
Independent	When one person maintains control of their assigned portion	Useful for remote teams working on distinct parts	Often requires an editor to pull it together; can reflect a group that lacks agreement
Shared	When everyone has simultaneous and equal privileges	Can be highly effective; non-threatening; good for groups working face to face, who meet frequently, who have high levels of trust	Can lead to conflict, especially in remote or less functional groups

Roles refer to the different duties participants might undertake, depending on the activity. In addition to whatever roles and responsibilities that individual team members performed throughout other stages of the project, the actual stages of composing and revising the document may require writing-specific roles. **Table 11.3** describes several roles within a collaborative writing team. Members of small teams must fill multiple roles when prewriting, drafting, and revising a document collaboratively.

Table 11.3: Collaborative Writing Team Roles

Role	***Description***
Writer	A person who is responsible for writing a portion of the content
Consultant	A person external to the project and who has no ownership or responsibility for producing content, but who offers content and process-related feedback (peer reviewers outside the team; instructor)
Editor	A person who is responsible for the overall content production of the writer, and can make both style and content changes; typically has ownership of the content production
Reviewer	A person, internal or external, who provides specific content feedback but is not responsible for making changes
Project Manager	A person who is part of the team and may fully participate in authoring and reviewing the content, but who also leads the team through the processes, planning, rewarding, and motivating
Facilitator	A person external to the team who leads the team through processes but doesn't give content related feedback

Conflict Management[8]

Whenever people work together in teams, conflicts are bound to arise – *and this is okay*. Some conflict, if managed effectively, can be productive and lead to unexpected innovations. Poorly managed conflict, however, can be detrimental, and can even derail a team and the project entirely.

Often, conflict arises from confusion over team members' roles and team goals. For example, if one team member's goal is to get an A+ on the project, and another's is to simply pass, their goals are misaligned, and this will show in work ethic and commitment to the project. If team members do not share the same goals, or if members are unsure of what their role is in the team, this can lead to anxiety, confusion, or even anger. This in turn can cause unproductive behaviors like *isolating* (breaking away from the team and just doing work on your own), *hijacking* (taking over the project without consulting with the team), or *hitchhiking* (just coming along for the ride, but not contributing).

The first strategy for dealing with team conflict is to develop systems that help to *prevent* conflict where possible. You can do this by creating clear team guidelines and expectations. Creating a Team Charter can help you define team goals, expectations for equitable contribution, and procedures for communicating and producing work. You can also define problem-solving approaches that your team will use when conflicts arise.

Even with these preventative measures, however, conflict is bound to come up. So you need to have some strategies for managing it effectively when it does arise. Here is a list of some approaches to keep in your tool box:

1. **Acknowledge and value differences.** Recognize your team members' various strengths and weaknesses. Play to your team's strengths, while acknowledging and trying to improve on your weaknesses.
2. **Value compromises.** Don't get side-tracked by minor differences of opinion or approach that don't have a significant effect on the project. Be willing to make some compromises for the good of the team and the project.
3. **Advocate for yourself and your ideas.** Keep in mind that compromise does not always lead to the best solution. Be a strong, but diplomatic advocate for what you think is the best approach. Persuade, but don't bully.
4. **Don't ignore problems or conflicts.** Communicate issues quickly and directly with the whole team. Don't "silo" (break up into smaller teams of *us* vs. *them*).
5. **Focus on *interests* over *positions*.** That is, focus on the best interests of the team rather than "your

8. Based on Suzan Last's "Chapter 4.4: Managing Team Conflict," in *Technical Writing Essentials.*

position" vs. "my position." Try using a debate or a pros and cons discussion to talk through ideas in a structured way.

6. **Separate the people from the problem.** Avoid the "blame game" – don't dwell on past actions and consequences. Focus on coming up with solutions that benefit the whole team and allow you to complete your project.

Above all, when you communicate with your group members, you should practice *generous interpretation* with your team members. Ellen Carillo (2018) describes generous reading as "an offering of kindness from reader to writer." When we read and interpret generously, we go beyond "remaining open" to the message; we commit to kindness as a way to "engage in more productive dialogue across political and related divides" (Carillo, 2018). Interpreting your classmates generously is a way to work through differences and conflicts with an understanding that you are, in this case, working towards a common goal.

If your conflict management strategies are not working as well as you'd like, consult with your instructor for additional support – ***before*** it's too late to solve the problem. Your instructor will have additional "managerial" tools to help deal with the problem that are not necessarily available to you as students.

Documents and Tools for Collaborative Writing[9]

Though group work can be challenging, there are a wide variety of strategies for managing that work, and it is to those strategies we now turn. Below, you will learn about tools that teams can use to improve their functioning and productivity. The following list provides a number of examples – you can also use the links in this list to download blank templates of each document for use during your group projects.

- **Team Charter:** Identifies rules and expectations agreed upon by the team, as well as individual member roles.
- **Meeting-Related Documents**
  - **Meeting Agenda:** Outlines main points for discussion at a meeting.
  - **Meeting Minutes:** Records decisions and relevant discussion points for a meeting.
- **Work Log:** Records the tasks and time spent for each team member.
- **GanttChart or TaskSchedule:** Breaks down tasks and their estimated duration over the work period.

9. Based on Matt McKinney, Kalani Pattison, Sarah LeMire, Kathy Anders, and Nicole Hagstrom-Schmidt, "Chapter 13: Documents and Tools to Improve Team Effectiveness," and "Chapter 18: Designing and Formatting Proposals," in *Howdy or Hello? Technical and Professional Communication*.

Team Charter

While all members of a project team may be working toward the same goals, they may have different visions of what a successful and productive team dynamic looks like. Each member also knows their schedules, strengths, and weaknesses better than the others. Further still, it is impossible to predict what difficulties may emerge as the team works toward their project goals.

Composing a team charter (sometimes called a group contract) is an effective strategy for addressing potential obstacles to group harmony and goal fulfillment. This is because a well-crafted team charter ensures that every team member articulates and negotiates their expectations with the group from the beginning.

A comprehensive yet adaptable team charter should be drafted and agreed upon by all members, and should address the following concerns:

- **Member roles and responsibilities.** These should be clearly defined, with some flexibility to avoid an overly rigid hierarchy (such as members alternating secretarial and management roles).
- **Group member expectations.** These are expectations both in completing the work and engaging in discussion on the project. There should also be discussion of consequences for failing to meet expectations, as it is best to determine consequences before something negative occurs.
- **Procedures for conflict resolution and amending the charter.** These procedures could include protocol for addressing disagreements and dealing with a member who disappears.
- **A work schedule or task schedule and timeline.** This should cover when members are and are not available, deadlines for different project components, and when/how often group members are expected to meet.
- **Division of labor on project deliverables.** These details include who will work on presentation visuals, what sections of a written report will be drafted by whom, and how the editing and revising will occur. These tasks should be clearly articulated and fairly distributed.

Meeting-Related Documents

A meeting is a group communication around a defined agenda, at a set time, for an established duration. Meetings can occur face-to-face, but increasingly business and industry are turning to teleconferencing and videoconferencing options. For instance, during the COVID-19 outbreak of 2020-2021, nearly all meetings went virtual. You should choose the meeting method that works best for all group members – you may have to compromise here to find a way for everyone to meet.

Meeting Agenda

Regardless of how you come together as a team, group, or committee, you will need to define your purpose in advance with an agenda. The agenda is the plan for what you want to discuss and accomplish at the meeting. It is usually made up of a list of items, sometimes with a time frame for each item. A meeting also should have a chair (the person who keeps things on track) and a recorder (who records what happens and what decisions are made).

The main parts of an agenda for a standard meeting are listed in **Table 11.4**, below.

Table 11.4: Meeting Agenda Elements

Term	Definition
Title Header	Title, time, date, location, phone number, email contact, and any other information necessary to get all participants together.
Participants	Expected participants
Subject Line	Purpose statement
Call to Order	Who will call the meeting to order?
Introductions	If everyone is new, this is optional. If even one person is new, everyone should briefly introduce themselves with their name and respective roles.
Roll Call	A group recorder reviews who is in attendance at the meeting. This may quietly take place while introductions are made.
Reading of the Minutes	Notes from the last meeting are read (if applicable) with an opportunity to correct. These are often sent out before the meeting so participants have the opportunity to review them and note any needed corrections.
Old Business	List any unresolved issues from last time or issues that were "tabled," or left until this meeting.
New Business	This is a list of items for discussion and action.
Reports	This is optional and applies if there are subcommittees or groups working on specific, individual action items that require reports to the group or committee.
Adjournment	This is the official conclusion of the meeting. Note time, date, and place and indicate when the next meeting is scheduled.

For maximum effectiveness, agendas need to be distributed to all participants before the meeting, with enough time for people to respond and add items that they feel are necessary. Even if agendas aren't required in less formal team settings, they are often a good idea to implement, as they help make sure that meetings are productive. See **Table 11.5** for a sample meeting agenda.

Table 11.5: Sample agenda.

ENGL 210 Team Meeting Agenda
Date: Place and Time: Members:
• Updates from each team member (progress) (5 min each) • Develop work plan for upcoming week (15 min) • Determine next week meeting time (5 min) • Work on Milestone 3 together (45 min) • Matters arising

Meeting Minutes

Minutes record what decisions were made and what important topics were discussed in a meeting. One person is responsible for recording the events of the meeting and distributing the minutes to each member, usually via email or a shared cloud folder. That way, no one should forget what tasks they agreed to complete and when. Minutes help projects stay on task. For instance, when all team members have a record of key decisions and discussion points, they do not need to repeat the same discussions at future meetings. In another example, if team members volunteer for a specific task during a meeting, creating and distributing minutes helps everyone involved remember what they are supposed to do. **Table 11.6** contains an example of meeting minutes.

Table 11.6. Sample minutes

ENGL 210 Team Meeting Minutes

Thursday Feb. 15, 2016

Cle A035, 3:30-4:45Present: Jamie, Chris, Renee

Regrets: Joe is absent

- All team members have completed last week's work plan (Joe emailed a report but is out today)
- In the coming week, we plan to complete the following:

Task	Who will do it?
1. Interview Facilities Management contact	Renee
2. Research bike share programs	(Joe?)
3. Design a survey/questionnaire	Chris
4. Do a site visit	Jamie

- Next meeting: next Thursday Feb 21, after class
- Excellent progress during meeting; Joe will follow up on researching bike share programs.
- Meeting adjourned 4:50

Strategies for Effective Meetings

To promote an efficient, effective group meeting, keep the following strategies in mind:

- Schedule meetings in Teams, Google Calendar, or a similar program so that every team member receives a meeting reminder.
- Send out the agenda for the current meeting in advance.
- Send out reminders for the meeting the day before the meeting.
- Start and end your meetings on time.
- Assign someone to take notes that can be converted into minutes. Distribute minutes soon after the meeting.
- Refer to the meeting agenda to reinforce time-frames and tasks.

