Howdy or Hello? Technical and Professional Communication

HOWDY OR HELLO? TECHNICAL AND PROFESSIONAL COMMUNICATION

2nd Edition

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CONTENTS

11 - Research

12 - Avoiding Plagiarism and Citing Sources Properly

13 - Collaborative Writing

PREFATORY MATERIAL

Howdy or Hello? Technical and Professional Communication

Second Edition

Texas A&M English 210 OER Committee

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1 - INTRODUCTION

Cassandra Race, David McMurrey, Annemarie Hamlin, Chris Rubio, Michele DeSilva, Claire Carly-Miles, Matt McKinney, Kalani Pattison, and Nicole Hagstrom-Schmidt

Technical and professional writing courses introduce you to some of the most important aspects of writing in the worlds of science, technology, and business—that is, the kind of writing that scientists, nurses, doctors, computer specialists, government officials, engineers, and other professionals do as a part of their regular work. The skills learned in technical writing courses can be useful in other fields as well, including academia, education, and social sciences.

WHAT IS TECHNICAL AND PROFESSIONAL COMMUNICATION?

Cassandra Race; David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Claire Carly-Miles; Matt McKinney; Kalani Pattison; Nicole Hagstrom-Schmidt; and Gia Alexander

Like many technical disciplines, technical communication has an international professional organization, The Society for Technical Communication (STC). They characterize technical and professional communication as either "about technical or specialized topics," communication that "us[es] technology, such as web pages, help files, or social media sites," or communication that "provid[es] instructions about how to do something."[1] In other words, technical and professional discourses involve communicating complex information to a specific audience who will use that information to accomplish some goal or task in a manner that is accurate, useful, and clear. Based on this definition, technical and professional communication can be described as:

- Purposeful
- Goal oriented (in terms of both hard goals like project deadlines and soft goals like rapport-building and maintaining)
- Aimed at audiences of stakeholders with agency and/or relevant credentials
- Shaped by the discursive conventions of a professional community.

When you write an email to your professor or supervisor, develop a presentation or report, design a sales flyer, or create a webpage, you are engaging in technical and professional communication. Along those lines, "technical" and "professional" are used interchangeably throughout this textbook when referring to writers and/or writing produced by them. In this textbook, the word "document" refers to any of the many forms of technical writing, whether it is a web page, an instruction manual, a lab report, or a travel brochure.

Technical writing courses build on what you have learned in other writing courses. But there is plenty new to learn! If you currently have a job in which you do some writing, you will discover that you can put what you learn in your technical writing course to immediate use.

About Technical and Professional Writing

While technical communication is essential in a wide range of fields and occupations, technical writing is also a fully professional field of its own with degree programs, certifications, and theory. An introductory technical and professional writing course is a good way to start if you are interested in a career in technical communication or any career in which writing is a component. Many students in technical and professional writing courses, however, are not necessarily planning for careers as technical writers. That is why this course provides you with an introduction to the kinds of writing skills you need in practically any technically-oriented professional job. No matter what sort of professional work you do, you are likely to be required to write—and much of it may be technical in nature. The more you know about some basic technical writing skills, the better your writing is likely to be, which will be good for the projects you work on, for the organizations you work in, and—most of all—good for you and your career.

Where Does Technical Communication Come From?

According to the STC, technical communication's origins have been attributed to various eras dating back to Ancient Greece (think Rhetoric!)[2] and to the Renaissance, but what we know today as the professional field of technical writing began during World War I, arising from the need for technology-based documentation for military and manufacturing industries.[3] As technology grew, and organizations became more global, the need and relevance for technical communication emerged, and in 2009, the U.S. Bureau of Labor Statistics recognized Technical Writer as a profession.[4]

How "Technical" Writing and "Professional" Writing are Related and How they Differ

Technical communication—or technical writing, as this course is often called—is writing about any technical topic. The term "technical" refers to specialized knowledge that is held by experts and specialists. Whatever your major is, you are developing an expertise and becoming a specialist in a particular technical area. And whenever you try to write or say anything about your field, you are engaged in technical communication.

Professional (or business) writing, on the other hand, covers much of the additional writing you'll be doing in your profession. Professional writing includes correspondence such as emails, memos, newsletters, business letters, and cover letters, as well as other documents such as résumés, social media posts, blogs, and vlogs. While professional writing may convey technical information, it is usually much more brief and targets an individual or small group of readers who may or may not be experts in the field.

Importance of Audience

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

Notes

1. Society for Technical Communication, "Defining Technical Communication," accessed August 14, 2020, https://www.stc.org/about-stc/defining-technical-communication/.
2. Rhetoric in this context refers to the study and art of effective communication, specifically the Greco-Roman rhetorical tradition. It focuses on how and why the communicator crafts their message, how the message is transmitted, and how and why the audience engages with it. See Chapter 2: The Rhetorical Situation for a more detailed discussion of rhetoric.
3. Society for Technical Communication, "Defining Technical Communication," accessed August 14, 2020, https://www.stc.org/about-stc/defining-technical-communication/.
4. Society for Technical Communication, "Defining Technical Communication," accessed August 14, 2020, https://www.stc.org/about-stc/defining-technical-communication/.

THE NATURE OF TECHNICAL WRITING

Cassandra Race; David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Matt McKinney; Kalani Pattison; and Nicole Hagstrom-Schmidt

Did you know that you probably read or create technical communication every day without even realizing it? If you noticed signs on your way to work, checked the calories on a cereal box, emailed your professor to request a recommendation, or followed instructions to send money using an app, you have been involved with technical, professional, or business communication.

Today, writing is a more important skill for professionals than ever before. The National Commission on Writing for America's Families, Schools, and Colleges declares that writing today is an essential skill for many, and that much of what is important in American public and economic life depends on strong written and oral communication skills.[1] Unfortunately, not all college students are entering the workforce well-equipped to write successfully. A survey by the Workforce Solutions group at St. Louis Community College asserts that many employers are concerned at the lack of communication and interpersonal skills among the large number of college graduates applying for jobs.[2]

Good communication skills, particularly in writing, are essential if you are going to succeed in the workplace. The working world depends on written communication because almost every action is documented in writing within modern organizations. Furthermore, many kinds of writing through a variety of communication channels or platforms—including correspondence, presentations, articles, technical reports, and formal reports—are prevalent in most workplaces. The communication within those documents needs to be relevant to the mode of delivery, accurate, and clear.

The Discipline of Technical and Professional Communication

The field of technical communication is a broad one containing professional technical writers, teachers, and people in other professions for whom technical writing is a key component of the job like engineers and researchers. Even if you do not plan on pursuing technical writing as a profession, it can be useful to understand the field and what its prominent practitioners do as a way to inform your own writing.

What Does Technical and Professional Communication Look Like?

Being a technical and/or professional writer does not necessarily mean you are solely a writer. While several companies and organizations may hire technical writers to compose, edit, and distribute documents, writing (and specifically technical writing) is done by individuals across jobs. A mining engineer, for example, must complete technical reports for sites and equipment. A public health nurse may write grants to obtain funding for a new program. Teachers compose progress reports for students and evaluations for peers. Academic and government researchers write articles and reports on their findings.

Examples of technical and professional communication are everywhere, if you know what you are looking for. Check out the CDC's statement about their mission and purpose.[3] Who is the target audience? What information does this document provide? What task or goal will it help to accomplish? What elements of this document do you think make it useful? Does it solve a problem? What about the style of the writing in this government document? Is it concise and accurate? This is just one example of the many kinds of technical documents you will work with in this course.

How Do Technical Writers Ensure Accuracy?

Not all technical writers possess a doctorate or other top-tier credentials to convey complex disciplinary-specific information about a procedure or product effectively. However, conveying information outside of their direct expertise is a challenge technical writers often face. Fortunately, there are several strategies technical writers can employ to ensure the technical accuracy of their work:

- Study of books, articles, reports, and websites related to the topic, issue, or product
- Product specifications: what the product is supposed to do, how it is designed
- Interviews with subject matter experts: specialists, developers, project managers, engineers
- Product meetings during the development cycle
- Live demonstrations of the product
- Familiarity with prior research and discourse on the topic
- Experimentation, testing for feasibility, clinical trials, and replication studies
- Subject matter experts' review of technical writers' work for technical accuracy and completeness

These approaches can also be useful for students of technical writing. In your other courses, you may have been expected to conduct original research using experimental data, primary sources, and secondary sources. Possibly, you have consulted with your peers, your professors, and your TAs to help ensure the correctness of your conclusions. These same skills can be thus applied to technical and professional writing.

What Standards Should I Observe to Make My Writing Successful?

As a member of any organization or team, you want to produce the absolute best writing you can. Here are the standards you must follow and some tips to help you. Good technical writing is:

- **Accurate**. As part of establishing your credibility and producing usable information, your documents must provide information that is credible and well-researched. There is no excuse for presenting incorrect information. In addition, needing to write a new document to correct a mistake costs time and makes you seem unprofessional.
- **Clear.** Technical and professional writing is user focused, meaning that it is successful when the reader understands what you haven written.
- **Complete.** At its most basic, "complete" means that the writer has addressed all common genre components, such as including bibliographic information for citations or sections like an abstract or table of contents. A document's completeness is also based on its audience. Some audiences will need more background information on one area, whereas others will need more details in another.
- **Concise.** For many, "concision" translates to "brief." While concise work tends to be shorter, this standard does not mean you are barred from using complex sentences or words. Every word has a purpose in a technical document. If the words do not add to the meaning, then they can safely be omitted.

- **Professional.** What counts as "professional" varies across contexts and audiences, but in general, audiences expect to see documents that are free from common grammatical and typographical errors. Technical documents also employ a streamlined aesthetic, using consistent fonts, headings, and other visual cues to signal to the reader how information in one part of the document relates to another.

Technical and professional writing within the U.S. is almost always situated in the conventions of Standard Written English (SWE). SWE and those who use it tend to value strict adherence to traditional rules of spelling, grammar, punctuation, and sentence structure, so make sure that you carefully check for these issues when editing. More likely than not, SWE is not an exact reflection of the English you use in casual conversation; also, it closely resembles dialects associated with perceptions of privilege, wealth/class, and conventional systems of power. Consequently, as a technical writer you will need to consider and adjust your linguistic register (formality, tone, word choice, etc.) to communicate effectively within SWE conventions and to fulfill audience expectations.

Strategies for Successful Technical and Professional Communication

Technical or professional writing is intended to solve problems, seek solutions, and provide necessary information that workers will then use to do the same: solve problems, seek solutions, and provide necessary information. Technical and professional writing conventions are thus largely centered around the needs and expectations of their audiences. We will explore this concept further in later chapters, but in order to have a basic understanding of technical writing, it's important to consider the value of your readers' time and to remember to be courteous to them through your documents' content and organization.

How do you ensure that your document will be useful to your readers? Jakob Nielsen observes that readers, or users, won't read content unless it is clear, simple, and easy to understand.[4] "Clear" and "understandable," however, are not synonymous with boring. William Zinsser, author of *On Writing Well*, emphasizes Nielsen's point but with an emphasis on style: "Good writing has an aliveness that keeps the reader reading from one paragraph to the next, and it's not a question of gimmick to personalize the author. It's a question of using the English language in a way that will achieve the greatest clarity and strength."[5]

Legibility

In order for writing to be useful to readers, it first must be *legible*. That is, the document and its contents must be accessible to its audience. If the document itself is unable to be interacted with in its current format, then all content will be lost. For many audiences, legibility is related to visibility.

> **Is the document in a format that can be accessed by the audience?** Different audiences will have different technological needs and tools. Is the audience downloading a PDF file? Viewing the document on a website? Using a screen reader?
>
> **Is the font large enough to be read by a variety of audiences?** The font size is particularly important for presentations and for documents reaching large populations.
>
> **Is the document in an easy-to-read typeface and font that is appropriate for the content?** Computer-written documents offer several kinds of typefaces and fonts that a writer may use.

Different typefaces, like Calibri (the default on Microsoft Word) are designed for reading on computer screens, whereas others are more useful for reading on phones, large projection screens, or in print. Certain typefaces also have "personalities," such as Times New Roman being associated with professionalism or Comic Sans being associated with youth.

Are graphics presented sharply and in appropriate detail? Graphics, including charts, tables, and images, are often crucial tools for helping audiences quickly understand complex information. Watch for "blurry" or "fuzzy" graphics, especially if you are copying an attributed image. For charts and tables, provide clear titles and logical organization so that your reader can quickly identify pieces of information.

Readability

Once you are sure that your document is legible, make sure your writing is *readable*. If you have identified and analyzed your audience, you are off to a good start. Readable means that your document can be easily understood by your target audience, and readability refers to the formula whereby words, sentence length, and sentence complexity determine how hard or easy your sentences are to read. Often, readability is linked to grade level in the written language. Documents aimed at highly educated specialists (such as journal articles) are typically written at higher levels whereas documents aimed at a broad audience (such as government websites) will have a comparatively lower readability score. If your readability is too high for the audience, then they will either take more time getting what they need from your writing or determine that the information won't be of any use to them at all. If the readability is too low, you may come across as condescending, if not unprofessional.

Microsoft Word has a readability test built into the program under the Review tab that will give you a good starting place (Figure 1.1).[6] However, don't rely completely on it to assess the ease or difficulty of your writing. Have a trusted colleague take a look and give you feedback. You can also use one of many free online readability formulas.[7]

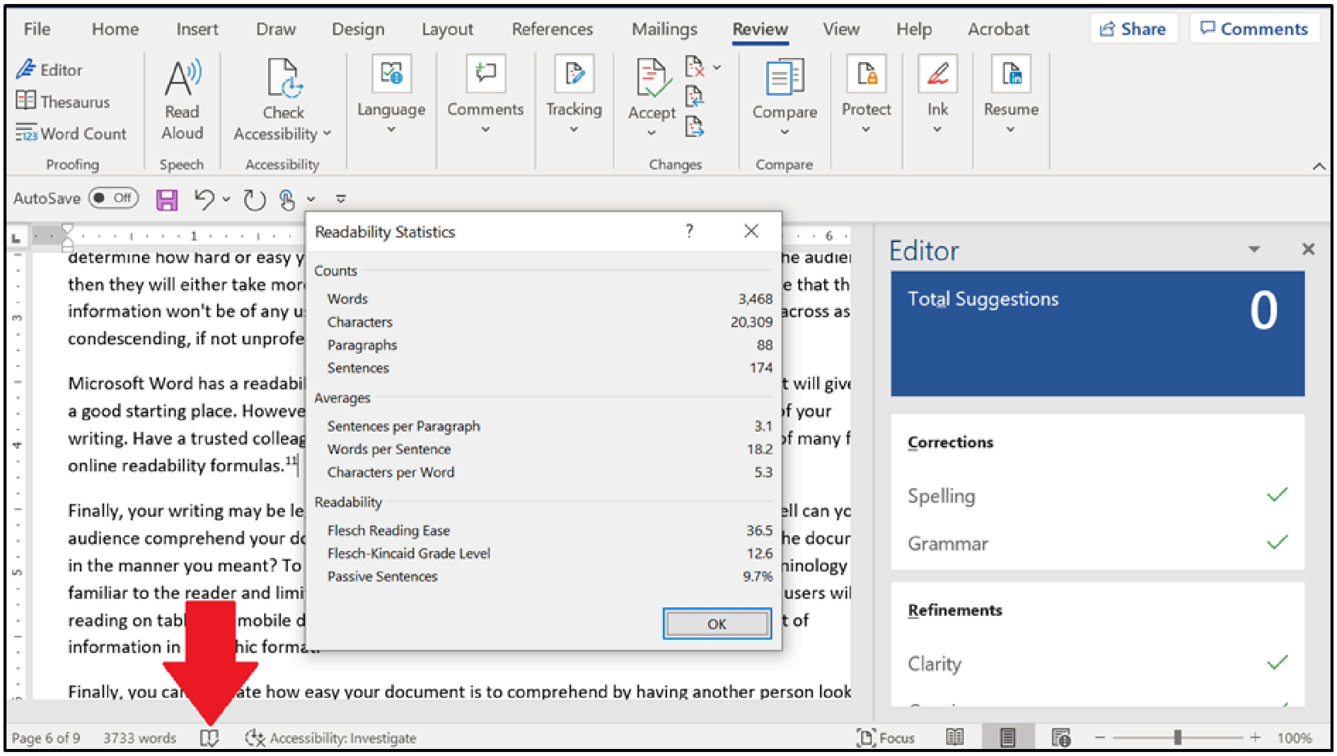

Figure 1.1. Microsoft Word 2019 readability statistics

Comprehensibility

Finally, your writing may be legible and readable, but is it *comprehensible*? That is, how well can your audience comprehend your document in the way you intended? Is the reader able to use the document in the manner you meant? To enhance the reader's comprehension, use language and terminology familiar to the reader and limit paragraphs to one main idea each. Strive for brevity if your users will be reading on tablets or mobile devices. Use visuals such as charts or diagrams to present a lot of information in a graphic format.

Finally, you can evaluate how easy your document is to comprehend by having another person look at it. Ask a colleague to read your text and then tell you what the important ideas are. If you are conveying your ideas clearly, your reader will be able to sum them up and repeat them back to you. This process is often called "peer review" and can be a highly structured exercise in which you ask your reader to answer specific questions about your work, or it can be relatively unstructured as you ask your reader to repeat back the most important points they've taken away from your writing. Peer review will be discussed in greater detail in Chapter 10: Revising and Editing.