- If you are the chair, or leader, of a meeting, keep the discussion on track. Don't hesitate to restate a point or ask a question to redirect the attention to the agenda points.
- Communicate your respect and appreciate for everyone's time and effort.
- Clearly communicate the time, date, and location for the next meeting.

It may also be useful to consult a source like *Robert's Rules of Order* to learn more about parliamentary procedure. Parliamentary procedure is a set of rules and procedures that organizations and groups can use to run meetings and make decisions.

Work Log

A work log is a common document used in the workplace to keep track of what work is done, by whom, and how long it took. A work log is helpful for keeping a team on track and ensuring equitable workloads. To ensure accountability, have each team member sign off on the work log. See **Table 11.7** for an example of a work log.

Table 11.7: Sample work log

Work Log

Date	Task Description	Assigned to	Status / Date Completed	Total Time Spent

Team signatures:

Name: _____

Name: _____

Name: _____

Name: _____

Task Schedules and Gantt Charts

There are several different types of timelines or schedules that can be used to map out a project schedule. The simplest are lists of dates and deadlines. More complex projects, in which tasks vary in duration and must be worked on simultaneously or depending on the completion of other tasks, may benefit more from a Gantt chart.

Task Schedule

A task schedule allows team members to plan tasks and their subtasks, as well as distribute responsibilities. Task schedules are often merely tables or checklists. Similar to work logs, task schedules also provide a way of marking when tasks are finished and of keeping track individuals' various levels of contribution. This schedule should include all research and writing tasks for a project and might have overlapping due dates for subtasks.

For instance, take a look at **Table 11.8**, which provides a sample task schedule. This section breaks down conducting a survey into various subtasks and identifies which team member will complete each subtask. Note that this task schedule identifies numerical weights for each task. These contribution values indicate the relative difficulty, complexity, and time consumption of each task. The task schedule is meant to be a living document that keeps every team member on the same page regarding internal deadlines, the responsibilities of team members, and how far the project has progressed.

Table 11.8: Sample Task Schedule

Due Date	Task	Team Member	Contribution Weight	Status
10/2	Create survey questions.	Mark	4	Done
10/3	Test survey.	Brian and Mark	2	Done
10/4	Revise and proofread survey.	Cathy	1	Done
10/5	Distribute survey.	Sarah	3	In progress
10/18	Close survey and collate answers.	Sarah and Brian	4	
10/20	Analyze answers and synthesize with other research results.	Cathy	3	

Gantt Chart

Gantt charts are another way of visually depicting task timelines within a project. They are created using tables. Typically, the columns represent units of time such as weeks, days, or even months, depending on the duration of the project. Each row represents a specific task or sub-task, presented in order of anticipated completion. Complex Gantt charts may also depict subtasks within other tasks, as well as how tasks are dependent on each other.

Gantt charts are useful tools when planning complex and interdependent tasks. They are also useful for breaking larger tasks into subtasks. More complex Gantt charts may indicate a team member's task responsibility and other details. Gantt charts may be created by using Excel or Google Sheets, by using the table

creation option in a word processor, or by using programs and software specifically intended for creating Gantt charts.

Consider the following simple example of a Gantt chart in **Figure 11.2**, which gives the steps in planning an international trip. The length of the tasks in weeks has been determined by factors such as the average time for passport renewal. This chart presents a relatively simple outline of tasks. For instance, the task of buying airline tickets could be broken into multiple steps or subtasks, including looking at specific websites, trying different days and nearby airports, and so on.

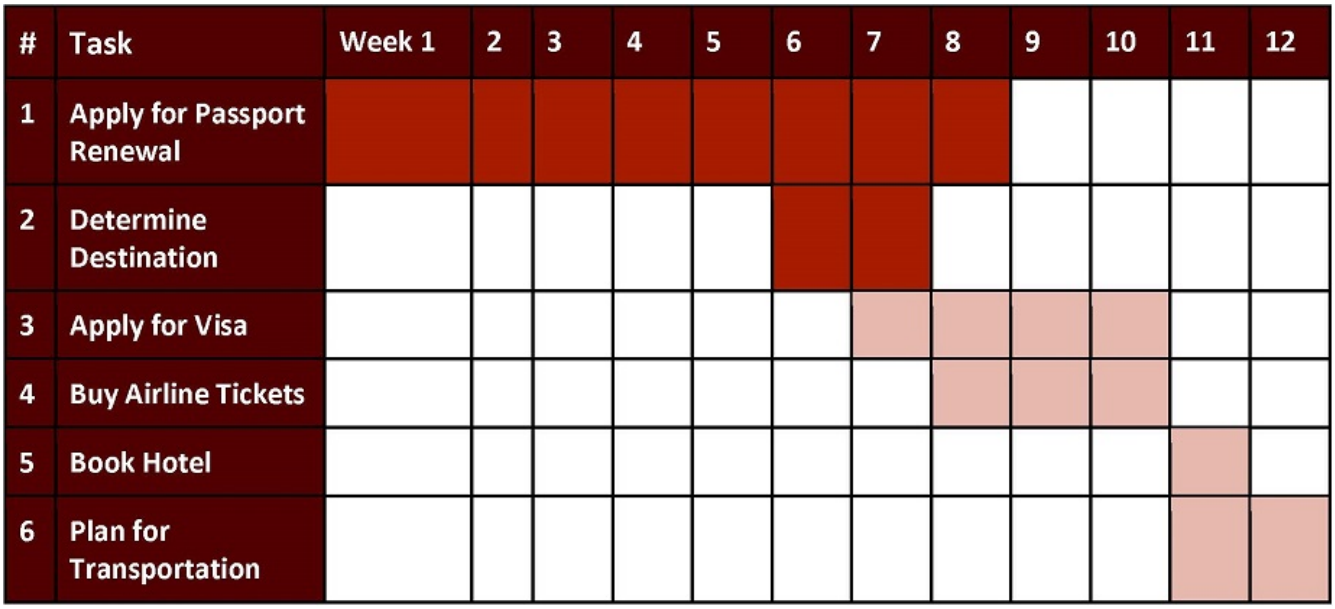

Figure 11.2: Gantt chart for planning an international trip. (Alternative PDF version: Figure 11.4.)

Note: Darker cells indicate completed tasks, while lighter cells indicate tasks yet to be started.

Let's break down the timeline of tasks in the example Gantt chart above.

- **Task One.** Several weeks are allotted for renewing a passport, which, under normal circumstances, takes 6-8 weeks.
- **Task Two.** It is possible to determine the destination of the trip even before the passport returns, hence that task operating concurrently with passport renewal.
- **Task Three.** However, you would need to wait for the passport before applying for a visa. (Depending on your destination, obtaining a visa ahead of time may or may not be necessary.)
- **Task Four.** Airline tickets might have to wait until the visa is confirmed or may need to be purchased before applying for the visa, depending, again, on the destination.
- **Task Five.** Since changing flights a few days earlier or later may change ticket prices, and since some flights may only operate on certain days of the week, it is best not to book a hotel until after tickets have

been bought.

- **Task Six.** Finally, the location of the hotel and its proximity to the areas you are interested in would strongly determine whether you rented a car, relied on public transportation, budgeted for a Lyft or Uber, or walked while visiting.

This Gantt chart also lets viewers know the status of the tasks by using colors and shades purposefully. In **Figure 11.2**, the creator uses darker colors for completed tasks and lighter colors for work yet to be completed. You may also consider using colors or shades to indicate which team member or group is working on a particular task or if a task is in-progress.

Here, in **Figure 11.3**, is an example of a more complicated Gantt chart with lines indicating task dependencies on each other, and organizations and colors depicting how larger stages are broken down into subtasks.

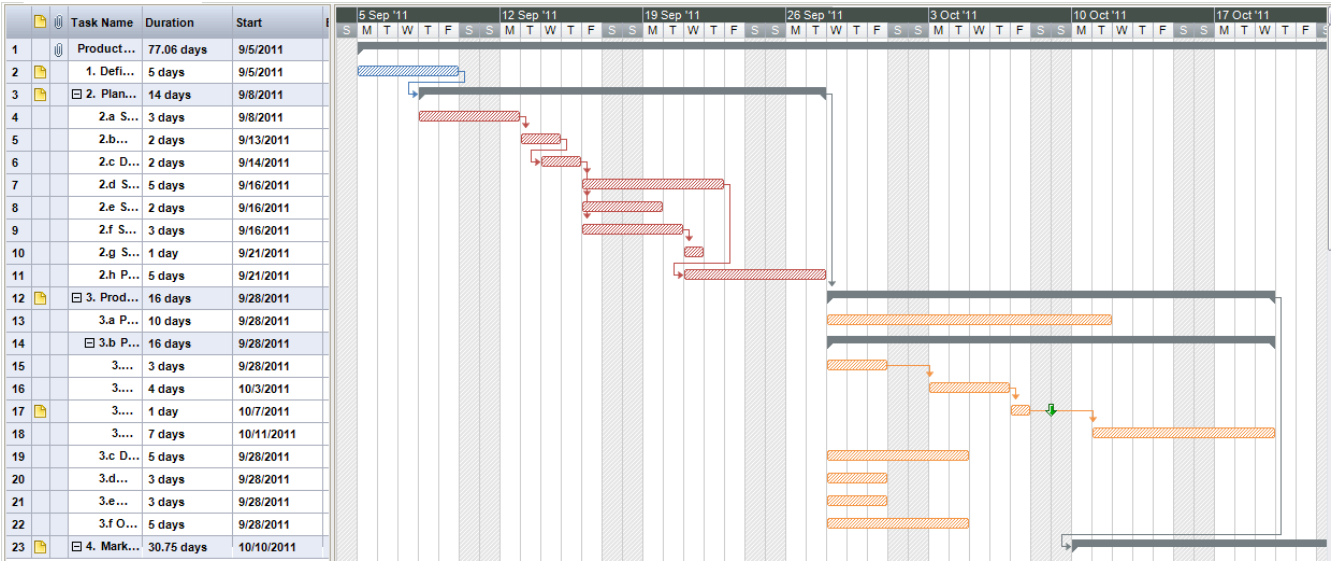

Figure 11.3. Illustration of a more complex Gantt chart. Though the figure is a bit too small to read, the form of the chart should be relatively clear.

Collaborative writing is often challenging, regardless of the circumstances under which we do it. However, the information in this section is intended to help you think about more efficient, ethical, and organized ways to do this work. By making sure everyone has clear roles and responsibilities, keeping track of your progress, meeting and communicating often, and breaking down large, complex tasks into smaller parts, you can successfully accomplish any group project, no matter how complex it is.

Design Memos

As you work through project 4, you will be asked to write two design memos – another progress report style

memorandum. In your design memos, you will be communicating with your instructor about your work on the major elements of project 4: your grant proposal and your multimodal remix.

Your first design memo should answer the following questions:

- What are your design plans for the collaborative grant proposal?
- What is your current progress on the grant proposal, and what do you still need to do?

Your second design memo should answer the following questions:

- What are your plans for the multimodal remix?
- What is your current progress on the grant proposal, and what do you still need to do?
- What is your current progress on the research remix, and what do you still need to do?

For a review of memo genre conventions, please see Chapter 3, "Memo Genre Conventions."

Conclusion

As you work on your grant proposal with your group members, think carefully about how to divide the work. Every group member has unique skills and interests that can help your group complete the project. The advice and tools in this chapter will help you to manage your project successfully, but there is no substitute for clear goals, regular communication, and generous interpretation.

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CHAPTER 12: REMIX RESEARCH FOR A PUBLIC AUDIENCE

Kat Gray; Ann Fillmore; and Melanie Gagich

Introduction

In addition to your grant proposal, Project 4 asks you to create a multimodal remix of your research materials that you could present to your audience of stakeholders. This means that you will think beyond presenting your research to fellow experts or people within the same organization. Instead, you will need to think about how to communicate your expert research to an audience with stakes in the game – the very people who will benefit from your project, if it is implemented.

In this chapter, you will learn about the considerations of presenting to a public audience and how this work changes when you think about how to share your research with nonexpert audiences. Then, you'll learn principles of multimodal design and a design process for your group for the multimodal remix.

Communicating Research to a Public Audience

To begin thinking about communicating with a public audience, it is important to understand what the term *public* means. In many ways, it is more easy to define what a public audience is *not*: it is not a highly educated, specialized audience (like academics, or subject matter experts working within organizations or corporations); it is not an audience within an organization (like a project team inside a company, or a manager, boss, or shareholder). A general public audience, then, is *an audience without specialized knowledge in a topic* – they haven't read the research, done the experiments, or gotten education in a particular field. However, that doesn't mean such an audience has no interest in research. Think of the ways that you hear about research in daily life – you might hear from the news or social media that a study shows a certain food to be high in cholesterol, or that research can show you the most effective way to train to run a marathon.

Jerry Plotnick (2017) argued that public writing "aims to be accessible" and "relevant." In service of these aims, public writing takes a wide variety of forms, depending on the needs of the audience, the context of communication, and the reasons the writer wants to write. Public writing is a "broad category that includes a wide variety of genres: opinion pieces, letters to the editor, blogs, newspaper reports, magazine features, letters

to elected officials, memoirs, obituaries, and much more" (Plotnick, 2017). Public writing is a powerful tool to extend research into new spaces, but, like all other types of writing, it takes careful thought and planning.

Academic vs. Public Audiences

Since you are already familiar with academic writing, it may be helpful to define more clearly the differences between academic and public audiences. Doing so will help you to understand how to move from the more formal style of your problem primer and grant proposal and into a style more suited for communication with public audiences.

To people outside an academic audience, academic writing can seem hard to understand and full of jargon; written in such a way, it's hard for public audiences to understand why academic writing is important. Public writing offers an opportunity for people writing from the academic (or expert) world to communicate their knowledge in new ways, for new purposes. As Jenn McClearen (2023) wrote, deciding which register is most appropriate for your writing means "figur[ing] out who our audiences are in order to determine which style is best for them."

Academic writing, said McClearen (2023), "speaks to very specific audiences" in a particular scholarly field or discipline. Academic writing is a process of "citing previous conversations in the literature and connecting our ideas to theirs" (McClearen, 2023). That is, the work of academic writing is about *knowledge creation* of a very particular kind. It is written the way it is because the specialized vocabulary used by academics "ensures that ideas are communicated to a specialized audience with the utmost clarity and accuracy" (McClearen, 2023). Academic writing, then, is writing that specifically caters to expert audiences with a lot of education and experience in a field. The choices academic writers make reflect that reality.

Public writing, on the other hand, "uses a language that everyone understands" (McClearen, 2023). Scholars want to write for the public because it gives them an opportunity to "disseminat[e] knowledge, engag[e] communities, and advocat[e] for evidence-based policies" thus "ensuring that their research has real-world relevance and promotes positive social change" (McClearen, 2023). Public writing, in other words, lets carefully conducted expert research have an influence on the world around us. Kelly Baker, an academic engaged in public writing since 2007, characterized public audiences as "smart, but not specialists" (n.d.). However, she wrote, "audiences aren't static," and this means that "[w]riting for a public audience can mean vastly different things depending on who you want your audience to be and where you publish" (Baker, n.d.). As with any rhetorical situation, a careful analysis of your audience (or desired audience) can help you find the right genre, style, and tone.

Talking to Publics

When you present research to a public audience, you will want to think carefully about how you help your audience access complex research and understand what to do with that information. Jenn McClearen (2023) writes that "the accessibility of your work is relative" and has to do with "what your target audience reads," "what writing mechanics they are used to," and "their level of familiarity with your topic." Once you have answers to these concerns, you can "adjust your language and tone accordingly" and create research that communicates clearly with a public audience. Knowing your audience's expectations helps you meet them halfway.

When you create presentations for public audiences, you should keep the following tips in mind:

1. **Know your audience.** As we will discuss below, the audience you want to reach affects the genre you choose for your presentation. Additionally, Plotnick (2017) argued, "[t]he specific genre you're writing in will help you to form an image of your audience." That is, genre and audience are closely related – together, they influence the choices you make about how to communicate. What do your readers know? What do they *need* to know? What do they *want* to know?
2. **Tell a story.** Jenn McClearen (2023) reminded that presentations are an excellent opportunity to tell an engaging story about your research in ways you otherwise would not when writing for academic or professional publication. Telling stories allows writers to help a public audience understand the implications and impact of research – a story offers the 'so what?' that readers often search for when attempting to understand academic writing. Thinking carefully about when and how to tell stories in public presentations lets you make connections with your audience. As McClearen (2023) wrote, "[p]eople are hardwired to connect with stories."
3. **Make clear and concise arguments.** Writing that is clear and concise conveys an obvious meaning in as few words as needed, *without* compromising necessary complexity. When presenting research to the public, Kelly Baker (n.d.) wrote that you should "make your argument obvious and easy-to-follow." This involves "being able to articulate your argument, provide evidence for it, and show readers why it matters in clear prose" (Baker, n.d.). It is your job, Baker argued, to teach your reader about your work and why it matters.
4. **Don't hedge.** In academic writing, it is often very important to *hedge* our arguments – that is, to make qualifications about what we're going to say before we say it. Academic writing asks us to be precise, and a hedge is a rhetorical move that lets us, for example, say that while our thesis statement is true in *most* situations, it might be untrue under the following conditions. Academic writing builds an argument gradually, through presenting evidence. Public writers, Kelly Baker (n.d.) argued, should "tell us what you want to say in clear, precise language."
5. **Use plain language.** When you know your audience, you will be able to think carefully about the type

of language that will help them to understand your message. Plain language, wrote McClearen (2023), usually means "avoiding the use of technical terms and academic jargon." Instead, you should focus on paring down the length of your sentences and making your wording more direct. You can learn more about plain language at PlainLanguage.Gov.

6. **Set aside academic essay conventions.** Because the audience is different for academic essays, academic essay conventions are not suitable for thinking through how to communicate with a public audience. For example, you don't need a lengthy introduction when you're talking to a public audience – you can state your point early and clearly, and move directly into your argument (Plotnick, 2017). You can use anecdotes and personal stories. You can use the words "I" and "you" to get the reader to relate more directly to your writing. Think about your rhetorical aims, and how the conventions of the genre you choose can help you meet those needs.

What is Multimodal Composition?[1]

Since you are required to produce a multimodal document explaining your research to your stakeholders, it is helpful to start this phase of the project by thinking about what "multimodal" actually means. The next section, then, discusses multimodality and modes of communication, defines important terms, and prepares you for the multimodal composition process.

What Is a Multimodal Text?

Before moving into a discussion of multimodality and modes of communication, it is important to understand the meaning of the word "text" because it is often only associated with writing (or perhaps the messages you receive or write on your phone). However, when we use the term "text" in composition courses, we often mean it in a very general sense: *a piece of communication that can take many forms*. For instance, a text is a movie, meme, social media post, essay, website, podcast, and the list goes on. In our daily lives, we encounter, interact with, and consume many types of texts, and it is important to consider how most texts are also multimodal.

Pamela Takayoshi and Cynthia L. Selfe (2007), two important scholars in writing studies and early advocates of multimodal composing, define multimodal texts as "texts that exceed the alphabetical and may include still and moving images, animators, color, words, music, and sound" (p. 1). Multimodality is sometimes associated with technology and/or digital writing spaces. For example, when you post an image to Instagram, you use

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1. Based on Melanie Gagich, "An Introduction to and Strategies for Multimodal Composing," in *The Ask: A More Beautiful Question* and Ann Fillmore, "Multi-Modal Communication: Writing in Five Modes," in *Open English @SLCC*.

technology (your phone) to snap a picture, an app to edit or modify the image, and a social media platform (Instagram) to share it with others. However, creating a multimodal text does not require the use of digital tools and does not need to be shared in online digital spaces to make it "multimodal." To illustrate, when you create a collage and post it on your dorm room door, you use existing printed artifacts such as pictures clipped and pasted (non-digital technologies) from a magazine and share with others by taping it to your door (a non-digital space). Both examples represent a multimodal text because they include various modes of communication.

The Five Modes of Communication

In the mid-1990s, a group of scholars gathered in New London, New Hampshire and, based on their discussions, wrote the influential article, "A Pedagogy of Multiliteracies: Designing Social Futures," published in 1996. In it, the group advocated for teachers to embrace teaching practices that allow students to draw from five socially and culturally situated modes, or "way[s] of communicating" (Arola, Sheppard, and Ball 1). These modes were linguistic, visual, spatial, gestural, and aural. Yet, scholars such as Claire Lauer, another influential researcher in composition, have argued that the New London Group's definition of modes, while exceedingly important, can be difficult to grasp. In light of this, below I provide brief definitions of each mode as well as examples to help you understand the "mode" in "multimodal."

Visual

The visual mode refers to what an audience can see, such as moving and still images, colors, and alphabetical text size and style. Social media photos (see **Figure 1**) exemplify the visual mode. The visual mode includes images, video, color, visual layout, design, font, size, formatting, symbols, visual data (charts, graphs) animations (like gifs) and more.