Accessibility in Technical Writing

Accessibility is perhaps the most important standard for excellence in technical communication. In this context, "accessibility" refers to how easily readers of all abilities can read and understand your writing. For instance, an accessible document for a person who has low vision would be a document that has OCR text, alternative (or alt-) descriptions of images or content that is not screen readable, and formatted headings to organize the document. Beyond formatting, punctuation and signal phrases—instead of using bold or italics—convey emphasis, and the writer uses clear, straightforward sentences rather than overly complex ones. While it is clear that these accommodations would be especially useful for a reader with low vision, these same features further enhance the clarity for all readers.

What counts as accessibility changes depending on the genre of the technical document. At minimum, the design of your document should be useful, easy to navigate, and with all information easy to locate. Captions on videos, spoken cues throughout an oral presentation, and unique, informative titles for individual web pages on a site all add to the accessibility and ultimate readability of a document. Furthermore, websites and e-learning documents must meet American with Disabilities Act (ADA) laws for accessibility.[8] The ADA National Network provides additional information about the ADA.[9]

Notes

1. College Board, “Writing: A Ticket to Work…Or a Ticket Out,” *A Report of the National Commission on Writing for America’s Families, Schools, and Colleges* (2004).
2. Martha White, “The Real Reason New College Grads Can’t Get Hired,” *TIME*, November 10, 2013, https://business.time.com/2013/11/10/the-real-reason-new-college-grads-cant-get-hired/.
3. U.S. Department of Health & Human Services: Centers for Disease Control and Prevention, “Mission, Role and Pledge,” accessed January 14, 2022, https://www.cdc.gov/about/organization/mission.htm
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CHARACTERISTICS AND CONVENTIONS

Cassandra Race; Suzan Last; Matt McKinney; and Nicole Hagstrom-Schmidt

Like journalism and scholarly writing, technical writing possesses distinct features that readers expect to see. Mike Markell,[1] Sidney Dobrin et al.,[2] Elizabeth Tebeaux and Sam Dragga,[3] and others all identify similar characteristics of technical writing. Below is a summary of those major characteristics and what they might look like in a technical or business document.

Audience Focused. Designing technical communication is like designing any other product for an intended user: the ultimate goal is to make it "user friendly." Therefore, technical and professional documents address a specific audience. The audience may be an individual or a group who may or may not be known to the writer. Potential audiences for technical and professional documents can include fellow employees such as subordinates, colleagues, managers, and executives, as well as clients and other stakeholders, the general public, and even readers within the legal system.

While there is always a primary audience addressed, there may also be a secondary audience. The primary audience is the individual or group who will be directly using the documentation, whereas secondary audiences may use the documents as references or in order to learn about what is going on in a company or organization. For example, your syllabus for calculus is written with students as the primary audience; however, other secondary audiences including college administrators, accreditors, and other professors may use the syllabus for other reasons.

Purposeful. All technical communication requires a purpose for existing. Typically, technical and professional documents are designed to help their user solve a problem or to compel them to act. Common purposes for a technical document include

- Providing technical or specialized information in accessible and usable ways,
- Offering clear instructions on how to do something, and
- Advancing the goals of the company or organization.

For example, the syllabus of your calculus class informs the students what is expected of them and when assignments are due; the university's website provides information to potential students about how to apply or to current students about where to seek assistance.

Professional. Technical communication reflects the values, goals, and culture of an organization, and thus creates and maintains the public image of that organization. Characteristics of "professional" writing include concise, clear, and direct language. To achieve clarity and concision, writers may include specialized terminology, use short sentences and paragraphs, employ active (rather than passive) voice, and make the purpose of the document immediately clear.[4]

"Professional" also refers to tone, or the general mood that a document conveys. Falling between formal and informal, business and technical documents may use first person (I or we) or second person (you). The overall sound of the document is objective, neutral, courteous, and constructive.

Design Centered. Technical communication uses elements of document design (such as visuals, graphics, typography, color, and spacing) to make a document interesting, attractive, usable, and comprehensible. Most of the time, these design elements will be provided for you by company branding, guidelines, or style sheets; however, with smaller or new companies, you may end up in a position where you need to create those style sheets. While some documents may contain only written words, many more use images—charts, photographs, and illustrations—to enhance readability and to simplify complex information. Typically, professional documents are highly structured and use short paragraphs, clear transitions, and structural cues (such as headings and subheadings or transitions) to guide the reader.

Common design features of professional and technical documents include

- Headings and subheadings to organize information into coherent sections,
- Lists to present information concisely,
- Visuals such as figures and tables to present data and information visually, and
- Spacing and alignment to enhance readability.

Collaborative. Because of workplace demands, technical and workplace writing is often created in collaboration with others through a network of experts and designers. Various departments often depend upon each other within a delivery-chain structure, as documents may build from an initial component created by an individual or delegated team to a combination of elements submitted and integrated cohesively by multiple groups. Within this collaborative space, timelines and deadlines also factor into consideration and may affect the pace of communication and production for all parties involved. For more information, see Chapter 13: Collaborative Writing.

Research Oriented. Rhetorically, technical and professional documents usually employ logos, or appeals to evidence, logic, and reason. Statements and claims are evidence- and data-driven. This type of writing therefore depends on sound research practices to ensure that information provided is correct, accurate, and complete.

Tonally Neutral. Effective technical and professional documents make an effort to present information with a neutral tone. Tonally neutral writing allows readers to evaluate and even inform the writer's ideas, such as in peer-reviewed research. Other genres of technical and professional writing, such as proposals and reports, often ask their readers to take action or make a decision based on these documents' content. If the writing is biased towards one conclusion or another, it can inhibit the reader's ability to make the best decision by obscuring all potential options and their merits.

Ethical. Lastly, technical communication is ethical. All workplace writers have ethical obligations, many of which are closely linked to legal obligations that include liability laws, copyright laws, contract laws, and trademark laws.

Ultimately, technical documents are intended to communicate accurate information to the people who need it, in a way that is clear and easy to read, at the right time to help make decisions and to support productivity.

Notes

1. Mike Markell, *Technical Communication*, 11th ed. (Boston, MA: Bedford/St. Martins, 2015).
2. Sidney Dobrin, Christopher Keller, and Christian Weisser, *Technical Communication in the Twenty-First Century*, 2nd ed. (Upper Saddle River, NJ: Pearson Prentice Hall, 2010).
3. Elizabeth Tebeaux and Sam Dragga, *The Essentials of Technical Communication*, 2nd ed. (New York, NY: Oxford University Press, 2012).
4. On October 13, 2010, President Obama signed into law the Plain Writing Act of 2010, which is designed to promote clear government communication that the public can understand and use. This Act calls for writing that is clear, concise, and well-organized. See "Law and Requirements," *Federal Plain Language Guidelines*, Mar. 2011, https://plainlanguage.gov/law/

2 - RHETORICAL SITUATION

Rhetorical Situation: An Overview and Key Terms

Matt McKinney, Nicole Hagstrom-Schmidt, Anonymous, and Kalani Pattison

In the classical tradition, the art of persuasion is called rhetoric. In ancient Greece, this practice referred to spoken communication; now, rhetoric encompasses all forms of communication: written, verbal, and nonverbal. The circumstances in which you write a report, give a presentation, or communicate in any way form the **rhetorical situation**. "Circumstances" refers to the purpose of the communication, the audience, the writer/speaker's abilities and expertise, the form of the communication (among many options: PowerPoint presentation, hard copy, double-spaced report, animated visuals), the occasion for which the communication was created, the actual content of the communication, and any surrounding social, political, or geographical contexts that impact communication.

Your understanding of the rhetorical situation will guide you as you employ various strategies that will then guide your listeners as they perceive and interpret your message. Several of the first questions audience members ask themselves are these: "Why should I listen to you?"; "What does what you are saying have to do with me?"; and "How does this help me?" We communicate through the lens of personal experience, and it's only natural that we would relate what others say to our own needs and wants, but by recognizing that in our humanity we share many of the same basic motivations, we can find common ground based on mutual interest.

The rhetorical situation involves six elements: topic, deliverer, purpose, audience, genre/form, and context[1]:

> **Topic.** The specific focus of a rhetorical situation. Both the deliverer and audience typically have a relationship with the subject, and there are often conventions for discussing them.
>
> **Deliverer.** Also referred to as the "author," "writer," "speaker," or "creator," depending on the type or medium of communication. The person composing and sending a message on the subject/topic. May assume a particular identity (ethos) to do so effectively.
>
> **Purpose.** The deliverer's goal in relation to the topic and for addressing the audience. In technical and professional communication, the goal is almost always to persuade or inform.
>
> **Audience.** The person(s), teams, organizations, or departments who may be receiving/consuming the deliverer's message. The deliverer's understanding of their audience is crucial.
>
> **Genre/Form.** How the deliverer is transmitting the message and employing the conventions that accompany that textual form (text can refer to a variety of media, not just written forms).
>
> **Context.** The broader background information in which this specific rhetorical interaction is situated.

By understanding the rhetorical situation, you can gauge the best ways to reach your readers or listeners and get your points across. In so doing, you'll make the transition from your viewpoint to that of your audience. Remember that in order for communication to be effective, you require an audience to listen and respond to you. By looking to your audience and addressing their needs, you shift your attention from an internal focus (on yourself) to an external one (on them/others). This "other orientation" is key to your success as an effective communicator.

Notes

1. Charles Kostelnick and David Roberts, *Designing Visual Language: Strategies for Professional Communicators* (Needham Heights, MA: Allyn & Bacon, 1998).

TOPIC

Matt McKinney; Nicole Hagstrom-Schmidt; and Anonymous

Although a self-evident component of any communication, the **topic** (or subject) is an important focal point for mapping any rhetorical situation. Specifically, the topic being discussed situates the audience's and the deliverer's assessment of one another, as well as the deliverer's strategies in appealing to the audience. For example, if a company hires a consultant to improve its hiring practices in terms of diversity, focusing on the topic of diversity helps us both to understand why the speaker's credentials might be relevant and also to anticipate how the company's management and workforce might understand and respond to the speaker.

Clearly describing the topic in a document also provides a more holistic and neutral understanding of what is being discussed, as compared to the purpose, or why a writer is discussing something (see "Purpose" section). The consultant may have specific goals in terms of promoting diverse hiring in the company, but this is a narrower understanding of diversity than the speaker and audience may possess.

Lastly, delineating the topic provides an anchor for determining what background information is contextually relevant. For example, the political controversy surrounding affirmative action and workplace protection laws is relevant to diversity in a company, but other political issues such as prayer in schools may not be.

DELIVERER

Matt McKinney; Kalani Pattison; Nicole Hagstrom-Schmidt; and Anonymous

The **deliverer** (author/writer/speaker/creator) is the person engaging the audience in communication. Rhetorical analyses focused on deliverers typically explore their background and credentials, their relationship to their audience(s), and their relationship to the topic.

Deliverers are an important part of any rhetorical situation for a number of reasons. First, they initially determine how the topic will be framed and discussed. While effective deliverers typically frame their presentations or texts in response to their audience's interests and needs, they also try to synthesize those needs with their own interests, strengths, and goals.

The deliverer's relationship with their audience can affect tone and content, especially if they know the audience personally. For instance, if the deliverer is addressing their boss or supervisor, they may need to be particularly certain to employ a respectful tone, and if they are addressing friends or coworkers, they may be able to use more informal language and refer to shared experiences and knowledge more freely.

Deliverers will also frame their own identities as part of this process. The persona that a deliverer uses in any communication to promote their credibility is called their **ethos**. In the "Topic" section's hypothetical scenario above, the consultant might identify themself as an expert on the topic of diversity in hiring. They might identify themself as someone with work experience similar to that of their audience. The consultant could even identify themself as someone who has benefited from diversity in hiring or suffered unfairly because of a lack of diverse hiring. A combination of some or all of these strategies is yet another possibility. Ultimately, focusing on deliverers when we are analyzing a rhetorical situation helps us understand both the choices that are available to them and the choices they make, as well as better understand ourselves when we occupy the role of deliverer.

PURPOSE

Matt McKinney; Nicole Hagstrom-Schmidt; and Anonymous

A presentation, report, application, or other document may be designed to inform, demonstrate, persuade, motivate, or even entertain. Purposes may also be combined, depending on the topic and aims of the document. For example, your primary purpose may be to persuade, but the audience after lunch may want to be entertained, and your ability to adapt can make use of a little entertainment that leads to persuasion. The purpose of your document is central to its formation. Much as you would with an effective thesis statement in an essay, you should be able to state your main purpose in one sentence.

As is true of all six components of a rhetorical situation, purpose is relationally bound to the other five. For instance, a deliverer's ethos will be tied to purpose. Again, consider the hypothetical scenario in which a company has hired a consultant to improve its hiring practices in terms of diversity. In this situation, the consultant's purpose is likely to inform and persuade, since they want the audience to change their hiring practices and also to be enthusiastic about this change. To accomplish this, the consultant may focus on establishing an expert ethos, referencing outside experts, and/or persuading by using the ethos of someone who has benefited from similar changes.

Purpose also connects heavily to genre and form. This connection exists because all textual forms privilege some rhetorical choices over others, and genres reflect audience expectations. For example, imagine that the company's management wants to email their employees about changes in their hiring practices. Emails are traditionally a professional form of communication, so the speaker's purpose is likely going to be informing their audience of the changes. This purpose will also be reflected in the use of formal language, shorter paragraphs, and short, informative subject lines.

By contrast, if the company is announcing these changes to the general public on a social media platform, their purpose is likely going to be to motivate or entertain, since that form of communication is much more casual, and there is far more competition for their audience's attention. This purpose might be reflected in the use of exclamation points or all caps, the use of emojis or hashtags, or the inclusion of memes or gifs—none of which are common in professional emails.

AUDIENCE

Annemarie Hamlin; Chris Rubio; Michele DeSilva; David McMurrey; Anonymous; Kalani Pattison; and Nicole Hagstrom-Schmidt

The audience of technical and professional writing—or of any writing, for that matter—is the intended or potential reader(s) or listener(s). For most technical communicators, audience is the most important consideration in planning, writing, and reviewing a document. You adapt your writing to meet the needs, interests, and background of your readers. Giving attention to this aspect of the rhetorical situation will allow you to gain insight into how to craft your message before you present it.

Audience Analysis

Analysis is the process of breaking something larger down into its smaller parts. In **audience** analysis, you are looking for traits that your audience possesses in order to better appeal to them in your written or spoken communication. Every audience has expectations, prior knowledge, and experience. When they read your documents or listen to your speech, they have a purpose or reason for doing so, such as needing to know the schedule for next week's lab meeting or finding sources for a research report. They also have a wide range of characteristics including social class, gender, age, race and ethnicity, cultural background, and language that make them unique and diverse. What kind of audience will you be speaking to? What do you know about their expectations, prior knowledge, or backgrounds? How do they plan to use your information?

The lack of audience analysis and the failure to adapt to audience needs and expectations are major causes of most problems you find in professional and technical documents. The sections below offer a method for analyzing your audience, step by step.

Types of Audiences

One of the first things to do when you analyze an audience is to identify its type or types. The following categories describe some of the main audiences you will encounter:

> **Experts.** Experts know the theory, business, organization, subject, or product inside and out. They design it; they test it; they run it; they know everything about it. Often, they have advanced degrees and operate in academic settings or in research and development areas of the government and technology worlds.
>
> **Technicians.** Technicians build, operate, maintain, and repair the items that the experts design and about which they theorize. Technicians possess highly technical knowledge, but of a more practical, hands-on nature than that of theoretical experts.
>
> **Executives.** Executives make business, economic, administrative, legal, governmental, and political decisions about the products of the experts and technicians. Executives are likely to have as little technical knowledge about the subject as non-specialists. For many writers, this will be a primary audience.

Non-specialists. Non-specialists have the least technical knowledge of all. They want to use the new product to accomplish their tasks; they want to understand the new power technology enough to know whether to vote for or against it in an upcoming election; or they may just be curious about a specific technical matter and want to learn about it. Chances are, these readers will represent a secondary audience for you.

Important Audience Characteristics

It is important to determine which of the preceding four categories represents your potential audience(s), but that's not the end of it. Audiences, regardless of category, must also be analyzed in terms of other characteristics such as those listed below.

Background (Knowledge, Experience, Training)

As a writer, you will want to know just how much knowledge, experience, or training you can expect in your readers. If you expect some of your readers to lack a certain background, do you automatically supply it in your document? Consider an example: imagine you are writing a guide to using a software product that runs under Microsoft Windows. How much can you expect your readers to know about Windows? If some are likely to know little about Windows, should you provide that information? If you say no, then you run the risk of customers getting frustrated with your product. If you say yes to adding background information on Windows, you increase your work effort and add to the page count of the document (and thus to the cost). Obviously, there is no easy answer to this question—part of the solution may involve just how small or large a segment of the audience needs that background information.

Needs and Interests

To plan your document, you need to know what your audience is going to expect from that document. Consider how readers will want to use your document and what they will demand from it. For example, imagine you are writing a manual on how to use a new smartphone—what are your readers going to expect to find in it? Or imagine you are under contract to write a background report on global warming for a national real estate association—what do readers want to read about, and equally important, what do they not want to read about?

Other Demographic Characteristics

And of course there are many other characteristics about your readers that might have an influence on how you should design and write your document—for example, age groups, type of residence, area of residence, gender, political preferences, and so on.

Complicating Factors in Audience Analysis

Audience analysis can be complicated by at least two other factors: multiple audiences and mixed audience types (or wide variability within the audience).

More Than One Audience

You are likely to find that your report is for more than one audience. The people whom you are directly addressing are your primary audience. Other people who are involved in the situation and who can be expected to read the document (such as technicians, experts, administrators, or people in another department) make up your secondary audience. The tertiary audience might consist of people who are somewhat removed from the situation but may have cause to read the document at some point. Depending on the context, these readers might include lawyers, accountants, journalists, shareholders, or the public.