Figure 1. Photo of my dog taken from my Facebook page that represents the visual mode.

The visual mode helps writers communicate meaning in a way that can be **seen** by the audience. Sometimes people must see to believe, and visuals can be helpful and even persuasive. For example, if you want to showcase how climate change has devastated the arctic ecosystem, you might include a video that shows real-world footage, like this one by National Geographic. This video is considered a multi-modal text since words, visuals, and audio are used together for a stronger effect.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=349#oembed-1

Linguistic

The linguistic mode refers to alphabetic text or spoken word. Its emphasis is on language and how words are used (verbally or written). The linguistic mode includes written and spoken words, word choice, vocabulary, grammar, structure, and the organization of sentences and paragraphs.

A traditional five paragraph essay relies on the linguistic mode; however, this mode is also apparent in some digital texts. **Figure 2** shows a student's linguistic text included in their website created to promote game-based language learning.

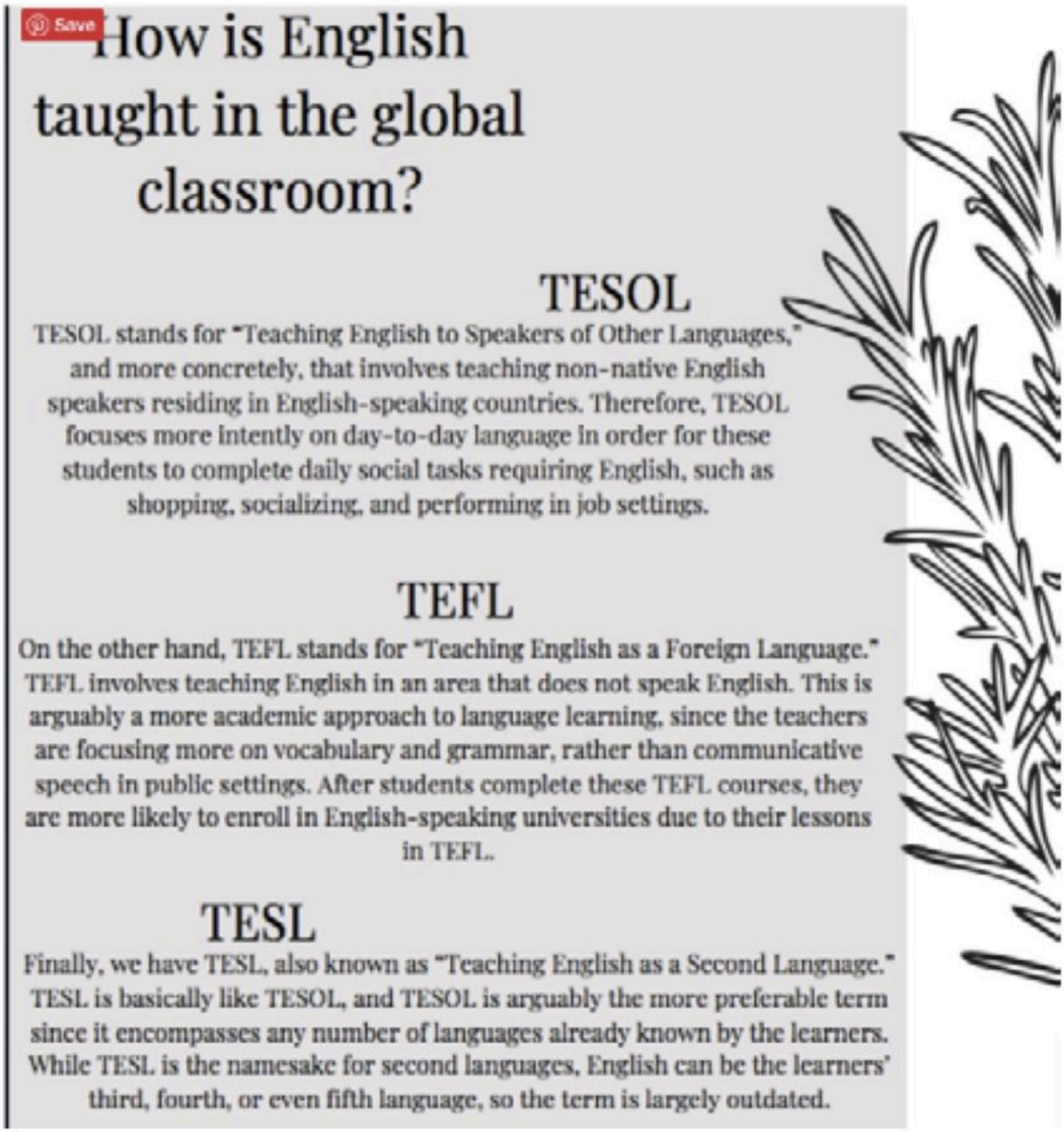

Figure 2. A student's digital text that emphasizes the linguistic mode. Photo shows a Pinterest pin that uses text to briefly explain the differences among TESOL, TEFL, and TESL. Permission to use this image was obtained from the student.

Spatial

The spatial mode refers to how a text deals with space. This also relates to how other modes are arranged,

organized, emphasized, and contrasted in a text. The spatial mode includes physical arrangement: spacing, position, organization, proximity, direction, and distance between elements in a text.

Figure 3, an infographic, is an example of the spatial mode in use because it emphasizes certain percentages and words to achieve its goal. Websites also rely heavily on the spatial mode to communicate meaning. Writers make strategic rhetorical decisions about how to arrange digital information in a user-friendly way within a mobile "space." Features like menus, headers, physical layout, and navigation tools (such as links) help the audience to interact with the site spatially.

Figure 3. Infographic emphasizing the spatial mode. The infographic uses different sizes of text and different shapes to emphasize statistics surrounding cancer diagnoses and common types. ("Cancer Infographic" by CDC Global licensed under CC BY 2.0)

Gestural

The gestural mode refers to gesture and movement. This mode is often apparent in delivery of speeches in the way(s) that speakers move their hands and fix their facial features and in other texts that capture movement such as videos, movies, and television. The gestural mode includes movement, speed, expression, body language, facial expression, physical proximity, and interactions between people. **Figure 4** shows Michelle Obama's gestures at a speech she gave in London.

Figure 4. Picture taken of Michelle Obama while giving a speech that captures the gestural mode. She is standing at a microphone, looking out into the audience, and smiling with her hands clasped against her heart. ("US First Lady, Michelle Obama, speaking at Mulberry School for Girls, London" by DFID licensed under CC BY 2.0)

The gestural mode of communication allows writers to communicate meaning through **movement**. Traditionally, this mode was used in face-to-face interaction; however, modern technology allows writers to

show movement virtually in their work, through video. The gestural mode is often used in combination with other modes, such as linguistic/alphabetic (written/spoken), spatial (physical arrangement), and aural (sound) to provide an enhanced sensory experience for the audience.

For example, sign languages use the gestural mode since position of the sign and movement are significant factors in generating and distinguishing meaning. In this video, look at how the speakers use movements of the hands, head, face, and body, along with position and speed, to communicate meaning to the audience. Sign languages are considered multi-modal communication since they combine linguistic/alphabetic text with movement.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=349#oembed-2

Aural

The aural mode refers to what an audience member can or cannot hear. Music is the most obvious representation of the aural mode, but an absence of sound (silence) is also aural. The aural mode includes spoken words, sound, music, volume, rhythm, speed of delivery, pitch, tone of voice, and the use of silence. Examples of texts that emphasize the aural mode include podcasts, music videos, concerts, television series, movies, and radio talk shows.

Sound catches people's attention, and writers use the aural mode to bring their words to life. For example, have you ever listened to a game on the radio? Listen to the way the sportscasters help the audience to experience the game through sound.

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://uark.pressbooks.pub/proftech/?p=349#oembed-3

Designing Your Multimodal Remix[2]

A multimodal text combines various modes of communication (hence the combination of the words "multiple" and "mode" in the term "multi-modal"). Cheryl E. Ball and Colin Charlton draw from The New London Group in their argument that "[a]ny combination of modes makes a multimodal text, and all text—every piece of communication a human composes—use more than one mode. Thus, all writing is multimodal" (42). However, in some communicative texts, one mode receives more emphasis than the others. For example, academia and writing teachers have historically favored the linguistic mode, often seen in the form of the written college essay. Yet, when you communicate using an essay, you are actually using three modes of communication: linguistic, spatial, and visual. The words represent the linguistic mode (the emphasized mode), the margins and spacing characterize the spatial, and the visual mode includes elements like font, font size, or the use of bold.

Combining each mode to create a clear document often involves the writing process (i.e. invention, drafting, and revision), and a thoughtful writer will also consider how the final product does or does not address an audience. The same process is used when creating a less traditional multimodal text. For instance, when creating a text emphasizing the aural mode (e.g. a podcast), you must consider your audience, purpose, and context while also organizing and arranging your ideas and content in a coherent and logical way. This process parallels the traditional writing process.

As writers, we make choices. In every situation, we must decide how to best communicate meaning to our intended audiences. It is a process of deliberation that involves calculated choices, strategies, and moves. In the field of writing/composition, "modality" is a rhetorical decision that you need to consider as you explore how to best achieve your intended purpose(s). Below, you will learn a process for multimodal composition that you and your group can adapt to suit your project's needs.

Creating a Multimodal Text

Now that you know what a multimodal text is, it makes sense to discuss strategies for composing a multimodal text. As with writing, multimodal composing is a process and should not only emphasize the final result. Therefore, the first three strategies listed below are pre-drafting activities.

1. Determine your rhetorical situation.

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2. Based on Melanie Gagich, "An Introduction to and Strategies for Multimodal Composing," in *The Ask: A More Beautiful Question* and Ann Fillmore, "Multi-Modal Communication: Writing in Five Modes," in *Open English @SLCC*.

2. Review and analyze other multimodal texts.
3. Gather content, media, and tools.
4. Cite and attribute information appropriately.
5. Begin drafting your text.

As with all writing processes, multimodal composition is *recursive*. That is, as you work on your multimodal remix, you may revisit different parts of the composing process as needed. You may start drafting, only to find that you need to go back and do more research on your rhetorical situation. The process is not linear, but iterative – more like a series of overlapping loops than a straight line.

As writers, you'll need to determine which of the five modes could add value to your work. Be careful not to add modes just because you think you should. Each mode you use should add meaning to the text. Consider the opportunities, challenges, and constraints of any writing task and assess and revise your work to meet the needs of the audience.

Determine Your Rhetorical Situation

When brainstorming about your rhetorical situation, you should consider the purpose of your text (the *message*), who you want to read and interact with your text (*the audience*, your relationship to the message and audience (*the author*), the type of text you want to create (*the genre*), and where you want to distribute it (*the medium*. Descriptions of each of the five components of the rhetorical situation are offered below.

The Message

The message relates to your purpose, and you might ask yourself, what am I trying to accomplish? You should try to make the message as clear and specific as possible. Let's say you want to create a website focused on donating to charity. An unclear message might be "getting more people in the United States to donate to charities." A clearer message is "convincing college freshmen at my university to donate to the ASPCA" because the audience and purpose are specific rather than broad.

The Audience

There are two types of audiences. An intended audience, who you target in your message, and an unintended audience, who may stumble upon your text. When determining your message, you want to consider the beliefs, values, and demographics of your intended audience as well as the likelihood that unintended audiences will interact with your text. Using the example above, college freshmen at your university are the intended audience, and teachers, parents, and/or students from other universities represent unintended audience members. It might be helpful to approach audience using the concept of "discourse communities," or "a group of people,

members of a community, who share a common interest and who use the same language, or discourse, as they talk and write about that interest" (National Council of Teachers of English). You can read more about discourse communities in Dan Melzer's essay, "You'll Never Write Alone Again: Understanding Discourse Communities."

The Author

You are the author and should consider your relationship to the message and audience. As an author, you bring explicit (obvious) and/or implicit (not obvious) biases to your message, so it is important to recognize how these might affect it and your audience. Also, you may be targeting an audience you are familiar with (perhaps you are also a college freshman) or not (perhaps you are a graduate student). It is important to think about how your familiarity with your audience might affect your message.

The Genre

Genre is a tricky term and can mean different things to different scholars, teachers, and students (Dirk 250). In the context of multimodal composing, genre refers to *a type of text that has genre conventions, or audience expectations*. For example, if I am creating a website (the genre), an audience would expect the following conventions: an easy-to-navigate toolbar, functional tabs, hyperlinks, and images. Yet, when thinking about genre, it is more useful to think specifically. If I am creating a website for horror film fans (the specific genre), then the audience would expect the following (more specific) genre conventions: references, images, and sounds associated with horror films, directors, actors, actresses, monsters, and villains. They would also expect color and font choices to align with the genre—it is likely that the color baby blue would not be well-received.

The Medium

While genre is the type of text you want to create, the medium refers to where you will distribute it. Classic media (plural for medium) includes distribution via radio, newspapers, magazines, and television; however, new media is defined by a text's online distribution. Importantly, medium refers to *where* you will distribute your text but not *how*. The how refers to the technology tools you'll use to create the text and possibly to distribute it. For example, to create a podcast, you might use your smartphone (a tool) to record, a free sound editor like Audacity (another tool) to edit it, and Soundcloud (a tool *and* the medium) to distribute it.

Rhetorical Situation Questions to Consider

- Does the rhetorical situation call for a certain mode? Or, do you have some creative freedom in how you present your ideas or make your argument?
- How does a certain mode affect the way your audience will receive or experience the message? What are the advantages and disadvantages of using a certain mode for this particular writing task?
- How could you combine modes? Which modes would enhance your message or help you to better get your point(s) across?
- Do you possess the technological skills necessary to effectively use a specific mode? Will you need to learn additional skills in order to create your work? If so, how can you best learn these skills in the given time frame?

Review and Analyze Other Multimodal Texts

Now that you have brainstormed your rhetorical situation and determined the type of text you want to create, it is time to begin finding other texts representative of your topic and genre. In their textbook, *Writer/Designer: A Guide to Making Multimodal Projects*, Arola, Sheppard, and Ball argue that "[o]ne of the best ways to begin thinking about a multimodal project is to see *what* has already been said about a topic you are interested in . . . as well as *how* other authors have designed their texts on that topic . . . " (40). This is excellent advice. I suggest that you find at least one text you think is an exceptional example and one text you feel is lacking in some way. After you find these texts, you can conduct a brief analysis by responding to the following questions:

1. What is the author's message?
2. Who are they addressing? How can you tell?
3. What type of text did they create? What genre conventions do you see?
4. How was the text distributed? In what ways does it relate to the target audience?
5. What modes of communication are they using? Which are they emphasizing? Do these decisions support the message and/or appropriately target their audience?
6. What do you like about the multimodal text?
7. What, in your opinion, needs work?

If you answer these questions, you have given yourself important information to consider as you plan your own work.

Gather Content, Media, and Tools

Once you have determined your rhetorical situation and examined other multimodal texts, you should begin gathering information and materials. I have categorized this process into three components: content, visual and aural materials, and technology tools.

Conduct Content Research

A multimodal text should include content (pieces of information that support your message), which means you will need to conduct some research – or, ideally, use research you have already completed for your problem primer and grant proposal projects. Be sure to consult with your instructor about the types of research most suitable for your group's project. For example, my student created a website and videos discussing the similarities between American music and K-pop (see **Figure 6**). Her content research includes a scholarly article from the journal *World Englishes* and a popular article from *Billboard.com*.

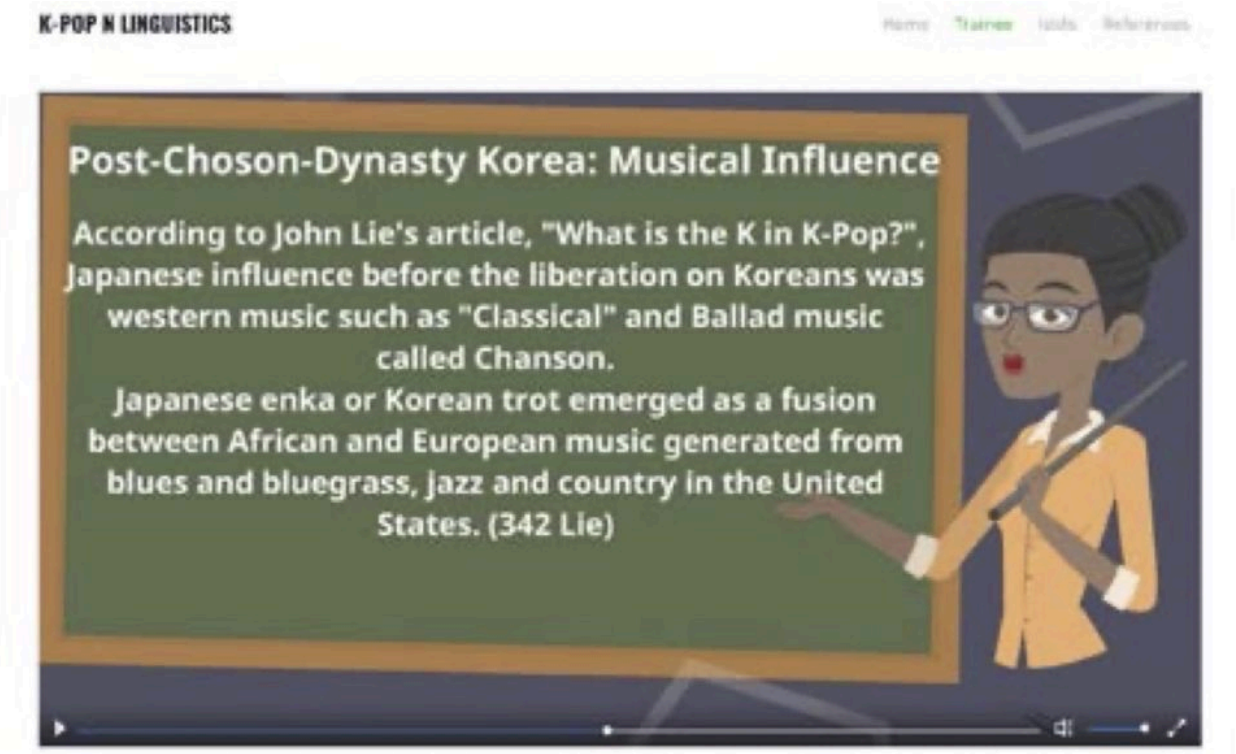

Figure 6. A screen shot of a student's video that illustrates her use of scholarly content. Video shows an animation of a teacher standing at a chalkboard. On the chalkboard, there is text explaining the musical influences on Post-Choson-Dynasty Korea. (Permission to use this image was obtained from the student).

Collect Visual and Aural Materials

In addition to textual information, you should also collect images, sounds, videos, animations, memes, etc. you want to include in your multimodal text. For instance, **Figure 6** demonstrates some of the pre-draft materials my student collected: openly licensed images of a teacher and chalkboard, a video they created using Animator, and K-Pop music to play on a loop.

Explore Openly Licensed Materials

When searching for visual and aural materials, you want to consider using openly licensed materials. According to *YearOfOpen.org*, open licenses are "a set of conditions applied to an original work that grant permission for anyone to make use of that work as long as they follow the conditions of the license" ("What are Open Licenses"). A well-known and commonly used example of an open license are Creative Commons licenses, identified by CC. Creative Commons licenses provide the creator or author with a copyright, ensuring that they receive credit for their work, while also allowing "others to copy, distribute, and make uses of their work – at least non-commercially" ("About the Licenses"). Essentially, if a work has one of the four basic creative commons licenses (see **Figure 7**), then a creator/ author can use the licensed item in their own creative texts.

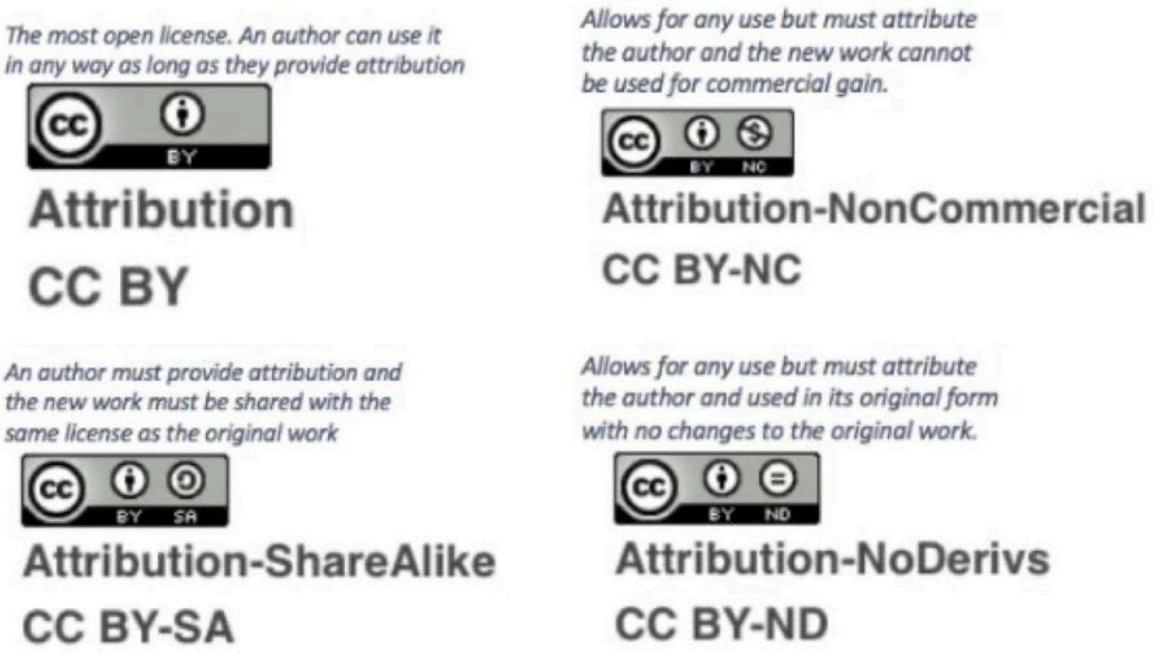

Figure 7. The four basic Creative Commons licenses including explanations for each. (Image was created by the author using "About Licenses" by Creative Commons licensed under CC BY 4.0)

There are various websites such as CC Search, Free Music Archive (FMA), or Digital Public Library of America (DPLA) where you can find openly licensed work. You may also set filters on Flickr or Google Images to locate openly licensed work.