What should you do in this case? Either you can write all the sections so that all the audiences of your document can understand them, or you can write each section strictly for the audience who would be interested in it and then use headings and section introductions to alert your audience about where to find the information most relevant to their area of interest within your report. See Chapter 20: Recommendation Reports for additional information.

Wide Variability in an Audience

You may realize that although you have an audience that fits into only one category, its background varies widely. If you write to the readers with very little or no technical knowledge, you are likely to end up with a cumbersome, tedious, book-like report that will turn off the majority of readers. However, if you do not address the needs of those readers, you will lose that segment of your audience.

What should you do? Most writers focus on the majority of readers and sacrifice that minority who needs more help. Others put the supplemental information in appendices or insert cross-references to beginners' books.

GENRE/FORM

Allison Gross; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Kalani Pattison; and Nicole Hagstrom-Schmidt

When you hear or read the word **genre**, what comes to mind? For most of us, the word makes us think of types of music, books, or films. Typically, we use this word to differentiate between country, rock, classical, or hip-hop music; between science fiction, romance, biography, or self-help books; between comedies, dramas, action/adventure films, or documentaries. However, when researchers and scholars of writing use the term "genre," they mean something a little different.

For researchers, "genre" refers to a typical way of organizing, presenting, and using language in situations that repeat over time. In order for a document to be part of a particular genre, it usually follows a set of often unspoken rules or expectations. For example, we often think of résumés as being documents that have bullet points and multiple headings for education, work experience, or special skills. Of course, anyone who has created a résumé knows that these rules have some flexibility. Some résumés may start with an Objective or Summary statement; others may choose to put Education at the end of the document rather than near the top. Still others may opt for the use of color or customized layouts, especially in design fields. Consider the examples below in Table 2.1. Can you visualize what each genre looks like? Where are you likely to see the genre? What is the typical purpose of the genre? Who is the writer or deliverer of the genre? Who is the audience?

Table 2.1. Genre examples.

Genre Examples	
A complaint letter	A syllabus
An insurance claim	A scholarship application
A job description	A résumé
An annual review	A lab report
A legal brief	A to-do list
A proposal	A letter of acceptance
A personal statement	A restaurant menu

In every one of the examples above, you can easily imagine who uses the text, where, when, and for what purposes. A job description is created by a company to advertise a particular position and/or to outline the responsibilities for the person applying/hired. It is either an official document (when used for an employee), or it is a tool used to hire somebody (both company/organization and potential candidates use the description to decide if a person is qualified). See Chapter 16: Applications for more information.

Alternatively, take your course syllabus as an example. This genre is used by teachers and students to facilitate communication about course expectations. Students are the primary audience for the course syllabus, but there are also additional audiences for the syllabus: other teachers of the course, the instructor's supervisor, administrators, etc. This one document is actually responsible for a tremendous amount of work.

Knowing who uses a text and why they use it can help you figure out what the content of a piece of writing needs to be, as well as how to present that content. Consider a job description: it typically begins with an overview of the job as well as minimum qualifications. Why does it begin there? Why isn't this information at the end or in the middle somewhere? The overview acts as a kind of advertisement; it is there to attract candidates to the position. However, the minimum qualifications quickly help candidates to consider whether or not they should apply, which in turn saves the company extra work identifying people who do not qualify. In that sense, the minimum qualifications help both the job searcher and the company work more efficiently.

Sometimes, however, the minimum qualifications are found later in the job description. Can you imagine a reason for that? If so, then you are conducting genre analysis. Moreover, you identified another important principle that applies to genres: they are not formulas. In other words, there is no one exact way to write them. Instead, genres are governed by what are called "conventions" or guiding principles. Regardless of genre, there are always likely to be exceptions, which is why adopting a curious attitude about writing, instead of looking for the "right way" to write something, will serve you better as a writer and a professional. It will also help alleviate frustration when what you thought was the "right way" to write something ends up requiring editing or modification.

Genre Systems

The more you can think about how your writing will be read, the better your writing will be. Imagining your audience is an important part of that process, and so is thinking about the other genres your writing will interact with. For example, a job description often prompts a job applicant to put together a cover letter and résumé. The candidate will be informed—typically through a phone call or email—that they have been selected in some fashion and will perhaps be asked to provide further application materials, such as letters of recommendation or documentation of training/experience.

The term given to the intersecting genres that facilitate a particular kind of work is **genre system or genre set**. Often this term is used to refer to the genres that work together as part of a larger organization. While you may never actually use the term "genre system," the idea of a genre system is something that all writers in workplace settings are aware of to some degree. For example, an organization might use content from a report you have written to create new policies, procedures, or bylaws, or perhaps as evidence supporting a new initiative or grant. If you know what genres your writing might become part of later, you can design documents anticipating those needs. The more you can anticipate the different situations that might be impacted by the writing you do, the more quickly you will advance as a writing professional.

Table 2.2 below presents examples of some different genre sets to help you think about the amount and diversity of writing/communication work that is involved in any profession, even ones that are not normally thought of as writing intensive.

Table 2.2. Examples of genre sets.

Teacher	Nurse	Engineer
Syllabi	Shift Reports	Analyses
Course Schedules and Calendars	Patient Notes	Project Descriptions
Learning Outcomes	Patient Charts	Action Reviews
Lesson Plans	Patient Narratives	Progress Reports
Assignment Sheets	Careplans	Incident Reports
Handouts	Discharge Instructions	Inspections Reports
Presentations	Orders	Presentations
Student Assessments/Progress Reports/Grading Comments	Incident Reports	Proposals/Plans
Lecture Notes	Policies and Procedures	Recommendations
Discussion Notes	Training/Continuing Education Exams	Patents
Recommendation Letters	Grants	Meeting Notes
Reports	Staff Performance Appraisals	Memos
Emails	Emails	Emails

In short, writing is everywhere in professional life. The genres that you use will vary, but they are often interconnected within a broader system based on the priorities of the job itself, the employer, and the field at large. By paying attention to what the unwritten genre rules of a workplace (or school, organization, or home) are and how those genres connect with each other, you will improve your writing skills in those genres.

CONTEXT

Anonymous; Matt McKinney; and Nicole Hagstrom-Schmidt

Context refers to all the surrounding factors that impact a document's creation and presentation. These factors include physical considerations, such as the location of a speech or whether a document is electronic or printed. Other surrounding factors could be social, cultural, and political considerations such as political climate, current events, and how different groups of people interact. For example, if you are going to be presenting a speech in class, your context will include the familiar space of your classroom, the time of day you are presenting (8:00 a.m. or after lunch), the time limit of your presentation, whether you can (or must) use visual aids such as slides or handouts, and any current events such as the football team winning a game the night before, or a global pandemic resulting in half the class participating virtually.

Context is also interdependent with the other five elements in the rhetorical situation. The audience, for example, is often central to the context of a rhetorical situation, because their needs and expectations for the deliverer are shaped by social and professional expectations. The deliverer's ethos and purpose can also be shaped by these same factors or by a different context entirely. For example, a chemical company might own plants in the United States and Japan. If a manager from the U.S. plant plans to conduct a conference call, face-to-face meeting, or presentation with their colleagues in Japan, they likely will not approach these rhetorical situations exactly as they would for an all-American audience. Instead, they will have to be mindful of both cultural contexts in order to adapt their communication effectively to their audience's expectations.

Genre conventions themselves emerge from specific contexts that change over time. Context can also determine what topics are important to potential audiences and deliverers in a given moment (in rhetoric, this is called **kairos**, which refers to a particularly favorable moment for an action or decision to occur).

As a functional example of context, you can analyze the rhetorical situation of a recommendation report for a business:

- First, the context of the report will include the issue that the company wants investigated and addressed (i.e., the topic).
- The culture and business practices of the company are likely connected to the issue, so they are also contextual factors that shape the audience's needs and expectations regarding the report, as well as the deliverer and their purpose.
- Recommendation reports typically follow project proposals, progress reports, and/or forms of correspondence; all of these prior documents and exchanges will shape the report's context.
- The roles and responsibilities the audience and deliverer have within the company will contextualize the report as well.
- Further still, the way the report is structured and formatted will also be influenced by genre conventions, which can be contextualized both by the company and the larger industry in which it participates.

As this example illustrates, the layers of context that shape and influence a rhetorical situation expand widely in scope, with wider layers like industry standards and culture influencing narrower ones like deliverer-audience relationships. Concretizing these dynamics helps writers determine which ones are more important, particularly the ones that may be less obvious at first glance. Whenever you craft technical documents, always take context into account.

This text was derived from

University of Minnesota. *Business Communication for Success*. Minneapolis: University of Minnesota Libraries Publishing, 2015. https://open.lib.umn.edu/businesscommunication/.

USING RHETORICAL PRINCIPLES TO PRODUCE READER-CENTERED WRITING

Suzan Last; David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Kalani Pattison; and Nicole Hagstrom-Schmidt

The need to understand the rhetorical situation clearly applies to reading texts, but how do you apply your understanding of audience, context, purpose, and genre to writing texts? Writing can be conceptualized as writer-centered or reader-centered. Texts such as diaries and journals are primarily writer-centered: they are written for the benefit of the writer. Technical and professional communications require that you shift this mindset and write for the benefit of your reader or user. This mindset should be informed by an understanding of your audience. Consider the following questions:

> **Who is your target audience?** Are they internal or external readers? Upstream, downstream, or lateral in relation to you? Are there multiple readers?
>
> **What is your goal or purpose in writing to these readers?** What do you want your audience to do as a result of reading this document or hearing your presentation? How does the content and organization meet the audience's needs?
>
> **What is your reader's goal?** Why does this audience want or need to read this document? What are they expecting to do with the document? Getting a clear understanding of your audience is important in communicating effectively. It also enables you to imagine your audience as you write and revise.
>
> **What form/genre will the audience expect?** What are the qualities and expectations related to this particular genre or form? How can the layout be designed to make it as easy as possible for the reader to use and follow the content?
>
> **What does the audience already know or accept about the topic?** Appealing to your readers means presenting content in a way that it is accessible for their level of knowledge. You can also use this information to determine what sources will be most convincing and understandable.
>
> **What external contexts will influence how your text is understood?** Are there any major national or global events, such as a pandemic, occurring? Were there any recent major changes to the organization? What is the status of your audience relative to other layers in their organization or in the professional world? How will your text be presented and read? Will it be in hard copies that can only be read at the office? In a PDF file?

Adapting your Writing to Meet Your Audience's Needs

Once you have analyzed your audience, how do you plan to use this information? How do you keep from writing something that may potentially still be incomprehensible or useless to your readers? The lists below are some of the ways you can adapt your writing to your audience's needs.

The following suggestions deal with making technical information more understandable for non-specialist audiences, and they refer to information you will refine as you begin to put your final document together.

Provide the Right Information

Add information that readers need in order to understand your document. Check to see whether certain key information is missing—for example, a critical series of steps from a set of instructions; important background information that helps beginners understand the main discussion; definition of key terms.

Omit information your readers do not need. Unnecessary information can also confuse and frustrate readers. After all, if something is present there, readers feel obligated to read it. For example, you can probably remove complex theoretical discussion from basic instructions.

Change the level of the information you currently have. You may have the right information, but it may be "pitched" at too high or too low a technical level. Alternatively, the information may be targeted at the wrong kind of audience, such as at an expert audience rather than a technician audience. This issue happens most often when product-design notes are passed off as instructions.

Add examples. Examples are one of the most powerful ways to connect with audiences, particularly in instructions. Even in a non-instructional text, for instance, when you are trying to explain a technical concept, examples (analogies, in particular) are a major source of help.

Change the level of your examples. You may be using examples, but the technical content or level may not be appropriate to your readers. Personal anecdotes or stories may not be useful to experts; highly technical examples may totally miss your non-specialist readers.

Guide Your Reader Through Your Writing

Write strong, to-the-point introductions. Audiences have more confidence in a writer and their document when they have the "big picture" view of what's coming and how it relates to what they've just read or heard. Therefore, write a strong introduction to the entire document that clearly identifies the topic and purpose, and foregrounds the contents of the document. In each major section within your document, use mini-introductions that indicate at least the topic of the section and give an overview of the subtopics to be covered in that section.

Re-organize your information. Sometimes, you can have all the right information but arrange it in the wrong way. For instance, there can be too much background information up front (or too little), causing certain readers to get lost. Sometimes, background information needs to be consolidated into the main information rather than in an introduction or separate section. In instructions, for example, it is sometimes more effective to insert chunks of background at the points where they are immediately needed.

Create topic sentences for paragraphs and paragraph groups. A sentence identifying the main focus of a paragraph or section is immensely helpful for orienting readers. Typically, a "topic sentence" is the first sentence of the paragraph. In it, readers should be able to identify what the focus of the following paragraph is and the paragraph's relationship to a preceding paragraph or section.

Strengthen transitions. It may be difficult for readers, particularly non-specialists, to see the connections between the main sections of your report, between individual paragraphs, and sometimes even between individual sentences. To help readers with these connections, use **transitions**—words or phrases that indicate the relationship between ideas, sentences, and paragraphs. Words such as "therefore," "for example," and "however" are transition words; they indicate the logic connecting the previous thought to the upcoming thought. You can also strengthen transitions by thoughtfully echoing the same keywords. A report describing new software for architects might use the word "software" several times on the same page or even in the same paragraph. In technical prose, it is preferable to use the same terminology throughout the document rather than to insert less-precise synonyms.

Professional Tone

"Tone" refers to the attitude that a document conveys toward the topic and/or the reader. You have likely read texts that sounded angry, humorous, cynical, or enthusiastic. These words characterize the tone. Technical communication tends to avoid displaying an obvious emotion and instead strives for a neutral tone.

Tone is created through **diction** (word choice), **syntax** (word order), sentence construction, and viewpoint. Consider a piece of academic writing that you have read. It creates a formal tone through its use of specialized terminology, sophisticated vocabulary, complex sentence structures, and third person voice. This style suits the genre because it is directed at experts and scholars in the field, and seeks to convey complex information densely and objectively, with an emphasis on reason, logic, and evidence.

Now consider a piece of business writing that you have read. The tone may be slightly less formal but not colloquial. The language is direct and plain, and the sentences are shorter and more straightforward. It may make use of the second person ("you"). This style suits business writing because it is directed at colleagues, management, or clients who are seeking information clearly and quickly and who may need to take action on it.

Writing Constructively

Striking the appropriate tone involves understanding your purpose, context, and audience. It also involves an understanding that workplaces are often hierarchical, and that cooperation and teamwork are required. Therefore, it is important to consider how you want your reader to feel and what may make your reader feel that way. Your goal is to write constructively, which means to use positive phrasing to convey your message to your reader. Table 2.3 illustrates the differences between constructive/positive and destructive/negative feelings the reader may experience as a result of the tone used in a document.

Table 2.3. Constructive/positive language vs destructive/negative language.

Constructive/Positive	Destructive/Negative
Understood	Misunderstood
Conciliatory	Outraged
Pleased	Disgusted
Capable	Guilty
Empowered	Belittled
Respected	Patronized
Proud	Defensive
Valued	Chastised
Honored	Humiliated
Included	Excluded
Contentment	Resentment

Considering how your reader may feel after reading your document is an important part of revision. Did your tone come across like you hoped it would? Could it be misconstrued? Often this is where peer reviewing can be helpful. Asking a colleague to review your document before sending it off to its intended audience is a common professional practice.

Sometimes, you will need to communicate unpleasant information, such as bad news or a rejection. Communicating constructively is possible—and arguably even more important—in these situations. Regardless of the message, how can you ensure you are communicating constructively?

Adopt an adult-to-adult approach. That is to say, avoid talking down to your reader in a patronizing tone, and likewise avoid sounding petulant or unwilling to take responsibility. Aim to communicate respectfully, responsibly, confidently, and cooperatively as one responsible adult to another.

Be courteous. Focus on the reader as much as possible. Use "you" unless it results in blaming (one effective use of passive verbs is to avoid assigning blame: "mistakes were made"). Use traditionally accepted forms of courtesy and politeness. Use gender-neutral phrasing and plural forms, unless you are referring to a specific person and you know their gender. Table 2.4 offers some examples of first-person, writer-centered sentences and second-person, reader-centered sentences.

Table 2.4. Writer- and reader-centered perspectives.

Writer-Centered (I, We)	Reader-Centered (You)
If I can answer any questions, I'll 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 that...	You'll be glad to know that...

Focus on the positive. Emphasize what you can do rather than what you can't. Try to avoid negative wording and phrasing (no, not, never, none, isn't, can't, don't, etc.). Focus on what can be improved. Table

2.5 offers examples of negative phrasing and how you might reframe those sentences more constructively.

Table 2.5. Negative and constructive phrasing.

Negative Phrasing	Constructive Phrasing
We cannot process your claim because the necessary forms have not been completed.	Your claim will be processed as soon as we receive the necessary forms.
We do not take phone calls after 3:00pm on Fridays.	We are available by phone Monday through Thursday from 8:00 am–5:00 pm, and on Fridays from 8:00 am–3:00 pm.
We closed your case because we never received the information requested in our letter from April…	Regrettably, we did not receive the additional information requested last April. In order to review and potentially reopen your claim, please call or email our claims specialist for closed cases, John Doe: 1-800-SCL-AIMS or jdoe@doe.com.

Ultimately, when communicating negative or unfavorable news, be genuine. Apologize if you have made a mistake. Take responsibility and promise to do better.