Collect and Evaluate Technology Tools

It is important to collect and evaluate the technology tools you need to create your multimodal text prior to drafting it. As stated previously, the technology tool helps you create the final text and might also help you distribute it. The easiest way to determine the technology tools that you need is to create a list of all of the features you want to include in your text. Once you create the list, research where to find the tools either online or at your university. Be aware that some tools may not be free (although they may come with a free trial period), but you can use software available on your computer or university computers such as iMovie or Windows Movie Maker. Or you can find freeware, software available for free online, such as Audacity (for sound editing), Canva (for infographic and/or image creation), or Blender (for video creation). Once you have created your list and found some tools, spend some time testing each one while keeping track of which is the most user-friendly and helps you achieve your composing goals.

Citing and Attributing Your Content

After researching content and collecting materials, think about how you will give rhetorically appropriate credit to authors or organizations whose work you have referenced or included. For instance, if you create a video, you should provide credits at the end rather than a Works Cited page, or if you design a website, you should include hyperlinks to outside sources rather than MLA in-text citations because this makes more sense, given the genre. For multimodal texts that rely on the aural mode (e.g. podcasts), you can use verbal attributions, or verbalize necessary information. When deciding what information is necessary, think about what you can include to help your audience locate your text, such as author, title, and website. For example, the phrase, "*According to Mandi Goodsett, in her PowerPoint 'Creative Commons Licenses' found on the library website, a student has control over their online presence*," offers the audience key information to help them find the source.

When citing openly licensed images, videos, sounds, animations, screenshots, etc., it is important to provide an attribution. According to the CC Wiki, an appropriate attribution should include the title, author, source (hyperlinked to the original website), and license (hyperlinked to the license information). **Figure 8** represents example of an inappropriate attribution and **Figure 9** an ideal one.

Figure 8. An example of an inappropriate attribution that lacks title, clear author, source link, and license. (Image was created by the author using "Creative Commons Licensing" by Mandi Goodsett licensed under CC BY 4.0)

Figure 9. An example of an ideal attribution, which includes a hyperlinked title for the image, a clear author name, and license information that is also hyperlinked. (Image was created by the author using "Creative Commons Licensing" by Mandi Goodsett licensed under CC BY 4.0)

Begin Drafting Your Text

Drafting your text should include outlining or mapping your project. This could take the form of writing all of the text you want to include in an outline if you have a word-heavy multimodal text like a website, drawing your design if you are creating a poster or commercial, or writing a script if you are creating a podcast or video. Of course, you can combine any of these outlining methods or come up with your own, but thinking about what you want to do before you do it will make your final text much stronger and coherent.

Conclusion

In Project 4, you've been asked to communicate the results of your research project to two very different audiences: an audience of experts (the UArk Cares Foundation advisory board) and a public, nonexpert audience (your stakeholders). Thinking through how to communicate the same information to different audiences is a valuable rhetorical skill – and one that will hold you in good stead in your professional life. Regardless of the type of work you do, you will often have to communicate information about your projects

to audiences with a variety of interest in and experience with your area of expertise. Communicating with a team member is different from communicating with a boss. Communicating with a boss is different from communicating with the public, through a document like a product recall. In other words, technical communicators must be adept at analyzing rhetorical situations, understanding their communication options, and making smart choices that help them communicate their message.

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CHAPTER 13: WRITE A TRANSMITTAL LETTER

Kat Gray; Dawn Atkinson; David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Nicole Hagstrom-Schmidt; Matt McKinney; and Kalani Pattison

Introduction

To complete Project 4, you will write one final document with your group: a transmittal letter to accompany your grant proposal package. Transmittal letters are a common genre of professional correspondence, in which writers sum up the contents of a document package and give readers directions about how to interact with those materials. Rhetorically, the transmittal letter is an opportunity for you to engage your reader with care by introducing your team members, the process of creating your project, and the reasons behind your work.

Below, you'll learn more about transmittal letters, a subgenre of cover letter designed for a specific purpose: to accompany a package of materials (like a report or a grant proposal). The sections below discuss the rhetorical situation of writing a transmittal letter, what type of content goes into your cover letter and how to organize it, and what type of writing style you should use for transmittal letters. You will also find a sample transmittal letter and a template for writing transmittal letters, both intended to help you and your group decide how to organize your document.

Writing a Transmittal Letter[1]

A transmittal letter is a communication from you (the document writers) to the recipients (the people who requested the document). Essentially, this letter says, "Here is the document we agreed that I would complete by a certain date. Briefly, it contains these components and materials. It does not cover these topics or materials.

1. Based on David McMurrey, Annemarie Hamlin, Chris Rubio, Michele DeSilva, Nicole Hagstrom-Schmidt, Matt McKinney, and Kalani Pattison, "Front Matter," in *Howdy or Hello? Technical and Professional Communication* and Dawn Atkinson, "Writing Print Correspondence," in *Mindful Technical Writing*.

Contact me to let me know your thoughts when you have had a chance to read it." The transmittal letter also explains the context or the events that brought the report about.

Rhetorical Situation

The rhetorical situation for your transmittal letter is slightly different than the rhetorical situation for the other documents you have created during this project. Your audience is your professor; the purpose of the cover letter is, broadly, to orient your instructor to the materials you have submitted for project 4; and your context is that you are turning in your project and want your reader (your instructor) to have a clear picture of what you have submitted, and why.

The transmittal letter precedes the rest of your document, even your title page. As a result, it is not counted as part of your document's page count. The transmittal letter for Project 4 has several purposes:

- To supply details about the accompanying document: what it is, who it is intended for, and key information provided in the document;
- To account for your (or your team's) process – how you created the grant proposal project and research remix, what feedback you received, and how you revised, based on that feedback;
- To offer answers to readers' potential questions – anticipate beforehand what they might ask;
- To provide the writers' contact information.

Letter Contents & Organization

As with other types of correspondence you've written this semester, transmittal letters follow an introduction, body, and conclusion format, although these sections may also be expanded as needed. If you decide to add sections, consider using headings to help readers navigate the document.

The contents and organization of a transmittal letter are:

- **First paragraph.** Provides details about your group project. What is your project? What documents have you included? What information do you provide in your documents? Give a brief overview of your project's organization.
- **Middle paragraphs.** Discuss the process you and your team used to produce your project. You should create paragraphs addressing the following topics, at least:
    - Why did you choose this topic? Who are you hoping to help?
    - What process did you and your team use to create both the grant proposal and the multimodal remix? How was each team member involved?

    - What feedback did you receive on your documents? How did you revise your project based on that feedback?
- **Final paragraph.** Encourages the reader to get in touch if there are questions, comments, or concerns. It closes with a gesture of goodwill, expressing hope that the reader finds the document satisfactory, and maintaining an ongoing professional relationship with the reader.

As with any other element in a report, you may have to modify the contents of this letter (or memo) for specific situations. For example, you might want to add another paragraph listing questions you'd like readers to consider as they review the report. **Figure 13.1** shows what this might look like.

In the template of the letter of transmittal that follows in Figure **13.2** notice the standard business-letter format. If you write an internal report, use the memorandum format instead.

Example Transmittal Letter

The example transmittal letter in this section contains the characteristics discussed above. Review the letter for an example of what transmittal letter content might look and sound like. Pay particular attention to how the writer uses his professional persona to communicate with the reader.

You can note the following characteristics in **Figure 13.1**, below:

- **Standard letter formatting:** This letter makes use of business letter formatting, starting with the *inside address* (containing the letter writer's address, followed by the date, followed by the recipient's address). Then, the letter uses a *salutation* to great the reader before beginning the letter in earnest. The letter closes with a *complimentary close* and a *signature*, which includes the writer's professional title.
- **First paragraph:** reminds the reader of the document's topic, gives its title, and reminds the reader that she requested the enclosed information.
- **Second paragraph:** clearly explains the document's purpose; overviews document topics; previews conclusions.
- **Third paragraph:** expresses thanks to the reader for engaging with materials; hopes for what the document can do; how to request further information.

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Raleigh, NC 27695-8105

May 15, 2018

Dr. Jane Doe
Director of the Writing Certificate Program
Department of English
Box 8105, NCSU
Raleigh, NC 27695-8105

Dear Dr. Jane Doe:

As you know, students within Professional Writing courses in the Spring semester of 2017 were assigned to conduct interviews and surveys of professionals in various fields. The subsequent report, *Communication in the Workplace: What Can NC State Students Expect?*, which we agreed to complete in the Spring semester of 2018, is submitted here.

The purpose of the report was to synthesize the information gathered by the many students taking the course and to investigate the importance of writing in various professions and some of the characteristics and purposes of writing within the workplace. In addition, the report specifically addresses attention to audience, conventions, document design, oral communication, electronic media, and collaborative work in the following fields:

- Education
- Engineering
- Finance, Accounting, and Banking,
- Management,
- Marketing and Sales
- Programming
- Research

Overall, the report demonstrates that written and spoken communication are both fundamental to successful businesses.

Thank you for the opportunity to complete this study. We are hopeful that the contents will encourage students to value the experience and knowledge gained through their Professional Writing courses. If you have any further questions regarding our study or methods, or would like a more thorough look at our methods and data, please do not hesitate to ask.

Regards,

John Doe

John Doe
Representative of the Professional Writing Program Team

Figure 13.1. An example of a letter of transmittal. (Alternative PDF version: Figure 13.1.)