3 - ETHICS IN WORKPLACE CULTURE AND RESEARCH

Applying Ethics in Technical and Professional Communication

Matt McKinney

As Chapter 2: The Rhetorical Situation details, effective technical and professional communicators analyze and respond to context, genre conventions, deliverer-audience relationships, and other rhetorical elements. Understanding the variables and dynamics of specific **rhetorical situations** ensures that documents and presentations fulfill their purposes effectively, and that all parties are as satisfied as possible. However, rhetorical elements are not the only factors technical and professional communicators need to consider.

Beyond responding to their audiences and demonstrating mastery of genre conventions, technical and professional communicators must also make sure that they are communicating and behaving ethically. Broadly speaking, ethics refers to principles of right and wrong that govern your behavior and actions.

It is difficult to overstate the potential damage unethical professional communication can cause, including the theft of intellectual property, creating unsafe or toxic working conditions, upholding systems of oppression, and even causing environmental destruction. As daunting it as seems, this range of consequences also illustrates the power you have as a professional and the good you can do when you practice ethical communication and ensure that others do so as well.

As a professional, ethics applies to the way you conduct yourself on the job, the way you engage with colleagues, clients, subordinates, and superiors, and the way you utilize company time and resources. As a writer and speaker, ethics applies to how you present, arrange, and emphasize your ideas and others'. Ethics also applies to the information you omit or suppress in a document, as well as how well you recognize and manage your biases when communicating and presenting ideas. This chapter will guide you through these applications of ethics, providing you with general strategies to apply to specific and often complex situations.

WORKPLACE AND PROFESSIONAL ETHICS IN TECHNICAL COMMUNICATION

Matt McKinney; Annemarie Hamlin; Chris Rubio; Michele DeSilva; and Gia Alexander

Technical communication occurs within a wide variety of professional sectors, including medicine, law, industry, and academia. In all of these sectors, communicators encounter several potential ethical issues and dilemmas. Whenever you join an organization, institution, or professional community, you should always 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 skills and practice as an ethical communicator.

Principles of Ethics in Technical and Professional Communication

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 Society of Technical Communication (STC) offers six principles as focal points for practicing ethical communication[1]:

1. **Legality.** Are you aware of the laws and regulations relevant to your discipline and/or institution? Are you aware of the laws that apply to the scale of your project, study, or business, from local to international, and do you follow them in good faith?

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.[2] 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. More importantly, they caused significant harm to the planet by marketing cars that contributed excessively to air pollution.

2. **Honesty.** Do you communicate honestly, both orally and in writing? Do you actively strive to provide clarity when your meaning might be misconstrued by your audience, intentionally or not? Do you give credit to the work and ideas of others who made substantial contributions? Do you respect your employers' time and resources, and avoid taking advantage of either for your own purposes?

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.[3] 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.

Other Examples

Accurately reporting expenses and any personal time taken when traveling for work; explicitly acknowledging colleagues' and coworkers' contributions to team projects and presentations; not using your work computer for another job or excessive personal use.

3. **Confidentiality.** Do you respect the privacy of your clients, colleagues, students, employees, employers, and/or organization? Do you only share private information when legally obliged or with appropriate prior consent from involved parties?

Examples of Respecting Confidentiality

Psychiatrists not discussing their patients' medical histories; professors not posting identifying and/or pejorative information about students on social media; employees password-protecting their computers and keeping confidential documents onsite and secured.

Examples of Ethical Disclosure of Private Information

Psychiatrists alerting law enforcement about patients who intend to harm others; professors asking students if they can share their work with future classes; whistleblowers alerting federal regulatory agencies about white-collar crime.

4. **Quality.** Do your written documents and oral presentations reflect your best work as a communicator? Do you promote transparency and realistic expectations when you communicate, so that you can meet your audience's needs and perform ethically?

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.[4]

5. **Fairness.** Do you recognize and honor diversity in your organization? Do you ensure that your clients' and other stakeholders' interests are served in alignment with the public good? Do you avoid and/or disclose potential conflicts of interest when engaging in professional activities?

Examples of Honoring Diversity

Crafting employee-training materials on different forms of bias (such as bias regarding gender or race); writing and distributing job ads in a way that emphasizes hiring a diverse array of people (from entry-level to leadership roles); monitoring a company's workplace culture by creating an internal committee or hiring a consultant to investigate progress in diversity.

Examples of Serving Clients and Honoring the Public Good

An architect designing a building that is wheelchair-accessible and uses sustainable materials; a professor who 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.

Examples of Avoiding/Disclosing Potential Conflicts of Interest

Coworkers reporting their office romance to human resources; a company recruiter recusing themself from interviewing a close friend or relative.

6. **Professionalism.** Do you constantly seek to refine your practice and skills as a technical communicator? Do you demonstrate empathy, respect, and constructive criticism when engaging with others and their technical communication skills? Do you make yourself an asset to the professional and communicative growth of others in your field 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.

In addition to these six principles, a seventh principle might be considered **security**. As part of professional and ethical communication, employees need to be aware of the appropriate security protocols (mandated by law or company policy) to follow when releasing information and using company technologies. As companies increasingly rely on information technology to conduct business, **cybersecurity** is a growing concern. Certain information needs to be encrypted, and employees need to be able to recognize and report phishing attempts, suspicious links, programs with spyware and malware, and other risks. Carelessness with cybersecurity can lead to the loss of a job, besides potential larger negative consequences from malicious actors.

How Bias Influences Unethical Communication

You might notice that most of these ethics violations could easily happen accidentally. Directly lying is unlikely to be accidental, but even in that case, the writer could persuade themself that the lie achieved some "greater good" and was therefore necessary.

Even more common is an ethics violation resulting from the person who is designing the information seeing it as evidence for whatever they understand as true, and honestly not recognizing the bias in how they have presented that information.

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.[5] 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.[6] Subsequent to this criticism, the journal chose to retract the article, nullifying the rhetorical situation and the validity of the communication.[7]

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.

Notes

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5. Bedoor Al Shebli, Kinga Makovi, & Talal Rahwan, "RETRACTED ARTICLE: The Association Between Early Career Informal Mentorship in Academic Collaborations and Junior Author Performance," *Nature Communications* 11, no. 5855 (2020): https://doi.org/10.1038/s41467-020-19723-8.

6. Wessel, Lindzi, "After Scalding Critique of Study of Genders and Mentorship, Journal Says It Is Reviewing the Work," *Science*, November 20, 2020, https://doi.org/10.1126/science.abf8164.
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PRESENTATION OF INFORMATION

Annemarie Hamlin; Chris Rubio; Michele DeSilva; Eleanor Sumpter-Latham; and Nicole Hagstrom-Schmidt

How a writer presents information in a document can affect a reader's understanding of the relative weight or seriousness of that information. For example, hiding a critical point in the middle of a long paragraph deep in a long document seriously de-emphasizes the information. On the other hand, putting a minor point in a prominent spot (say the first item in a bulleted list in a report's executive summary) tells your reader that information is crucial.

Sometimes de-emphasizing crucial information can lead to disastrous consequences. A classic example of this occurring is in the memo report NASA engineers wrote about the problem with O-ring seals on the space shuttle *Challenger*, which exploded seconds after takeoff due to faulty engineering.[1] The crucial information about the O-rings (O-rings provide a seal) was buried in a middle paragraph, while information approving the launch was in prominent beginning and ending spots. Presumably, the engineers were trying to present a full report, including identified problematic components in the *Challenger*, but the memo's audience of non-technical managers mistakenly believed the O-ring problem to be inconsequential, even if it happened. The position of information in this document did not help them understand that the problem could be fatal.

Ethical writing thus not only involves being honest, but also presenting information so that your target audience will understand its relative importance and whether a technical fact is a good thing or a bad thing.

Notes

1. Presidential Commission on the Space Shuttle Challenger Accident, "Chapter VI: An Accident Routed in History," in Report to the President (Washington, DC, June 6, 1986). Available at *NASA History*, National Aeronautics and Space Administration, https://history.nasa.gov/rogersrep/v1ch6.htm.

TYPICAL ETHICS ISSUES IN TECHNICAL WRITING

Matt McKinney; Kalani Pattison; Kathy Anders; Suzan Last; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Eleanor Sumpter-Latham; and Nicole Hagstrom-Schmidt

There are a few issues that may arise when a writer is researching a topic for the business or technical world.

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.[1] 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."[2] 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."[3] When using quotes, even ones from famous figures that regularly appear as being commonly attributed to a particular person, 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. The effective use of statistics can play a critical role in influencing public opinion as well as persuading in the workplace. However, as the fame of the first quotation indicates, statistics can be used to mislead rather than accurately inform—whether intentionally or unintentionally.

Presenting Visual Information Ethically

Visuals can be useful for communicating data and information efficiently for a reader. They provide data in a concentrated form, often illustrating key facts, statistics, or information from the text of the report. When writers present information visually, they have to be careful not to misrepresent or misreport the complete picture. Many of the guidelines for designing informational graphics in Chapter 8 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?

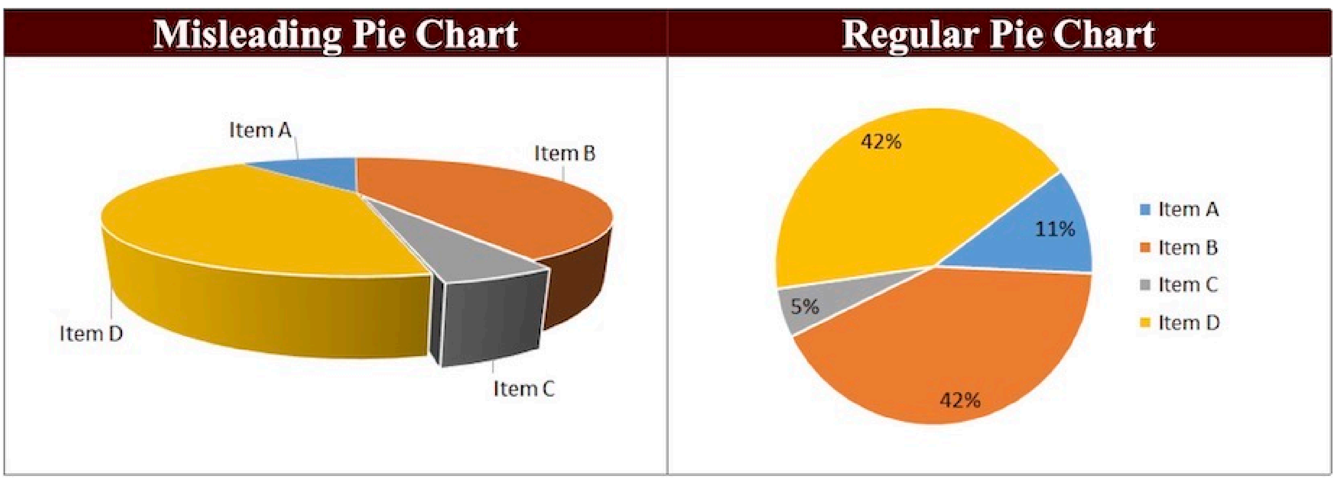

Figure 3.1. Misleading and regular pie charts. In the misleading pie chart, item C appears to be at least as large as item A, whereas in actuality, it is less than half as large.

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 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?

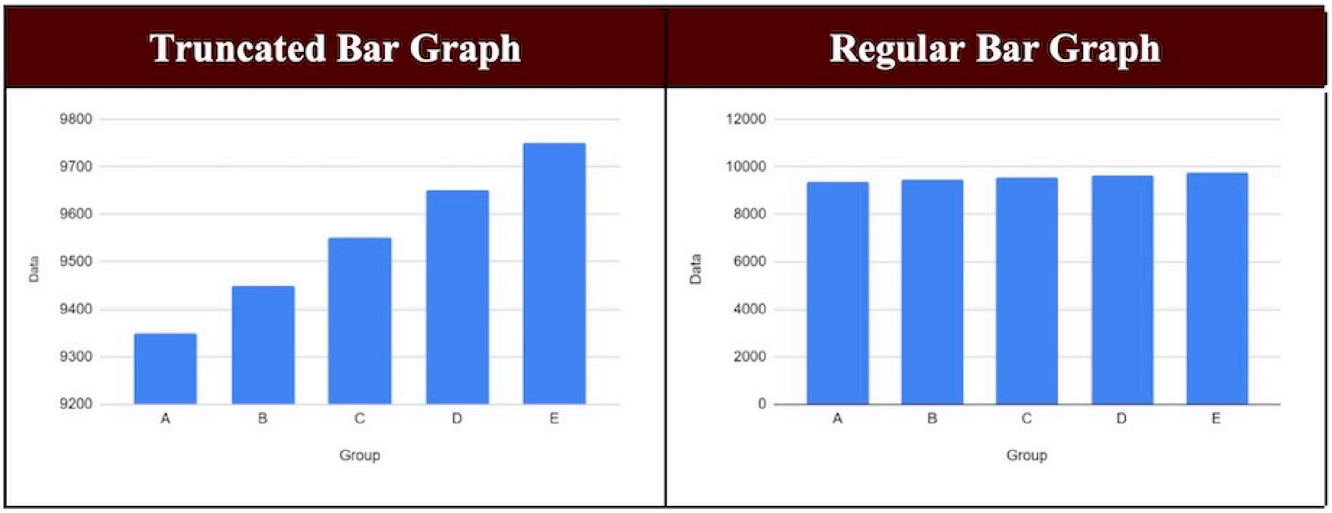

Figure 3.2. Truncated and regular bar graphs. Note that both of these graphs display identical data; however, in the truncated bar graph on the left, the data appear to show significant differences, whereas in the regular bar graph on the right, these differences are hardly visible.

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.

Limited Source Information in Research

Thorough research requires you to incorporate and synthesize information from a variety of reliable sources. Your document or presentation 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 Central Texas, 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 chose materials from this one source. Collecting information from multiple brokers would demonstrate thorough and unbiased research. The next section of this chapter focuses on the ramifications of bias in more detail.

Notes

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2. Mark Twain, *Mark Twain's Autobiography*, Volume 1, produced by Don Lainson, (Project Gutenberg of Australia, 2002), Project Gutenberg Australia.
3. This particular quote comes from Samuel S. Wilkes, who is misquoting H.G. Wells. S.S. Wilkes, "Undergraduate Statistical Education," *Journal of the American Statistical Association*, 46, no. 253 (March 1951): 5, https://doi.org/10.1080/01621459.1951.10500763.
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.
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INFORMATION INEQUITY AND BIAS

Karna Younger; Callie Branstiter; William Little; Claire Carly-Miles; Matt McKinney; Nicole Hagstrom-Schmidt; Kalani Pattison; and Kimberly Clough

Note

Content warning: Because of the nature of inequity and bias, examples included in this section may be offensive or triggering for readers. Please be aware as you continue reading this portion of the text that instances of bias, harassment, and assault motivated by racial, ethnic, and gender biases are included to illustrate abstract concepts.

When evaluating the credibility of information, it is important to consider its bias. Bias, according to the Oxford English Dictionary, is "An inclination, leaning, tendency, bent; a preponderating disposition or propensity; predisposition towards; predilection; prejudice."[1] Bias does not always immediately mean an overt prejudice or a political leaning. However, in many cases, bias can be prejudicial and harmful. For example, in 2018 Eugene Scott analyzed the use of "dog whistling" in American politics for *The Washington Post*. Dog whistling is the use of coded language or images to appeal to voters' unconscious biases. Scott references multiple examples of dog whistling in his article, such as Florida Governor Ron DeSantis cautioning voters that if his then-opponent Andrew Gillum (a Black man) were elected, he would "monkey this up." While DeSantis disavowed any explicit racist intent behind his words, they are contextually rooted in a longstanding racial stereotype against Black people, regardless of intent.

You may also remember in 2017 when Pepsi partnered with Kendall Jenner to appropriate the Black Lives Matter movement to sell soda.[2] Audiences quickly responded, and Pepsi pulled the insensitive ad. Editor of *HuffPost Black Voices* Taryn Finley, for one, called out Pepsi for its oversimplification of serious issues, calling the ad "tone-deaf, shallow, and over-produced."[3] Her tweet, depicted in Figure 3.3,[4] implicitly points out the way that reducing the troubles and consequences of "-isms" to something that can be so easily solved, trivializes the experiences of those who have struggled with those systemic "-isms," especially those who have been negatively affected by racism in its various forms. Ultimately, Pepsi's ad and Finley's response to it both highlight the consequences of failing to account for bias in professional communication.