Transmittal Letter Template

The template below gives your group an outline to use for the transmittal letter's format and contents. Unlike the example letter above, this model uses five paragraphs – expanding the middle section of the letter from one paragraph to three. The number of paragraphs your transmittal letter includes is up to you – but you should organize the letter in a way that makes sense. Like any letter, make sure that each paragraph has one clear main idea, and build from there.

Be aware that for Project 4, **your transmittal letter takes place of your revision note**. It therefore contains some of the same information – specifically, it should contain information about what feedback you received, and how you used it. You should also consult with your instructor as you create your transmittal letter. Make sure that you have a clear understanding of what information your instructor would like to see.

Sender's Name
Sender's Address, Line 1
Sender's Address, Line 2

Date Report Delivered

Receiver's Name
Receiver's Address, Line 1
Receiver's Address, Line 2

Dear [Title and Last Name of Receiver]:

Paragraph 1: Introduction to the report. Give the report's title. Identify who gave approval for the report. Summarize proposed tasks and update on any changes from the proposal.

Paragraph 2: Methods. Briefly describe methods used to locate data.

Paragraph 3: Major Findings. Summarize conclusions here. If needed, use multiple paragraphs, especially if you have several conclusions that can be clustered into distinct groups.

Paragraph 4: Recommendation. Summarize recommendation(s) here. It's fine to have one recommendation. It's also acceptable to recommend that more research be conducted.

Paragraph 5: Thank the reader and provide contact information for further questions or clarifications.

Sincerely,

[Script Signature]

[Name(s) of Report Author(s)]
[Name of Organization/Group, if applicable]

Figure 13.2. Template for letter of transmittal. (Alternative PDF version: Figure 13.2.)

Writing Style

Establish yourself as a competent professional who takes readers' perceptions into account by composing correspondence that communicates in a constructive manner. The following tips, adapted from Last (2019, pp. 39-40), specify what a constructive communication approach entails.

- **Write from one adult to another**: Aim to communicate respectfully, responsibly, confidently, and

cooperatively—as one mature adult to another. Use your professional persona to speak to stakeholders and clients, in addition to team members, managers, or executives.

- **Be genuine**: Articulate reasonable viewpoints that can be backed with concrete evidence. Commit to making improvements when errors occur, but think carefully about whether to use *I* or *we* in such situations. Readers may interpret *we* in the context of a company memo or letter to mean the company as a whole, while *I* clearly points to the writer.
- **Be courteous**: Keep the reader foremost in your mind by prioritizing that individual's viewpoint. When addressing a specific person in a memo or letter, the words *you* and *your* are acceptable and can be used to create reader-focused writing, as the examples in the table below (**Table 13.1**) show.

Table 13.1: Writer vs. Reader Centered Writing

Writer Centered	Reader Centered
If I can answer any questions, I will be happy to do so.	If you have any questions, please ask.
We shipped the order this morning.	Your order was shipped this morning.
I am happy to report...	You will be glad to know...
We cannot process your claim because the necessary forms have not been completed.	Your claim can be processed as soon as we receive the necessary forms.

In memo and letter style, aim to use everyday language that target readers will likely understand without difficulty. To this end, avoid *correspondence clichés* – overused sayings and strings of text that are stale, wordy, and hold little meaning for readers. Instead, select precise words that articulate your exact meaning to encourage message comprehension. **Table 13.2** lists clear, concise wording that can be used in place of common correspondence clichés.

Table 13.2: Alternatives to Common Correspondence Clichés

Cliché	Alternative
Without further delay	Now
Until such time as	Until
Due to the fact that	Because, since
First and foremost	First, firstly
Last but not least	Lastly, finally
In the event that	If
Despite the fact that	Although
Pursuant to our agreement	As we agreed
In many instances	Often
In the course of	During
In view of the fact that	Because, since
Per our conversation	As we discussed
To whom it may concern:	Dear XXX: (replace with the recipient's name)

Finally, think carefully about your **tone**. Speak frankly, clearly, honestly, and with empathy for your reader and what they need to get out of your document. Make sure your purpose is clear early in the letter and help the reader to understand how to use the information in the letter to help them understand the documents that follow. Consider your reader to determine the level of formal vs. informal language you should use; it's always better to err on the side of formality in a professional situation.

Conclusion

In the professional world, a transmittal letter serves as an introduction – to you, to your organization, and to your project. Transmittal letters are a simple way to make a good first impression by being clear, concise, and well-organized in the way you communicate information about your documents to your reader. Be clear about who you are, what you value, and how those things are centered in the work you will present.

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PART IV

PART 4: REFLECTING ON YOUR WORK

The final part of the book contains information about the final project, the Course Reflection Memo. You will learn about how reflective writing can help you increase your self-efficacy as a learner and technical writer and reflect on the work you have done during the course.

Part 4 contains the following information:

- **Project 5: Course Reflection Memo**: This section contains information about the aims of the final reflective project of the course and a description of the information you should include.
- **Chapter 14: Reflective Writing for Technical Communication**: This chapter discusses what reflective writing is, and how you can use it to help you retain and enhance the technical writing skills you've developed in the course.

PROJECT 5: COURSE REFLECTION MEMO

Bringing it all Together

The final project for the course, the course reflection memo, pulls together the work that you've done throughout the course and asks you to reflect on how that work represents an attempt to meet your goals. Closing the class with a reflective memo gives you time to think about your skills and consolidate a set of useful lessons to take with you into other course, and into your professional workplace.

Project #5: Course Reflection Memo

The purpose of this project is **to review your work from the semester and to evaluate how you worked towards your goals**. You'll review your Course Goals Memo from the beginning of the semester. Then, you'll look over your projects, revision letters, and any reflective writing you've done for information about how you worked towards and met those goals. You will **organize your findings in a memo to your instructor**.

Completion Requirement: Your Self-Assessment Email should be **500-750 words**.

Project Steps

To get started, gather your materials for the major projects, including rough drafts, final drafts, and all feedback you received in peer review and on Blackboard. If you also wrote work logs or writing journals, have them in a place where it's easy for you to refer to them.

Next, remind yourself of your personal goals for the semester by rereading your Course Goals Memo from Week 2.

Then, review your materials for Major Projects 2-4 (Career Documents, Problem Primer, Community Research Report). As you do this, take notes about how your work on these documents shows work towards your goals. These notes will help you create the "evidence" for your Course Reflection.

Once you've assembled your materials and made some notes, decide which evidence relates most convincingly to the goals you set for yourself in this course.

Questions for Drafting:

- How would you evaluate your progress towards your goals this semester? Where did you succeed and why? Where did you fall short and why?
- What actions did you take this semester that helped you meet your goals?
- What "evidence" from your major projects supports your assessment of each of your goals? For example, does your Problem Primer (Project #3) show how you learned to manage time during a research project? Does your Community Research Report (Project #4) show that you learned new document design skills?
- What skills will you continue to work on after this course?
- What skills or information did you learn that will be most helpful for you as you continue in your major or career path?
- What do you know about technical writing now that you didn't know when the semester started?

The next step is to write your course goals in memo format.

Note 1: You can find more information about writing memos in your textbook. Refer again to Chapter 3: Setting Your Course Goals.

Note 2: Below is a quick checklist of the parts you need in this email, in order. You can use it to help you make sure you have all the components:

- Subject (Gives a clear idea of the email contents)
- Salutation (Dear...)
- Introduction (Give your name, discuss your goals, preview your conclusions)
- Goals: (Give each goal you want to talk about its own paragraph and provide evidence from your work this semester to show how you met your goal or extended your skills.)
- Conclusion (talk about your takeaways from the semester)
- Closing line (Sincerely or Cordially are good choices for formal writing or people you don't know well. You could also choose less formal options like "All the best" or "Thanks.")
- Signature (your name or initials)

Due Dates

Project Stage	**Due**
Final Draft	[WEEK 15/16]

Final Submission Checklist

[Give instructions to students on how to format their assignments here.]

- Self-Assessment Email
  - I have briefly reviewed the goals I chose for myself in the Course Goals Memo.
  - I have evaluated my success at accomplishing each goal, using evidence from the major projects I did this semester.
  - I have used memo formatting.

CHAPTER 14: REFLECTIVE WRITING FOR TECHNICAL COMMUNICATION

Kat Gray and Dawn Atkinson

Introduction

The final project for this class returns to the memo genre and asks you to reflect on your experience doing the work of the class. The course reflection memo is an opportunity to think about the goals you have set and how the work you have done over the semester helped you to meet those goals. This document is an opportunity to talk about where you've succeeded, where you've struggled, and what lessons you can take away from the class.

In this chapter, you'll learn about what reflective writing is and how reflection helps you to become a self-regulated learner. Then, you'll read about some activities you can do to help you prepare for writing your course reflection memo.

What Is Reflective Writing?[1]

Reflection is an element of writing that is easy to forget to make time for. When we finish a writing project, we're often on a deadline, and we probably have another project to start on. However, stopping to reflect on your work can help you to improve your technical writing process for the future. As Carmen Nobel (2014) wrote, reflection increases self-efficacy – that is, reflection helps us understand the decisions we make when we write and feel more confident about the next writing project we undertake.

As an introduction to the importance of reflecting on performance, read an article entitled "Reflecting on Work Improves Job Performance" (Nobel, 2014). Afterwards, work with a small team to complete the following tasks based on your understanding of the reading.

1. Identify the main point of the article.
2. Identify the evidence used to support the main point.

1. Based on Dawn Atkinson, "Reflecting on Performance," in *Mindful Technical Writing*.

3. Discuss whether you agree with the main point, and supply explanations for your answers.
4. Discuss how the article applies to a student's academic work in college.
5. Present your group's findings in a brief, informal presentation to the class.

Self-Regulated Learners Reflect on Performance

When people reflect on their performance on a task or series of tasks, they focus on things they have done previously—by taking a close, honest look at personal beliefs, actions, and expectations—with the aim of improving future endeavors. To better understand how reflecting on performance might be applied in an academic setting, read the following case study and the information that accompanies it, which are adapted from the Supporting and Advancing Geoscience Education at Two-Year Colleges project (SAGE 2YC, 2017).

Case Study: Tina's Understanding of Her Efforts in College

As a first-generation college student and single mother, Tina strives for a better life for herself and her daughter. She knows that a college education will set her on a path to a rewarding livelihood, but juggling college, work, and family puts many different demands on her time. Tina is dedicated to her studies, and she dutifully highlights her textbook readings and spends long hours preparing her first writing assignment the day before it is due. Nevertheless, she earns a mediocre grade on the writing assignment and afterwards thinks to herself, *I guess I'm not cut out for college after all. I work so hard, but I still don't have what it takes to earn the high grades I need.*

Although Tina feels discouraged, by redirecting her time and energy to more effective ways of tackling assignments, she can likely bring about a more rewarding academic experience, which, in turn, can boost her motivation and feelings of *self-efficacy* (her belief in her capacity to achieve goals). This statement is likewise true for all students. Key to making progress is learning how to reflect on one's own processes, a step that is integral to the cycle of self-regulated learning illustrated in **Figure 14.1**.

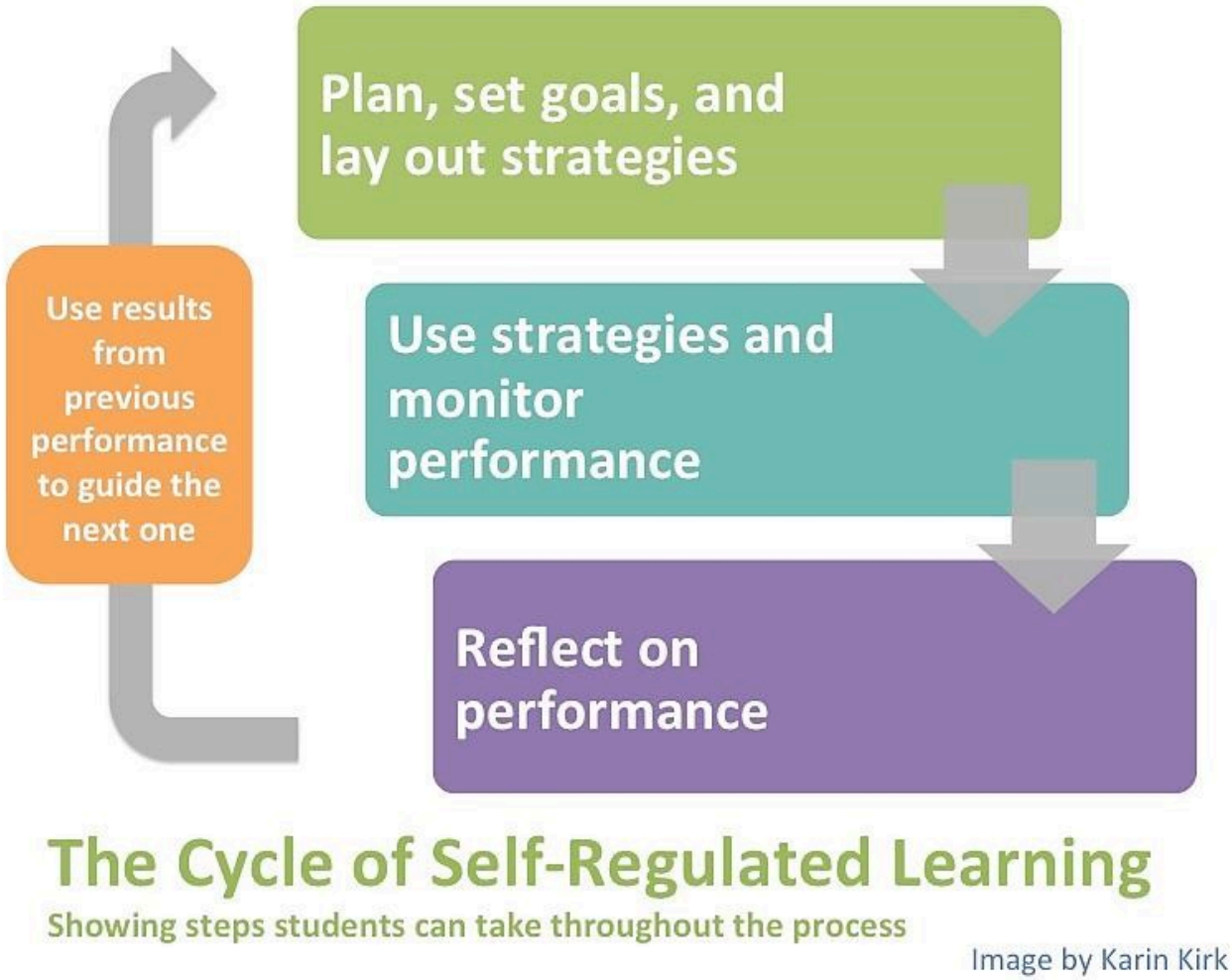

Figure 14.1. Phases of the self-regulated learning cycle (Kirk, 2017)

In the cyclical process of self-regulated learning, a student plans for a task, monitors his or her performance, and then reflects on the outcome. The cycle then repeats as the student uses the reflection to adjust and prepare for the next task. We will now take a closer look at how to implement steps in the cycle.

Phase 1: Plan, Set Goals, and Lay Out Strategies

Before you begin working on a task for a class, establish a plan for completing it so that you can be efficient with your time and effort. The following prompts can help you develop a plan.

- Analyze the learning task. Is it a task you have done before, or is it something new? Does it build on a homework or in-class activity you completed in the past? How much time will it take? How much focus will you need?
- Set goals. How will you structure the task? What are the intermediate checkpoints and sub-goals? For

example, can you complete an outline with two weeks to go and then a rough draft one week prior to the due date? That plan would likely allow you time to seek out extra help as needed.
- Plan strategies. Will you need resources from the library, and how can you go about finding them? Will you need to book appointments with a writing tutor and your instructor? Given your needs, when should you get started on the task?
- Set expectations for the outcome. Given how much time you have available, your strengths and weaknesses, and your current standing in the course, what type of outcome would you like?
- Work out how to proceed if obstacles arise. For example, if you do not understand some of the assignment directions, plan to ask the instructor for clarification during office hours.

Phase 2: Use Strategies and Monitor Performance

In this phase, proceed with your plan. Because you have already created the plan, you can now focus exclusively on carrying it out. Here are some key points to consider as you work through this phase.

- Think carefully about the actions you take and their effectiveness. For example, you might think, *when I studied in a quiet location in the library, I completed the reading more quickly than when I read at home*. Record the observations in a notebook for future reference. Some instructors require students to write reflective assignments, and your record of observations may be useful for that type of assignment.
- Monitor progress on your goals and sub-goals.
- To help you with this work, consider using the Work Log discussed in Chapter 11. This simple document can help you keep track of how much work you've done and what type; you can also edit the log to include any notes that help you monitor or evaluate your performance.

Phase 3: Reflect on Performance

Reflect on the outcome of your efforts: in other words, think about how you did on a particular assignment, why you earned the score you did, and how you can use the knowledge to improve future outcomes. Take into account the following points while reflecting.

- Compare your performance to your main and sub-goals rather than comparing it to other students' performance. Reflection requires looking inward for answers rather than looking at how others did.
- Consider the effectiveness of your plan. Did it produce the outcomes you aimed for? If not, what changes will you make to a plan for a future assignment? How did your timeline for achieving sub-goals work out? What changes would you make to a similar timeline in future?
- Consider the effectiveness of the individual strategies you outlined as part of your plan. Did you implement the strategies? Did you select appropriate strategies? If not, what other strategies can you try

next time?

- Use your thoughts about your performance to plan for a future task. How will you adapt your approaches to planning, using strategies, managing time, and monitoring your performance?

Again, the phases outlined here are cyclical, meaning that they should continue during a semester and throughout your academic career as you refine your approaches to assignments. Writing is a skill, and skills can be developed with work. For the work to be maximally productive, a writer needs to consider the tactics he or she uses when preparing assignments and how those tactics might be modified when preparing future assignments to produce different results. In other words, the writer needs to reflect on performance.

Creating a Course Reflection Memo[2]

A performance reflection usually asks you to do the following:

1. Discuss what you did and why.
2. Reveal the results of your actions.
3. Identify what you learned as a result of the experience.
4. Articulate how you will apply what you learned to future experiences.

Notice that the list is numbered, which indicates that the steps proceed in a sequential order. In other words, to establish context for the reader's benefit, you must first discuss what you did before writing about how you will apply the knowledge gained through the experience to future endeavors.

To create your course reflection memo, you'll need to think through the work you've done for each of the projects in this course along with the feedback you've received over the course of the class and the goals you set in the course goals memo. Below, you'll find three activities designed to help you do just that. Use these activities to generate material for your course reflection memo.

Activity A: Reflect on Your Performance

Although the list above provides a skeleton outline for writing a reflection on performance, you may also use pre-writing strategies to build momentum for your memo, to assemble connections between your thoughts and what the assignment asks you to do. To begin compiling thoughts about the assignment, read through

2. Based on Dawn Atkinson, "Reflecting on Performance," in *Mindful Technical Writing*.

your notes about the actions you took and the effectiveness of the results (see "Phase 2: Use Strategies and Monitor Performance"). Afterwards, try a free-writing activity to see what further ideas come to mind about the assignment.

The following directions for free-writing are adapted from Wilfrid Laurier University (n.d., "Free-Writing Activity").

1. Set a timer for three minutes.
2. Write freely and honestly about your performance until the timer buzzes.
3. Review what you have written.
4. Underline keywords or ideas that might require further exploration or thinking.
5. Set the timer for another three minutes.
6. Write freely and honestly about the keywords or ideas that you underlined until the timer buzzes.
7. Review what you have written.
8. Think about how you might use the free-writing notes to reflect on performance in your assignment.
9. Disregard extraneous or off-topic information from your free-write when producing your draft.

Activity B: Review Your Goals

To understand your work during the course in the proper context, it's important to review the goals you set when you started the course this semester. Access your course goals memo and reread what you hoped to accomplish during the course. In the space below, write down each of your course goals.

Then, review the projects you have completed over the course of the semester. As you look through your work, write down any evidence you find that shows how you have worked on each of your goals. This information will give you a basis to discuss what you have achieved from working on your technical writing skills during the class.

Goal 1:

Evidence:

Goal 2:

Evidence:

Goal 3:

Evidence:

Goal 4:

Evidence:

Activity C: Review Your Writing Assignment Feedback

Reflect on your performance in this writing course by revisiting your assignment feedback to identify positive aspects of your documents and areas for improvement.

What positive aspects of your past assignments have you identified in your feedback?

Aspect 1:

Aspect 2:

Aspect 3:

What areas for improvement have you identified in the feedback you have received this semester?

Area 1:

Area 2:

Area 3:

Once you have compiled some initial ideas for the assignment through free-writing, you may also decide to create an outline to formalize plans for your paper. Use the first set of numbered steps in this section as a starting point for an outline.

Conclusion

Your course reflection memo is the last project in the course, and it gives you time to rethink the work you've done over the semester. As this chapter indicates, reflection is a critical technical communication skill, so taking time to do so is important – reflection helps you integrate the lessons you have learned so that you can improve your writing process in the future. That is to say, whatever you learn in this course, you can extend to any course or professional writing situation you face in the future. From here, you can continually improve your writing and design skills, as well as the processes you developed to execute projects. Happy writing!

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