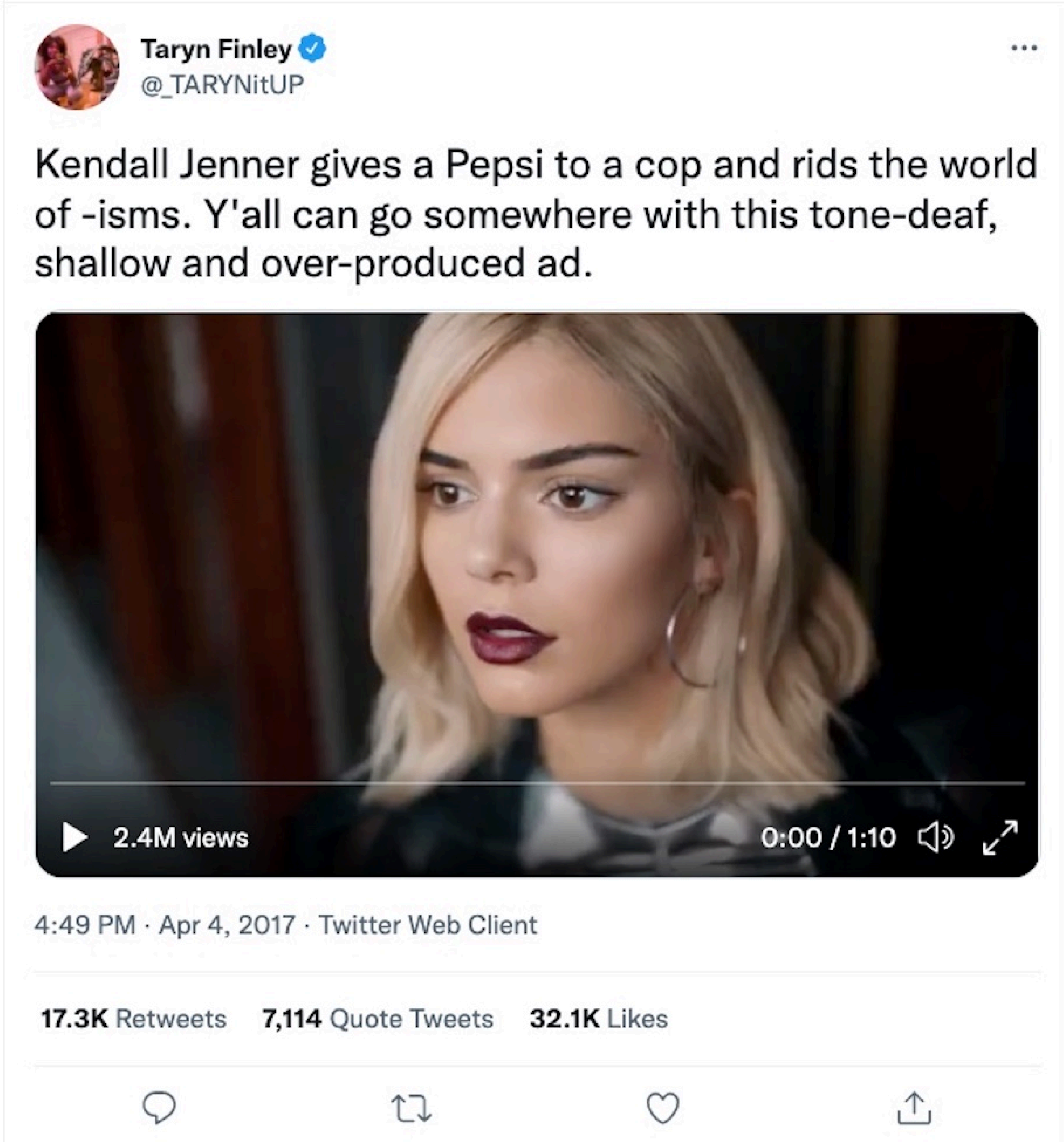

Figure 3.3. Tweet from Taryn Finley.

Implicit and Explicit Bias

First, it is important to acknowledge that all information is biased in some way. There are two primary types of bias: explicit and implicit. The Office of Diversity and Outreach at the University of California, San Francisco (UCSF) offers an easy way to distinguish between the two. **Explicit bias** is a conscious bias, meaning that we are aware of it. In contrast, **implicit bias** is an unconscious bias, meaning that we don't even realize we hold it.[5]

Implicit bias starts during early childhood, so that by the time we are in adolescence, we already hold prejudices against certain groups, even if this runs against our conscious morals or ethics.[6] The good news, though, is that our implicit biases can change and are often more of a product of our environment than anything else.[7]

Implicit and explicit biases become problems because of the way our brains work. Psychologists say that we either process information quickly based on our prior knowledge, or that we are very deliberative and think critically about information.[8] We rely upon our biases when we make quick decisions, but we can override such preconditions when we think deliberately and critically. According to cognitive psychologist Daniel T. Willingham, there really isn't a clear cut way to "teach" ourselves how to become better critical thinkers, but it is possible, and anyone can do it.[9] Willingham has found that learning deeply about a subject, drawing from and challenging our life experiences, and developing critical thinking strategies to follow when evaluating information all help us avoid cognitive biases.

Categories of Bias

The following sections cover the most common forms of bias. Each section details how each form of bias functions, highlights whom it affects, and provides concrete examples. As you review these categories, take a moment to reflect on times you have encountered them or even may have exhibited them. Everyone has unconsciously practiced at least one form of bias or another at some point, and bias in thinking inevitably leads to bias in writing and speaking. In short, being familiar with these categories of bias is important in becoming a more effective, ethical, and socially just communicator. Cognitive bias is a systemically pervasive error in our assessment of people, issues, situations, and environments, which ultimately shapes the way we act or form judgements.[10] Many biases stem from cognitive bias, and these biases have lasting effects on how we choose to consume information and news.

The filter bubble phenomenon has been fueled by this segmentation. Filter bubbles refer to our tendency to consume news and other information that support our preconceived notions, and to reject information that challenges these notions. Three categories of cognitive bias seem to sustain these filter bubbles:

> The **Hostile Media Effect** is "a perceptual bias in which…people highly involved with an issue or interest group…tend to see media coverage of that issue or group as unfairly slanted against their own position."[11]
>
> The **Dunning-Kruger Effect** is the tendency of those with low ability or knowledge of a topic to overestimate their competency in that topic, and/or underestimate the complexity of that topic.[12]
>
> **Confirmation bias** occurs when we only seek out and trust sources of information that confirm our own opinions.[13] Have you ever chosen a topic for a research paper and sought out sources that only confirmed your thesis of that topic? That is an example of confirmation bias. Biases shape filter bubbles in which we consume information and, as you will read below, play into cultural biases as well.

Gender Bias

Gender bias occurs when a writer privileges the words and experiences of a particular gender over others. In professional writing, gender bias can often be seen in the use of pronouns (always using "he" as opposed to the "singular they," "he or she,"[14] or interchanging pronoun use throughout the document). Other common manifestations of gender bias include citing primarily men or individuals with male-sounding names to the exclusion of women, nonbinary, or gender-fluid individuals; citing only a male scholar even though a female scholar published similar conclusions earlier; and using different standards for praising men and women.

Especially in performance reviews and letters of recommendations, women are more likely to be praised (and criticized) for how they are perceived socially, with words such as "caring," "compassionate," and "nurturing." Men, in contrast, are typically praised in terms associated with their intelligence and competence such as "brilliant" and "skilled."[15] In one study conducted by Hoffman et al., some letters of recommendation for female applicants applying for a pediatric surgery fellowship "mentioned [their] spouse's accomplishments," whereas letters supporting male applicants did not include spousal accomplishments (933).[16] Due to gender bias, certain words such as "assertive" that are seen as positive for men (where "assertive" implies strength and good leadership) can be coded as negative for women and queer individuals (where "assertive" implies that they are opinionated and loud).

You can also see gender biases reflected in the media. In November 2017, *NBC News* anchor Savannah Guthrie announced live on the *Today Show* that her co-host, Matt Lauer, had been terminated due to revelations of sexual misconduct.[17] While he was officially terminated as the result of one specific incident involving an anonymous *NBC News* colleague, there was reason to believe that this was not an isolated incident, but rather an ongoing cycle of systemic sexual harassment involving Lauer at *NBC News*.[18]

In light of his termination, *USA Today* published a video compilation of moments in which Lauer exhibited sexist or crude behavior during interviews of prominent celebrities and politicians, including a moderated discussion between Hillary Clinton and then-Presidential candidate Donald Trump.[19] While Lauer grilled Clinton on her use of a private email server, he breezed through his conversation with Trump. It can be argued that, based on the totality of these instances, Lauer exhibited gender bias.

Racial Bias

The Annie E. Casey Foundation, a racial justice organization, frames racism as an umbrella term composed of a set of nuanced, context-specific forms of racism:

> The concept of racism is widely thought of as simply personal prejudice, but in fact, it is a complex system of racial hierarchies and inequities. At the micro, or individual, level of racism are internalized and interpersonal racisms. At the macro level of racism, we look beyond the individuals to the broader dynamics, including institutional and structural racism.
>
> Internalized racism describes the private racial beliefs held by and within individuals…
>
> Interpersonal racism is how our private beliefs about race become public when we interact with others…
>
> Institutional racism is racial inequity within institutions and systems of power, such as places of employment, government agencies and social services…

> Structural racism (or structural racialization) is the racial bias across institutions and society. It describes the cumulative and compounding effects of an array of factors that systematically privilege white people and disadvantage people of color.[20]

In other words, a complex and context-specific definition of racism is essential, because racism can take many forms and may be encountered through a number of overt racial macro-aggressions and more subtle micro-aggressions.[21]

Such racial aggressions are able to occur because of white privilege. White privilege is "an invisible package of unearned assets which I can count on cashing in each day," as Women's Studies scholar Peggy McIntosh[22] defined it in "White Privilege: Unpacking the Invisible Knapsack."[23] In this essay, McIntosh delineates how whites are "carefully taught" not to recognize how they benefit daily from various forms of racism and the racial hierarchy. Her examples include how whites are able to socialize with people in their own racial group and disassociate from people they've been "trained to mistrust and who have learned to mistrust my kind or me." In other words, white people can choose to only associate with white people and get by just fine, whereas a group of non-white people might raise suspicions.

In technical and professional documents, racial bias often occurs by omission. A presentation, for example, that only uses white and white-passing models in photographs, or highlights white models in positions of power while showing Black and Brown models only in subservient or in non-executive roles, visually reinforces structures of white supremacy. In research reports, writers who gloss over key contributions of Black, indigenous, and other people of color (BIPOC) researchers while focusing solely on the majority race also exhibit racial bias. In other types of writing, a writer may exhibit racial bias in how they describe individuals of different races. For example, when the media covered two domestic shooting cases, the white assailant, who had a history of domestic violence, was described sympathetically, with media reports remarking on his mental illness and good-natured public personality. The Black assailant, however, did not receive such treatment. Media instead focused on his past domestic violence and drug charges.[24]

Ethnicity and Ethnic Prejudice

Ethnicity is a term that describes shared culture—the practices, values, and beliefs of a group. This might include shared language, religion, and traditions, among other commonalities. Like race, the term "ethnicity" is difficult to describe, and its meaning has changed over time. And also like race, individuals may be identified or self-identify with ethnicities in complex, even contradictory, ways. For example, ethnic groups such as Irish, Italian, Russian, Jewish, and Serbian Americans might all be groups whose members are predominantly included in the racial category "white." Conversely, the ethnic group British includes citizens from a multiplicity of racial backgrounds: Black, white, Asian, and more, plus a variety of race combinations. These examples illustrate the complexity and overlap of these identifying terms. Ethnicity, like race, continues to be an identification method that individuals and institutions use today—whether through the census, affirmative action initiatives, non-discrimination laws, or simply in personal day-to-day relations.

Ethnic prejudice and racial prejudice are often conflated. Like racism, ethnic prejudice also occurs through similar acts of micro- and macro-aggressions. Ethnic prejudice, however, focuses primarily on a group's shared culture rather than on a group's race, even as race may also be part of that culture's identity. The word "bigotry" is also often conflated with "racism"; however, "bigotry" refers primarily to ethnic prejudice, though race may also be a part of a group's identity.

Particularly in the field of journalism, ethnic biases have come to the forefront when the media reports on Latinx communities and on the topic of immigration. For example, Cecilia Menjívar, Professor and

Dorothy L. Meier Social Equities Chair in Sociology at UCLA, has found that negative media portrayals of Latinx immigrants often reinforce negative stereotypes of Latinx people, which leaves Latinx people striving to debunk such misperceptions in their daily lives.[25] Joseph Erba, assistant professor of journalism at the University of Kansas, likewise found that such stereotypes threatened the experience of Latinx college students forcing them to combat the negative perceptions of their non-Latinx classmates throughout their time on campus.[26]

Corporate Bias

Corporate bias occurs when a news agency, media conglomerate, or accreditation agency privileges the interests of its ownership or financial backing, such as an employer, client, or advertiser.

In advertising and strategic communications, corporate bias is part of the nature of the work. Your clients essentially pay you to represent them in a positive light. However, you have to walk an ethical line when doing so. Advertisers must remain mindful of the Federal Trade Commission (FTC), which enforces truth-in-advertising laws.[27] PR practitioners must be guided by the Public Relations Society of America's code of ethics.[28]

In your role as a communicator, you act as a type of intermediary between the public and your client. Even though your client may pay you to promote them or their product, you must do so with the best interest of the public in mind. For instance, if you represent a celebrity who is paid to Instagram themselves with products, you will have to remind them to clearly state that it is a paid advertisement and not just a cute photo, in order to adhere to the FTC's advertising regulations.[29]

Or if, for example, you are developing a health-themed ad campaign for Rice Krispies cereal, you should make certain that scientists have verified that the cereal will boost a child's immunity. When the FTC fined Kellogg's for not backing up this claim with scientific evidence, the cereal company had to pull all advertising that sported the claim.[30]

Algorithms: Human-Inspired Bias

Loosely defined, algorithms are sets of rules that computers use to perform a specific task. Based in mathematics and computer science, algorithms are usually number-based and in code form. Using an algorithm, a machine can quickly and autonomously calculate a result. Social media companies including Facebook, Twitter, and YouTube use algorithms to determine what posts appear at the top of your scrolling feed or what videos to recommend.

However, while algorithms use numbers, they are not immune to bias, whether on the part of the searcher or the creator. In her book *Algorithms of Oppression: How Search Engines Reinforce Racism*, Safiya Umoja Noble details the biases inherent in Google searches.[31] Much of her research stems from a 2010 incident in which the top results of a Google search of "black girls" yielded explicit pornographic content. Noble argues that these primary representations of Black women in Google searches are representative of a "corporate logic of either willful neglect or a profit imperative that makes money from racism and sexism."[32]

What this all means for researchers is that you have to be particularly careful when searching for reliable sources, especially if you're using a popular search engine like Google. Your prior search history, the search history of other users, and the impact of paid advertisers will influence which hits you see first, if at all. Using your university's library service will help mitigate this issue, but be aware that there are racial, gender, and ethnic biases in all coding. Consulting references made in peer-reviewed journal articles is another helpful option, though these reference lists may also inadvertently miss key voices. When searching, therefore, you will need to actively look for perspectives that privilege marginalized voices. This research requires you to read widely and understand the accepted conventions and controversies in your field.

Some Ways Forward

There is no simple fix for these deeply problematic and complicated issues. However, there are options that conscious writers can choose when addressing their own bias or the bias in their chosen field. As a writer, you need to be aware of biases and actively work to combat them.

Diversify Your Sources

Journalists Ed Yong and Adrienne La France worked to fix the unintentional gender bias they discovered in their own work by pledging to be more intentional about including women among their sources. Yong, for example, now spends more time searching for sources until he has a list of female contacts. Additionally, he tracks who he contacts and interviews for stories. As a result of his mindfulness, Yong now cites women about 50 percent of the time. This also has catalyzed him to start tracking how many times he includes voices of color, LGBTQ folks, immigrants, and individuals with disabilities.[33] LaFrance, meanwhile, revised her list of go-to sources and seeks out stories that focus on the achievements of women.[34]

In research, "diversifying your sources" also entails research methods and project design. When designing a research project that requires human subjects, be sure to directly address all cultures and genders. Considerable medical and social research relies on a sample size of predominantly white men, and while these results are valuable, the findings are not immediately applicable to women, people of color, or individuals of lower socio-economic status.

Write Inclusively

Once you have identified a diverse pool of sources, it is important to conduct inclusive reporting. Writing about the developing journalism ethics of covering transgender people, reporter Christine Grimaldi outlines some important tips.[35] She suggests asking people their pronouns (she, him, they, xe, or ze), and then using such pronouns in your work. Other examples of inclusive writing include paying attention to how you describe individuals. Do you equally emphasize the accomplishments of men, women, trans, and nonbinary people? When you are referring to individuals or communities with disabilities, are you familiar with the terms they use to self-identify, and do you show respect by adhering to their conventions? Is the term you are using to describe one person the same you would use to describe another of a different race, sexuality, gender, or ability, given the same information? Further still, do you recognize that language constantly evolves, and that you should update your use of identifying terminology to reflect this evolution?

Recognize that there are many experts and professional organizations you also can turn to for guidance. For instance, the National Association of Black Journalists has its own style guide,[36] and the National Association of Hispanic Journalists offers points of guidance.[37] These are just a few examples.

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ACTING ETHICALLY & RESPONDING TO UNETHICAL SITUATIONS

Matt McKinney and Gia Alexander

While communication plays a significant role in technical and professional ethics, it is also important to understand what it entails to be ethical and act ethically. Most people do not require a textbook to understand that embezzlement and nepotism are unethical; at the same time, these situations do occur, and you may not know how to respond in the moment–especially if you do not have prior experience with them.

To promote effective and ethical responses to unethical situations, most organizations and employers provide recurring job training on some of the more common and egregious scenarios. These scenarios include:

Whistleblowing. Whistleblowing occurs when a member of an organization (usually someone of lower rank) reports unethical activity that is pervasive (usually committed by someone of higher rank). This can include fraudulent business practices, sexual harassment, corporate espionage, etc. Unfortunately, whistleblowers are often punished for exposing unethical activity. Should you be in a situation when you are obligated to report unethical activity, make sure you are aware of the protections and resources at your disposal, as well as potential consequences. Conversely, if you are in a position to protect a whistleblower's privacy and safety (e.g., if you are a journalist), you are obligated to do so.

Respecting and Promoting Diversity. Creating a work environment that values diversity goes far beyond the hiring process. Always defer to the perspectives of communities you are not a member of on issues that concern that community. Whenever possible, make sure that decisions that could affect a particular community are made by members of that community. Understand that diversity issues affect populations in two main ways: treatment and impact. We usually know not to institute policies that deliberately single out a group or individual, such as having a workplace dress code for women but not for men. Do not, however, commit the fallacy of "treating everyone exactly the same." While doing so may seem on its surface like a fail-safe for promoting diversity, different communities will experience different impacts from that seemingly equal treatment. For example, requiring all employees to have a valid driver's license, even for those jobs that do not require driving for work, would be discriminatory in that it excludes people with disabilities who are unable to drive, but who do have other adequate means to arrive at work on time. If your organization has a space for members or employees in marginalized communities (such as a campus diversity office), respect their privacy and do not attempt to insert yourself in that space. Make sure that you properly acknowledge and uplift the work of all employees, and empower them if you are in a position to do so.

Ethics of diversity in technical communication go beyond interpersonal communication in the workplace. The documents that we produce as working professionals should also promote diversity in their language and appearance. For example, when creating a brochure that includes pictures of people, make sure that multiple races, genders, and ages are represented in those images. Further discussion of diversity in images appears in Chapter 8.

Careful language choices can also help you be an ethical technical communicator in matters of diversity. For example, it is now customary to capitalize the words "Black" and "Brown" when writing about Black and Brown people. When writing about people with disabilities, it is usually good form to foreground personhood instead of the disability. For instance, instead of writing about "wheelchair-bound people," write about "people who use wheelchairs." In the latter, more ethical example, a wheelchair is a tool that people who have mobility impairments can choose to use to improve their mobility. Likewise, be sensitive to pronoun usage. However, members of some communities, such as deaf people and blind people, may prefer those descriptions. Correct grammatical practice today involves using the pronoun "they" as a singular form in place of older constructs such as "he or she" or "s/he." For an individual's pronoun, consult the individual. When writing examples and scenarios that call for you to use names, be sure to use names from a variety of genders, cultures, and communities.

Sexual Harassment. Respect the personal space and privacy of other members in your organization, and never use institutional power to take advantage of a subordinate. If someone in your organization discloses that they were the victim of sexual harassment, encourage them to report it to Human Resources and respect the victim's right to report. However, also keep in mind that laws such as Title IX require organizations like universities to report sexual harassment whether or not the victim wants this outcome. In those situations, be sure to inform the victim of your obligation to report in advance.

Theft or Abuse of Company Resources. Theft from an organization can manifest in a variety of forms. While we often think of theft in terms of money, such as embezzlement or tax fraud, this can also apply to company property, such as office supplies. Additionally, it is becoming increasingly common for workers to boost their income through freelance work or a second part-time job–i.e., a side-hustle. While there is nothing wrong with doing so, be sure to keep this separate from your main job. For example, do not run your YouTube channel using your company computer or AV equipment. If your second job creates a conflict of interest with your primary employer (such as freelancing for a competitor), you must report that activity.

In all situations where unethical activity could potentially occur, always be mindful of your words and actions; you are responsible for ensuring that you are not enabling or contributing to this activity, even inadvertently. Consider the consequences, short- and long-term, for all people involved in these situations, and be aware of the resources and procedures in place for reporting unethical activity. With luck, you will never have to apply this knowledge, but it is far better to possess it and not need it than the reverse.

4 - PERSUASION

Logos, Ethos, Pathos

David McMurrey, Kalani Pattison, and Nicole Hagstrom-Schmidt

When technical writing first emerged as a subject in university engineering schools, it was defined as rigorously objective in writing style, even to the extent of using the passive voice instead of the first person singular "I." The standard model was the primary research report. Since then, however, it has become clear that technical writers must often engage in persuasive communication efforts in their primary work.

What Is Persuasion?

Persuasion is the communicative effort to convince people to think or act in a certain way—to vote for a city-wide recycling program, to oppose the building of more coal-fired electricity plants, or to purchase a new piece of technology for a classroom.

In the view of some, technical writing is supposed to be "scientific," "objective," and "neutral." However, like any human pursuit of knowledge, science is never truly objective and neutral. All data must be interpreted by someone in order for the data to have any use or meaning. Moreover, certain types of technical and professional communication, such as proposals, progress reports, résumés, application letters, and even complaint letters, are more overtly persuasive while still conveying technical information.

Persuasive strategies for technical writing are often embedded in the structure of the document rather than in overt appeals to emotions or justice. Persuasion is an essential factor in the infrastructure of proposals and progress reports. To convince people to hire you to do a project, and to reassure them that the project is going well, you need persuasive strategies. This chapter reviews the common persuasive strategies to prepare you to write those kinds of documents, as well as persuasive technical documents.

Classical Appeals

The classical approach to persuasion, established by Aristotle (384–322 BCE) in the *Art of Rhetoric*, involves three appeals to readers and listeners: **logos**, **pathos**, and **ethos**.[1] These appeals are both interconnected and directly tied to key parts of the rhetorical situation (genre/form, audience, and deliverer, respectively).

Logos (Logical Appeal)

When you use reasons and arguments, backed up by facts and logic, to make your case, you are using logical appeals. Most writers easily understand the importance of reliable evidence in a persuasive document, but logical appeals extend to the structure of one's argument as well. *How* you explain your evidence and its relationships to other claims and evidence is just as important a logical appeal as the information itself. In academic and technical communication, logos is the preferred method of persuasion.

Pathos (Emotional Appeal)

When you attempt to rouse people's anger or sympathies in a persuasive effort, you are using emotional appeals. Such direct emotional appeals, however, are less effective in technical or business writing, since these styles attempt to be more measured or objective. Effective pathos in this situation would instead appeal to common motivations, goals, and values. Arguing that a certain course of action would save the company money, for instance, would appeal to what the audience wants. For another example, picture a company that really values long-term sustainability. Arguing that a certain course of action would reduce a company's carbon footprint would appeal to the company's values, and therefore, probably to the values of their clients.

Ethos (Ethical Appeal/Credibility)

When you present qualifications, experience, expertise, and wisdom (whether yours or others') in an attempt to build readers' confidence in you and your document, you are using ethical appeals. Part of what will convince readers to "listen" to you is if they know who you are and what makes you an authority on a subject. Another aspect of ethos is the credibility and "trustworthiness" of your sources of information. Just as pathos can be used legitimately to get readers to pay attention and care about your message, the appropriate development of ethos will build readers' confidence in you.

You may also have encountered the "stylistic" appeal: the use of language and visual effects to increase the persuasive impact. For example, a glossy, fancy design for a résumé can have a positive impact just as much as the content. This is yet another facet of ethos as it is an appeal that lends to how you are perceived by your audience.

Additional Persuasive Strategies

In addition to the three classical appeals, other helpful strategies for argument, such as the Toulmin Model, include rebuttals and concessions.[2] These approaches are focused more specifically on addressing potential concerns or counter-arguments that your readers may have when reading your document or hearing your presentation.

Rebuttal

In a **rebuttal**, you directly address arguments that your persuasive opponents might bring up. You show how these claims are wrong or how they don't affect your overall argument. Picture yourself face to face with your persuasive opponents. What arguments are they going to use against you? How are you going to answer those arguments? In a written persuasive effort, you must simulate this back-and-forth, debate-style argumentative process. Imagine your opponents' counter-arguments (arguments they might put forth against your position), and then imagine your own rebuttals (your answers to those counter-arguments).

Concession

In a **concession**, you acknowledge (or concede) that certain opposing arguments have some validity, but you explain how they do not damage your overall argument. Concessions build credibility and make you seem more open minded.

Not all arguments need to end with one side completely winning. One strategy is to aim for synthesis, or a combination of major arguments and points. Modern rhetoricians urge us not to view the persuasive process as a win-lose situation or zero-sum game. Such rigidity prevents us from resolving issues and moving forward. Instead, the process of counter-argument, rebuttal, and concession should be sincere and continuous until all parties reach synthesis—a middle ground where they agree.

Notes

1. Aristotle, *Rhetoric*, trans. W. Rhys Roberts, (Massachusetts Institute of Technology Classics, n.d.) http://classics.mit.edu/Aristotle/rhetoric.html.
2. Laurel Nesbitt, *The Toulmin Method*, Writing@CSU, (Colorado State University, 1994 - 2012) https://writing.colostate.edu/guides/guide.cfm?guideid=58; *Toulmin Model of Argument* (Carson-Newman University, 2018) https://web.cn.edu/kwheeler/documents/Toulmin.pdf.

HOW TO WRITE A PERSUASIVE DOCUMENT

David McMurrey; Kalani Pattison; and Nicole Hagstrom-Schmidt

Below, you will find guidelines on writing persuasively in technical communication.

Define and Support Each of your Arguments

In order to provide clarity to an audience, you will need to explicitly state your major arguments, claims, or conclusions. These statements should not contain ambiguity or be buried among other content. Think about the professional documents you have read. If you were asked to summarize a journal article from your field, what would you say were the main points? Writing that offers clear, quotable sentences that express the purpose, arguments, and conclusions of the author is much easier for the reader to summarize and retain as opposed to writing that embeds its ideas without saying them outright.

Of course, it is not sufficient to merely state that something costs less, works better, provides benefits, and is acceptable to the public. You must prove each argument by using supporting data, reasoning, and examples.

For instance, imagine that you are attempting to persuade your city council to consider a municipal recycling program. As part of your persuasive strategies, you use a logical appeal to argue that such a program would reduce landfill requirements. How can you prove that? You prove that claim by conducting primary and secondary research that answers key questions that the audience might have. What, for example, is the city's daily input to the landfill? What are the costs? Can you determine how much of the landfill is made up of recyclables? If you can get believable numbers, you may then calculate landfill savings in terms of volume and dollars.

Consider Pathos

Used appropriately, emotional appeals capture readers' attention, get them to care about the issue, and establish common ground (of common motivations and values) between the author and audience. On the other hand, used inappropriately, they rouse strong emotions such as fear and anger, preventing readers from thinking clearly about the issue, or they invite ridicule or laughter by being "cheesy."

What pathos could you use for a recycling promotion? Images of overflowing landfills or of dwindling natural habitats and saddened cute animals are options. Some audiences might be touched, but others would find such arguments to be too sentimental. A more effective use of pathos would be to find what motivations the audience might have: an apartment complex might be persuaded that providing a recycling method for residents would draw more clients and increase the company's profit.

Consider Ethos

Like emotional appeals, personal appeals do not establish logical reasons for an argument. However, personal appeals are nevertheless effective in professional documents and often necessary to make the audience trust your logical arguments and data in the first place. If you use the personal appeal, you attempt to build readers' confidence in you as someone who is knowledgeable and reliable. Citing years of experience and education is a common example of building a personal appeal. Other appeals that affect your credibility include how your document or presentation looks, the types of sources you cite, and your affiliation with organizations, such as work, school, religion, social groups, or political parties.

What personal appeals could your hypothetical recycling project use? To get people to accept the data, you could cite believable sources, such as government reports or leading experts. To give yourself credibility, you could describe your past experience and training in this area. Perhaps you could also describe yourself as a long-time resident of the city. You might also clearly communicate any methods of research used in order to persuade your audience that your methodology was sound.

Address Any Counter-Arguments

Counter-arguments are objections people might raise in relation to your argument. Actively engage with reasonable counter-arguments and show how they are wrong, how they can be addressed, or how they are irrelevant to your main point. Notice that a persuasive document advocating recycling could be structured on counter-arguments as reflected in this possible title: "Recycling: Not a Waste of Money or Time!"

As for recycling programs, you must address the standard objections. For instance, someone might say that recycling is time consuming. You might counter-argue that recycling is no more of a hassle than taking out the garbage. Perhaps someone argues that it's a hassle sorting everything and keeping it in separate bins. That one is easy: most recycling programs don't require sorting. Maybe someone objects that it's messy and attracts pests. How would you address that counter argument?

Plan an Introduction

In an introduction you usually do not state your main argumentative point within the first few sentences. Instead, indicate the subject matter and any necessary background information. If you establish a topic's context and significance (why it matters to your audience) as soon as possible, your readers are more likely to hear you out.

Imagine that you have written the main sections of a report recommending that your city invest in and create a municipal recycling program. You have logical appeals, counter-arguments, and possibly some personal and emotional appeals as well. Instead of demanding that the city adopt a recycling program, begin with a purpose statement establishing that this document "explores" or "investigates" the possibilities for recycling. Indicate that this document is for both city officials and ordinary citizens. Provide an overview, indicating that you'll be discussing current and projected landfill use and associated costs, amount of recyclables in municipal waste, their recyclable value, potential revenue from a recycling program, costs of a recycling program, and necessary administrative and citizen participation in such a program. For more information about Introductions, see Chapter 9: The Writing Process, Chapter 19: Informational Reports, and Chapter 20: Recommendation Reports.

Consider the Conclusion

In persuasive communication, the final section is often a logical conclusion (for more information, see "true" conclusions in Chapter 20: Recommendation Reports). If you have not yet overtly stated your main argumentative point, now is the time. When you do, summarize the main arguments that support it.

The last section, whether it is called the conclusion or goes by another name to follow the conventions of a document's particular genre, is the place to emphasize the information you want your audience to remember. In fact, depending on a document's audience, some audiences may flip straight to the conclusion section to see what the takeaway of the document is, as they are more interested in the final practical consequences and outcomes. Be sure that the conclusion section communicates this information as clearly as possible to your audience.

How to Format Persuasive Documents?

Here are a few suggestions on format as they relate specifically to persuasive documents.[1]

> **Headings.** If you structure your document by individual arguments, then the subheadings can be related to those arguments. For reports, these headings and subheadings will be somewhere in the body of the report rather than in introductory or concluding material. Notice how a heading in the previous example contains a counter-argument: Recycling: Not a Waste of Money or Time!
>
> **Graphics.** Factual information supplies a great deal of the legitimate support for your persuasive effort. Make your data more dramatic and vivid by creating tables, charts, and graphs. Graphics, including illustrations, graphs, tables, and photographs, can also supply both logical support and emotional support. Particularly well-crafted and well-integrated graphics will also add to your credibility and ethos. See Chapter 8: Graphics for additional information.

Notes

1. "Monroe's Motivated Sequence." Changing Minds, accessed August 14, 2020, http://changingminds.org/techniques/general/overall/monroe_sequence.htm.

AVOIDING LOGICAL FALLACIES

David McMurrey; Anonymous; Matt McKinney; and Nicole Hagstrom-Schmidt

In addition to considering the most effective tools and strategies for persuading their audiences, communicators must be mindful about avoiding logical fallacies. The term logical fallacy refers to a *structural* flaw in an argument that inherently weakens it. A logical fallacy therefore occurs not necessarily when information itself is false or wrong, but when a communicator puts material together in a way that makes their conclusions invalid.

Logical fallacies do not always reflect the integrity of a position. It is very possible to make a bad argument for a good cause. For example, a nutritionist can make a very reasonable case for becoming a vegan by drawing from scientific research on the health benefits of a plant-based diet, the social and environmental impacts of factory farming, and their experiences as a professional. However, if the nutritionist were to argue, "Going vegan is the right thing to do because Benjamin Franklin would have wanted it," or "Anyone who eats meat is a sociopath," then they would undermine their position by the faultiness of their reasoning.

To audiences, the presence of logical fallacies in a speaker's or writer's argument can be indicative of a lack of thorough thinking or even arguing in bad faith. Thus, being aware of the different types of logical fallacies and testing your argument against them is essential to effective persuasion. Table 4.1 below lists common logical fallacies, their definitions, and examples of how they might be used in a speech or written document.

Table 4.1. Logical fallacies.

Logical Fallacy	Definition	Example
Red Herring	Distracting attention from the main issue, particularly by relating the issue to a common fear.	It's not just about the death penalty; it's about the victims and their rights. You wouldn't want to be a victim, but if you were, you'd want justice.
Straw Man	Setting up a weak argument to be easily refuted, thus distracting attention from stronger arguments.	What if we released criminals who commit murder after just a few years of rehabilitation? Think of how unsafe our streets would be then!
Begging the Question	Claiming the truth of the very matter in question, as if it were already an obvious conclusion.	We know that they will be released and unleashed on society to repeat their crimes again and again.
Circular Argument	Using the proposition to prove itself. Assumes the very thing it aims to prove. Related to begging the question.	Once a killer, always a killer.
Ad Populum	"Appeal to the people." Appealing to a common belief of some people, often prejudicial, and stating that everyone holds this belief. Also called the Bandwagon Fallacy, as people "jump on the bandwagon" of a perceived popular view.	Most people would prefer to get rid of a few "bad apples" and keep our streets safe.
Ad Hominem	"Argument against the man" instead of against the person's message. Stating that someone's argument is wrong solely because of something about the person rather than about the argument itself.	Our representative is a drunk and philanderer. How can we trust him on the issues of safety and family?
Non Sequitur	"It does not follow." Offering a conclusion that does not follow from the premises. They are not related.	Since the liberal anti-war demonstrations of the 1960s, we've seen an increase in convicts who got let off death row.
Post Hoc Ergo Propter Hoc	"After this, therefore because of this." Arguing that one event caused another simply because it came first. Also called a coincidental correlation or false causality.	Hurricanes have become more frequent and severe since we got rid of prayer in schools.
Hasty Generalization	Drawing a conclusion based on too little evidence.	A lot of people wear burnt orange in Austin, so most Texans must be Longhorn fans.
Either-Or/ False Dichotomy	Either-Or/False Dichotomy Reducing the number of available choices to two: one you favor and one that is completely unreasonable.	Either we drill for oil in national parks or our way of life collapses entirely.
False Analogies	Basing an entire persuasive effort on an analogy. This is flawed because all analogies break down at some point, and some are just wrong to begin with.	Earth must be flat because when I pour water on an orange it runs off; it doesn't sit there and collect like the oceans do.

Logical Fallacy	Definition	Example
Loaded Language	Using words that have a secondary evaluative meaning (usually negative) through their connotations, rather than neutral and descriptive terms.	Looters roamed the streets, carrying goods in the wake of the storm. vs. Hurricane survivors traversed the wreckage carrying their possessions.
Whataboutism or Tu Quoque ("You Also")	Changing the subject in order to deflect criticism and avoid responding to the original argument. Often rooted in a false moral equivalence.	Face masks should not be mandated for public health. What about junk food and cigarettes? We're not banning those.

ETHICAL PERSUASION

Anonymous; Kalani Pattison; and Nicole Hagstrom-Schmidt

What comes to mind when you think of speaking or writing to persuade? Perhaps the idea of persuasion may bring to mind propaganda and issues of **manipulation**, **deception**, **intentional bias**, **bribery**, and even **coercion**. Each element relates to persuasion, but in distinct ways. We recognize that each of these elements has a negative connotation associated with it. Why do you think that deceiving your audience, bribing a judge, or coercing people to do something against their wishes is wrong? These tactics violate our sense of fairness, freedom, and ethics. See Chapter 3: Ethics in Workplace Culture and Research for more information about the six ethical principles for communication.

What to Avoid

Manipulation involves the management of facts, ideas, or points of view in order to play upon inherent insecurities or emotional appeals to one's own advantage. Your audience expects you to treat them with respect, and deliberately manipulating them by means of fear, guilt, duty, or a relationship is unethical. In the same way, **deception** involves the use of lies, partial truths, or the omission of relevant information to deceive your audience. No one likes to be lied to, or made to believe something that is not true. Deception can involve **intentional bias**, or the selection of information to support your position while framing negatively any information that might challenge your belief.

Bribery involves the giving of something in return for an expected favor, consideration, or privilege. It circumvents the normal protocol for personal gain, and again is a strategy that misleads your audience. **Coercion** is the use of power to compel action. You make someone do something they would not choose to do freely. You might threaten punishment, and people may go along with you while the "stick" is present, but once the threat is removed, they will revert to their previous position, often with new antagonism toward the person or agency that coerced them. While you may raise the issue that the ends justify the means, and you are "doing it for the audience's own good," you need to recognize the unethical nature of coercion.

All of these issues certainly relate to persuasion, but are clearly wrong. You as the speaker should be aware of these (in order to avoid them) to make sure you present an ethical, persuasive speech. Learn to recognize when others try to use these tactics on you, and know that your audience will be watching to see if you try any of these strategies on them.

Eleven Points for Speaking Ethically

In their book *Ethics in Human Communication*, Richard Johannesen, Kathleen Valde, and Karen Whedbee summarize eleven points to consider when speaking to persuade. These eleven points reiterate many of the concepts across this chapter and should be kept in mind as you prepare and present your persuasive message. Table 4.2 quotes these eleven points in their entirety.[1]

Table 4.2. Eleven points for speaking ethically.

Eleven Points for Speaking Ethically
1. Do not use false, fabricated, misrepresented, distorted, or irrelevant evidence to support arguments or claims.
2. Do not intentionally use specious, unsupported, or illogical reasoning.
3. Do not represent yourself as informed or as an "expert" on a subject when you are not.
4. Do not use irrelevant appeals to divert attention from the issue at hand. Among appeals that commonly serve such a purpose are: "Smear" attacks on an opponent's character; appeals to hatred and bigotry; derogatory insinuations—innuendos; God and Devil terms that cause intense but unreflective positive or negative reactions.
5. Do not ask your audience to link your idea or proposal to emotion-laden values, motives, or goals to which it actually is not related.
6. Do not deceive your audience by concealing your real purpose, by concealing self-interest, by concealing the group you represent, or by concealing your position as an advocate of a viewpoint.
7. Do not distort, hide, or misrepresent the number, scope, intensity, or undesirable features of consequences or effects.
8. Do not use "emotional appeals" that lack a supporting basis of evidence or reasoning, or that would not be accepted if the audience had time and opportunity to examine the subject themselves.
9. Do not oversimplify complex, gradation-laden situations into simplistic, two-valued, either/or, polar views or choices.
10. Do not pretend certainty where tentativeness and degrees of probability would be more accurate.
11. Do not advocate something in which you do not believe yourself.

Overall, the tools of rhetoric, used effectively, can have a powerful impact on the decisions people make and the actions they take. Used ethically, rhetoric and the ability to persuade others can be a powerful force for good change in the world. Used unethically or for unethical purposes, effective uses of rhetoric or persuasion can have an equally negative impact, as can be seen in the actions of many well-spoken and charismatic but terrible world leaders throughout history. As you practice and master these skills in order to produce persuasive documents, remember to use them ethically, responsibly, and conscientiously.

Notes

1. The text of this table is quoted from Richard L. Johannesen, Kathleen S. Valde, and Karen E. Whedbee, *Ethics in Human Communication*, 6th ed. (Prospect Heights, IL: Waveland Press, 2002), 28–29.

5 - WRITING SKILLS

Communicating Professionally

Suzan Last and Nicole Hagstrom-Schmidt

Good professional and technical communication is precise and concise. This precision and concision must be evident at all levels, from the overall document, to paragraphing, to sentence structure, to word choice, and even to punctuation. Every word or phrase should have a distinct and useful purpose. If something doesn't, remove or revise the content.

In this chapter, you will learn how to write and revise precisely and concisely. You will also be introduced to English sentence structures and how you may use them in your technical and professional communication. Finally, this chapter concludes with specific guidelines on punctuation, including rules for commas, end punctuation, and other less common punctuation marks such as colons, semicolons, and em dashes.

The 7 Cs of Professional Writing

The 7 Cs are simply seven words that begin with C that characterize strong, professional style. Applying the 7 Cs of professional communication will result in writing that is

- Clear
- Coherent
- Concise
- Concrete
- Correct
- Complete
- Courteous.

Clear writing involves knowing what you want to say before you say it, because often a lack of clarity comes from unclear thinking or poor planning. Clear writing immediately conveys the purpose of the document to the reader; it matches vocabulary to the audience, avoiding jargon and unnecessary technical or obscure language, while at the same time being precise. In clarifying your ideas, ensure that each sentence conveys one idea and that each paragraph thoroughly develops one unified concept or topic.

Coherent writing means that the reader can easily follow your ideas and your train of thought. One idea should lead logically into the next through the use of transitional words and phrases, structural markers, planned repetition, sentences with clear subjects, clear headings, and parallel lists. Writing that lacks coherence often sounds "choppy," and ideas seem disconnected or incomplete. Coherently connecting ideas is like building bridges between islands of thought so that the reader can easily move from one idea to the next.

Concise writing uses the fewest words possible to convey the greatest meaning while still maintaining clarity. William Zinsser asserts that "the secret of good writing is to strip every sentence to its cleanest components."[1] Avoid unnecessary padding, awkward phrasing, overuse of "to be" forms (is, are, was, were, am, be, being), long preposition strings, vagueness, and unnecessary repetition. Use active verbs whenever possible, and choose a single word rather than a long phrase or clichéd expression. Think of your word count like a budget; be cost effective by making sure every word you choose does effective work for you.

Concrete writing involves using specific, precise language to paint a picture for your readers so that they can more easily understand your ideas. If you have to explain an abstract concept or idea, try using examples, analogies, and precise language to illustrate it. Use measurable descriptors whenever possible; avoid vague terms like "big" or "good." Use specific terms and descriptions to encourage your readers to visualize or "see" your ideas.

Correct writing provides accurate information and employs the appropriate document type, genre, and form for the task. "Correctness" also entails following mechanical rules and expectations for the language in which you are writing.

Complete writing includes all requested information and answers all relevant questions. The more concrete and specific you are, the more likely your document will be complete as well. Review all requirements before submitting your document to its intended reader.

Courteous writing entails designing a reader-friendly, easy-to-read document; using tactful language and appropriate modes of addressing the audience; and avoiding potentially offensive terminology, usage, and tone.

In some cases, some of these principles might come into conflict: what if being too concise results in a tone that sounds abrupt or an idea that seems incomplete? Figure 5.1[2] illustrates one method of putting all the 7Cs together.

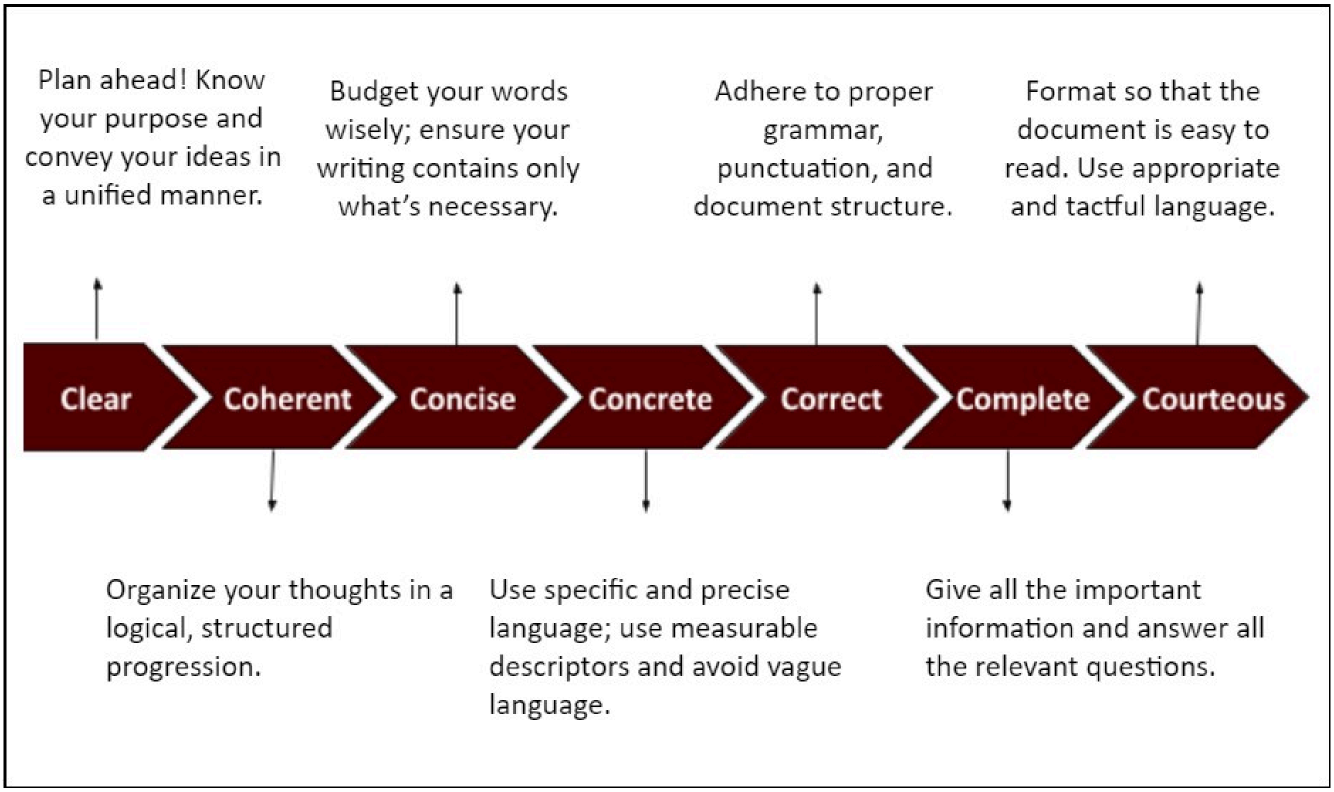

Figure 5.1: Putting All the 7 C's Together

Be mindful of the tradeoffs, and always give priority to being clear: writing that lacks clarity cannot be understood and therefore cannot achieve its purpose. Writing that adheres to the 7 Cs helps to establish your credibility as a technical professional.

Notes

1. William Zinsser, "Simplicity," Department of Geosciences at the University of Massachusetts Amherst, accessed Jan. 28, 2022, http://www.geo.umass.edu/faculty/wclement/Writing/zinsser.html
2. This image is adapted from Alyssa Zicari and Jenna Hildemann, "Putting All the 7Cs Together," in "Communicating with Precision" in Suzan Last, with contributors Candice Neveu and Monika Smith, *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields* (Victoria, BC: University of Victoria, 2019), https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License. The original text indicates that this image was used with permission.

PRECISE AND CONCISE WORDING

Suzan Last; Anonymous; Matt McKinney; Nicole Hagstrom-Schmidt; Claire Carly-Miles; and Kalani Pattison

Technical writing is precise writing. Vague, overly general, hyperbolic, or ambiguous terms are not appropriate in this type of writing. You do not want to choose words and phrasing that could be interpreted in more than one way. Instead, select words that most accurately convey your point. Below are some guidelines and examples to follow for using precise wording.

Replace abstract nouns with verbs. Verbs, more than nouns, help convey ideas concisely, so where possible, avoid using nouns derived from verbs. Often these abstract nouns end in **–tion** and **–ment**. See examples in the following Table 5.1.

Table 5.1. Abstract nouns and verbs.

Abstract Noun	Verb
acquisition	acquire
analysis	analyze
recommendation	recommend
observation	observe
application	apply
confirmation	confirm
development	develop
ability	able, can
assessment	assess

Prefer short words to long words and phrases. The goal is to communicate directly and plainly, so use short, direct words whenever possible. In other words, avoid long words or phrases when short ones will do. Table 5.2 offers examples of long words and phrases, and the shorter options you can use to replace them.

Table 5.2. Long and short words.

Long	Short
cognizant; be cognizant of	aware, know
commence; commencement	begin, beginning
utilize; utilization	use (v), use (n)
inquire; make an inquiry	ask
finalize; finalization	complete, end
afford an opportunity to	permit, allow
at this point in time	now, currently
due to the fact that	because, due to
has the ability to	can

Avoid clichés. Clichés are expressions that you have probably heard and used hundreds of times. They are over-used expressions that have largely lost their meaning and impact. Table 5.3 provides examples of clichés and alternatives you could use.

Table 5.3. Clichés and alternatives.

Cliché	Alternative
as plain as day	plainly, obvious, clear
ballpark figure	about, approximately
few and far between	rare, infrequent
needless to say	of course, obviously
last but not least	finally, lastly
as far as___is concerned	according to...

Avoid cluttered constructions. This category includes redundancies and unnecessary repetition. Table 5.4 shows examples of redundancies and how to fix them.

Table 5.4. Redundancies.

	Redundancies	
combine/join together	fill completely	unite as one
finish entirely	refer/return/revert back to	emphasize/stress strongly
examine closely	suddenly interrupt	better/further enhance
eventually evolve over time	strictly forbid	rely/depend heavily
plan ahead	harshly condemn	protest against
completely surround on all sides	estimate/approximate roughly	gather/assemble together
clearly articulate	carefully consider	successfully prove
future plan	mutual agreement	years of age
in actual fact	positive benefits	end results/product

Use accurate wording. Sometimes accuracy requires more words instead of fewer, so do not sacrifice clarity for brevity. Make sure your words convey the meaning you intend. Avoid using words that have several possible meanings; do not leave room for ambiguity or alternate interpretations of your ideas. Readers of technical writing tend to choose literal meanings, so avoid figurative language that might be confusing (for example, using metaphors such as “at the end of the day” instead of “in conclusion”).

Separate facts from opinions by using phrases like “we recommend” or “in our opinion.” Use consistent terminology rather than looking for synonyms that may be less precise.

Qualify statements that need qualifying, especially if there is possibility for misinterpretation. Avoid overusing intensifiers like “extremely,” and avoid absolutes like “never, always, all, none,” as these are almost never accurate. We tend to overuse qualifiers and intensifiers in American English, so below are some that you should be aware of and consider whether you are using them effectively. See Table 5.5 for examples of overused intensifiers and Table 5.6 for examples of overused qualifiers.

Table 5.5. Overused intensifiers.

Overused Intensifiers					
absolutely	actually	assuredly	certainly	clearly	completely
considerably	definitely	effectively	extremely	fundamentally	drastically
highly	in fact	incredibly	inevitably	indeed	interestingly
markedly	naturally	of course	particularly	significantly	surely
totally	utterly	very	really	remarkably	tremendously

Table 5.6. Overused qualifiers.

Overused Qualifiers					
apparently	arguably	basically	essentially	generally	hopefully
in effect	in general	kind of	overall	perhaps	quite
rather	relatively	seemingly	somewhat	sort of	virtually

For a comprehensive list of words and phrases that should be used with caution, see G. Kim Blank's "Wordiness, Wordiness, Wordiness List."[1]

Use gender pronouns inclusively and mindfully. The pronouns we choose when crafting technical documents help us to establish rapport with our audience and combat harmful gender stereotypes that are prevalent in technical and professional discourses. If you know the gender of the person(s) whom you are discussing, always use the pronouns they identify with.

However, if you are using a hypothetical person to demonstrate a point (as this textbook often does), use the singular "they/them." Doing so is a courtesy towards people who are non-binary and may not feel included by "he or she," or simply "he" or "she." Using "they/them" also helps in delinking professional positions and roles from gender stereotypes (for example, referring to a hypothetical CEO as "he" or a nurse as "she"). See Chapter 15 for discussion on gender pronouns in correspondence.

Use the active voice. The active voice emphasizes the person/thing doing the action in a sentence. For example, in "The outfielder threw the ball," the subject, "outfielder," actively performs the action of the verb "throw." The passive voice emphasizes the recipient of the action. In other words, something is being done to something by somebody: "The ball was thrown by the outfielder." Passive constructions are generally wordier and often leave out the person/thing doing the action. Table 5.7 provides a comparison of active and passive voice constructions.

Table 5.7. Active and passive voice.

Active	Passive
Subject→Verb→Object	Subject ←Verb ←Object
Subject → actively does the action of the verb → to the object of the sentence	Subject ← passively receives the action of the verb ← from the object
Subject → acts → on object	Subject ← is acted upon ← by the object

In some situations, the passive voice can be useful, such as when you want to emphasize the receiver of an action or the action itself, as the subject of the sentence. Passive voice can also be helpful if you want to avoid using first person. However, overusing the passive voice results in writing that is wordy, vague, and stuffy. When possible, use the active voice to convey who or what performs the action of the verb.

Choose Precise Words

To increase understanding, choose precise words that paint as vivid and accurate a mental picture as possible for your audience. If you use language that is vague or abstract, your meaning may be lost or misinterpreted. Your document or presentation will also be less dynamic and interesting than it could be.

Table 5.8 "Precisely What Are You Saying?" lists some examples of phrases that are imprecise and precise. Which one evokes a more dynamic image in your imagination?

Table 5.8. Precisely what are you saying?

Imprecise	Precise
It is important to eat a healthy diet during pregnancy.	Eating a diet rich in whole grains, fruits and vegetables, lean meats, and low-fat dairy products can improve your health during pregnancy and boost your chances of having a healthy baby.
We are making good progress on the project.	In the two weeks since inception, our four-member team has achieved three of the six objectives we identified for project completion; we are on track to complete the project in another three to four weeks.
For the same amount spent, we expected more value added.	We have examined several proposals in the $10,000 range, and they all offer more features than what we see in the $12,500 system ABC Corp. is offering.
Officers were called to the scene.	Responding to a 911 call, State Police Officers Arellano and Chavez sped to the intersection of County Route 53 and State Highway 21.
The victim went down the street.	The victim ran screaming to the home of a neighbor, Mary Lee of 31 Orchard Street.
Several different colors are available.	The silk jacquard fabric is available in ivory, moss, cinnamon, and topaz colorways.
A woman was heckled when she spoke at a healthcare event.	On August 25, 2009, Rep. Frank Pallone (Democrat of New Jersey's 6th congressional district) hosted a "town hall" meeting on health care reform where many audience members heckled and booed a woman in a wheelchair as she spoke about the need for affordable health insurance and her fears that she might lose her home.

As with all audience-driven communication, the goal of professional and technical writing is to be understood. In the above examples, the writer adds information crucial to helping the audience understand the full picture. The added clarification is therefore also concise as it does not contain "empty" words and phrases that do not add to understanding.

Note

Precision and conciseness are not mutually exclusive. Being concise does not mean to be brief; likewise, being precise does not mean to be long-winded.

The Importance of Verbs

Much of the style advice given so far revolves around the importance of verbs. Think of your sentence as a machine and the verb as the engine that makes the machine work. Like machines, sentences can function efficiently or inefficiently, and the use of a strong verb is one way to make them work effectively. Here are some key principles regarding the effective use of verbs in your sentences. While effective sentences may occasionally deviate from the suggestions in this list, try to follow these guidelines as often as possible:

- Keep the subject and the verb close together; avoid separating them with words or phrases that could create confusion.
- Place the verb near the beginning of the sentence (and close to the subject).
- Maintain a high verb/word ratio in your sentence.
- Prefer active verb constructions over passive ones.
- Avoid “to be” verbs (am, is, are, was, were, being, been, be).
- Turn nominalizations (abstract nouns) back into verbs.

Use the verb strength chart in Table 5.9 as a guide to “elevate” weaker verbs (or words with implied action) in a sentence to stronger forms.

Table 5.9. Verb strength chart.

Verb Strength	Verb Form	Examples
STRONG	Command/Imperative	Maintain the machine properly. Write the report!
	Active Indicative (Subject→Verb)	He maintains the machine regularly. She often writes reports.
	Active Conditional (if statements)	She would maintain the machine if he would let her. If he had more training, he would write reports.
	Gerunds (___-ing) Infinitives (to___) (These do not function as verbs in your sentence; gerunds and infinitives are in *italics*, while actual verbs are in **bold text**.)	While *maintaining* the machine, he **gets** quite dirty. *Writing* a report **takes** skill. It **takes** a lot of time *to maintain* this machine. *To write* effectively, one must **understand** the audience.
	Passive (Subject←Verb)	The machine is maintained by him. The report was written by her.
	Passive Conditional	It would be maintained by her if… Reports would be written by him if...
WEAK	Nominalizations (verbs turned into abstract nouns) Participles (nouns or adjectives that used to be verbs) (These do not function as verbs in your sentence. Nominalizations and participles are *italics*; actual verbs are in **bold text**.)	Machine *maintenance* **is** dirty work. A *well-maintained* machine **is** a thing of beauty. *Written* work **must be** free of errors.

While you are not likely to use the command form very often (unless you are writing instructions), the second strongest form, **active indicative**, is the one you want to use most often (in about 80% of your sentences).

Part of the skill of using active verbs lies in choosing the verbs that precisely describe the action you want to convey. Because they are used frequently, common verbs such as “be,” “do,” “get,” and “have” possess multiple meanings and appear in a variety of idioms. Using these verbs therefore can lead to unintentional ambiguity. Whenever possible, avoid these general verbs and use more precise, descriptive verbs, as indicated in Table 5.10.

Table 5.10. General verbs and descriptive verbs.

General Verbs	Descriptive Verbs
Signal Verbs: Says States Talks about Discusses Writes	Describe the rhetorical purpose behind what the deliverer "says": Explains, clarifies Describes, illustrates Claims, argues, maintains Asserts, stresses, emphasizes Recommends, urges, suggests
Is, are, was, were being, been Is ___-ing	Instead of indicating what or how something "is," describe what it **DOES**, by choosing a precise, active verb. Replace progressive form (is ___ing) with indicative form *She is describing > She describes*
Get, gets	Usually too colloquial (or passive); instead, try: Become, prepare, acquire, obtain, receive, contract, catch, achieve, earn, understand, appreciate
Do, does	Avoid using the *emphatic* tense in formal writing: It *does* work > It **works** Instead: Perform, prepare, complete, etc.
Has, have Has to, have to	This verb has many potential meanings. Find a more specific verb than "have/has" or "has to": She **owns** a car. They **consume/eat** a meal. The product **includes** many optional features. The process **entails** several steps. Instead of "have to" try one of these options: Must, require, need

Table 5.11 summarizes poor style characteristics that you should try to avoid while writing technical and professional documents, as well as effective style characteristics that you should strive to implement.

Table 5.11. Key characteristics of effective professional style.

Poor Style	Effective Style
Low VERB/WORD ratio per sentence	High VERB/WORD ratio per sentence
Excessive "to be" verbs	Concrete, descriptive verbs
Excessive passive verb constructions	Active verb constructions
Abstract or vague nouns	Concrete and specific nouns
Many prepositional phrases	Few prepositional phrases
Subject and verb are separated by words or phrases	Subject and verb are close together
Verb is near the end of the sentence	Verb is near the beginning of the sentence
Main idea (subject-verb relationship) is difficult to find	Main idea is clear
Sentence must be read more than once to understand	Meaning is clear the first time you read it
Long, rambling sentences	Precise, specific sentences

Notes

1. G. Kim Blank, "Wordiness, Wordiness, Wordiness List," *University of Victoria*, last modified November 3, 2015, http://web.uvic.ca/~gkblank/wordiness.html.

SENTENCE STRUCTURE

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When building anything, you should be familiar with the tools you are using. Grammatical elements are the main "tools" you use when building sentences in longer written works. Thus, it is critical to have some understanding of grammatical terminology in order to construct effective sentences.

The two essential parts of a sentence are the **subject** (governed by a noun or pronoun) and the **predicate** (or verb phrase, governed by a verb). The subject refers to the topic being discussed, while the verb phrase conveys the action or state of being expressed in the sentence.

All clauses must contain both a subject and a verb. Phrases, on the other hand, lack a subject or a verb, or both, so they need to relate to or modify other parts of the sentence. Main clauses, also called **independent clauses**, can stand on their own and convey an idea. All sentences contain at least one independent clause. **Dependent clauses**, also called subordinate clauses, rely on another part of the sentence for meaning and can't stand on their own. These clauses are often the most common types of sentence fragments that students write.

Consider the examples below.

Example Sentence 1: The engineers stood around the table looking at the schematics for the machine.

Independent Clause	Phrases
The engineers stood around the table	looking at the schematics for the machine.
(subject) (verb) (phrase)	(phrase) (phrase)

Example Sentence 1 is a **simple sentence**. It has one independent clause, with one subject (The engineers) and one verb (stood). This clause is followed by three modifying phrases ("around the table," "looking at the schematics," and "for the machine").

Example Sentence 2: After they discussed different options, they decided to redesign the components.

Dependent Clause	Independent Clause
After they discussed different options,	they decided to redesign the components.
Sub. Conj. (subject) (verb) (Object)	(subject) (verb) (phrase)

Example Sentence 2 is a **complex sentence**, with one dependent and one independent clause, each with its own subject–verb combination ("**they** discussed" and "**they** decided"). The two clauses are joined by the subordinate conjunction, "after," which makes the first clause subordinate to (or dependent upon) the second one.

Being able to identify the critical parts of the sentence will help you design sentences that have a clear and effective subject-verb relationship. Knowing the components will also help you improve your punctuation. If you would like a more detailed review of sentence structure, visit Purdue's OWL (Online Writing Lab) Mechanics page.[1]

There are four main types of sentence structures: **simple**, **compound**, **complex**, and **compound-complex**. In the examples above, Sentence 1 is a simple sentence, while Sentence 2 is complex.

Simple sentences have one main clause (one subject + one verb) and any number of phrases. The following are all simple sentences.

Examples of Simple Sentences

A simple sentence can be very effective.

It makes one direct point.

It is good for creating emphasis and clarity.

Too many in a row can sound repetitive and choppy.

Varied sentence structure sounds more natural.

Compound sentences have two or more main clauses joined by **coordinating conjunctions** (CC) such as "for," "and," "nor," "but," "or", "yet," and "so" (FANBOYS). You can also connect them using punctuation such as a semi-colon or a colon. By **coordinating** the ideas, you are giving them roughly equal weight and importance.

- Subject + verb, CC Subject + verb

The following are all compound sentences. Any conjunctions are indicated in bold.

Examples of Compound Sentences

A compound sentence coordinates two ideas, **and** each idea is given roughly equal weight.

The two ideas are closely related, **so** you don't want to separate them with a period.

The two clauses make up part of the same idea; **thus**, they should be part of the same sentence.

The two clauses may express a parallel idea; they might also have a parallel structure.

You must remember to include the coordinate conjunction, **or** you may commit a comma splice.

Complex sentences express complex and usually unequal relationships between ideas. One idea is "subordinated" to the main idea by using a "**subordinating conjunction**" (such as "while" or "although"); one idea is "dependent" upon the other one for logic and completeness. Complex sentences include one main clause and at least one dependent clause (see example sentence 2 above). Often, it is stylistically effective to begin your sentence with the dependent clause and place the main clause at the end for emphasis.

- Subordinating Conjunction + subject + verb (*this is the dependent clause*), Subject + verb (*this is the main clause*)

The following are all examples of complex sentences. The subordinating conjunctions are in bold.

Examples of Complex Sentences
When you make a complex sentence, you subordinate one idea to another. **If** you place the subordinate clause first, you give added emphasis to the main clause at the end.

Here is an example of a complete sentence followed by a subordinate clause fragment.

Example of a Complete Sentence Followed by a Fragment
Subordinate clauses cannot stand on their own. Despite the fact that many students try to use them that way.

To correct this error, add the subordinate clause to the complete sentence to form a single sentence.

Example A of Subordinate Clause Added to Complete Sentence
Subordinate clauses cannot stand on their own, despite the fact that many students try to use them that way.

You could also try the following:

Example B of Subordinate Clause Added to Complete Sentence
Despite the fact that many writers try to use them that way, subordinate clauses cannot stand on their own.

Compound-complex sentences contain at least two independent clauses and at least one dependent clause. Because a compound-complex sentence is usually quite long, you must be careful that it makes sense; it is easy for the reader to get lost in a long sentence. Each of the sentences below is a compound-complex sentence:

Examples of Compound-Complex Sentences
I wanted to get an early start on our trip, but I had to wait until my friend finished packing, as well as get gas.

Although we have a fear of heights, we decided to try bungee jumping, and we also went hang-gliding.

Everyone's opinion on pizza is very personal, and despite the fact that pineapple is an often-maligned topping choice, I think we can all agree that the best pizza is free and eaten for breakfast.

While I was never a fan of group projects before, English 210 has changed my mind, and I have a better understanding of effective communication among team members.

Using Rhythm to Construct Sentences

When thinking about sentence structures in your writing, you will also want to focus on another major concept closely related to structure and clarity: rhythm. Similar to the notes and rests in a piece of sheet music, the words and punctuation of a document or speech can be understood as intentional combinations of sound and silence, designed to create a particular effect beyond the content of the page. On the sentence level, rhythm can not only help readers understand and recall content, but also help writers amplify its meaning and importance.

Rhythm is what makes reading aloud an effective means of catching grammatical and mechanical mistakes. When we write and read silently, we cannot hear the innate rhythm of words the way we can in speech. Here are some common examples of faulty grammatical and syntactical rhythm to avoid:

> **Fragments.** Sentence fragments are incomplete sentences that lack an independent clause. These can make your writing sound choppy or stilted. Fragments can typically be corrected by combining the fragment with another sentence or rephrasing it as an independent clause.

Example of Sentence Fragment

"I love the Zachry Building. But I hate the lack of study space."

Could be written as: "I love the Zachry Building, but I hate the lack of study space" or "I love the Zachry Building. However, I hate the lack of study space."

> **Run-ons.** These occur when multiple subjects and clauses are put into one sentence without any punctuation to provide breaks. Run-ons obscure important shifts in thought/focus on the sentence level; these shifts help the reader anticipate and process the flow of your content. To avoid sentences like this, it helps to identify any independent clauses and assign them their own sentences.

Example of Run-On

"The first task of the project is to interview Transportation Services on existing parking structures after that I could also conduct field observations to identify the busiest ones."

Could be rewritten as: "The first task of the project is to interview Transportation Services on existing parking structures. After that, I could also conduct field observations to identify the busiest ones."

Repetitive sentence beginnings. Starting multiple sentences in a row with the same word (or even the same sound) will create a monotonous, list-like rhythm. This happens most often with words like "I" or that begin with "Th." Instead, try changing up your beginnings and using harder sounds like consonants to create a more dynamic, punchy rhythm.

Example of Repetitive Sentence Beginning

"The data was gathered over a period of two days. The data analysis reveals emergent patterns between placement of recycling bins and frequency of use. The pattern here informs my recommendation for more recycling bins."

Could be rewritten as: "Data was gathered over a period of two days. Analysis reveals emergent patterns between placement of recycling bins and frequency of use. Based on these patterns, I recommend we increase placement of recycling bins."

Repetitive sentence length. Using the same sentence type (simple, complex, compound, etc.) repeatedly creates a less engaging rhythm. Variety, as it does with sentence beginnings, draws the reader's attention more effectively.

Example of Repetitive Sentence Length

"Particularly with technical and workplace writing that deals with complex ideas, it can be tempting to write longer sentences. Without variation, though, consistently writing longer sentences creates a plodding rhythmic effect. Further still, when writers struggle to capture a powerful idea or vivid image perfectly, they often fail to realize that longer sentences can dilute the impact of what they are trying to say, when a shorter sentence would stand out more."

Could be rewritten as: "It can be tempting to consistently construct longer sentences, particularly with technical writing that deals with complex ideas. This lack of variation, however, creates a problem. Specifically, constant use of longer sentences creates a plodding, rhythmic effect. Further still, when writers struggle to capture a powerful idea or vivid image perfectly, they often fail to realize that longer sentences can dilute the impact of what they are trying to say. Shorter sentences stand out more."

The Known-New Principle. This concept is also known as the Old/New Contract. Readers typically find it helpful when writers use familiar information to introduce new information or terms, so that they can use their prior knowledge to make connections that demystify the new material. This is true on both the paragraph and sentence levels. Maintaining this rhythm of known and new information thus creates a natural progression of content.

Example of Known-New Principle

"As writers strive to vary their sentence lengths, it is also important for them to remember to use rhythmic repetition to help clarify esoteric concepts for readers. 'Obscure' or 'little known' is the meaning of esoteric. Writers can use important and complex terms at the end of one sentence and repeat them at the beginning of the next, to explain esoteric concepts for readers' comprehension.

Ultimately, repetition in key places is an integral component of rhythm's ability to best serve readers' comprehension."

Could be rewritten as: "As writers strive to vary their sentence lengths, it is also important for them to remember to use rhythmic repetition to help clarify esoteric concepts for readers. Esoteric means 'little known' or 'obscure.' Obscure concepts can be clarified by using important and complex terms at the end of one sentence and repeating them at the beginning of the next, for readers' comprehension. Ultimately, readers' comprehension is best served by repetition in key places, an integral component of rhythm."

Commas

Often, students are only vaguely taught how to use commas. They are told to "put it where it feels right," "put it where you take a break in the sentence," or other similarly unhelpful advice. For those who like more structured rules, this can be frustrating.

If you comprehend the different sentence and clause types presented earlier, however, there are actually a handful of comma rules that apply to most situations. As with many other writing conventions, these are rules appropriate to formal, academic, technical, or business writing—they don't necessarily apply to creative writing or dramatic writing in the same way.

After a discussion of commas, this chapter ends with a brief guide to many other common types of punctuation—from the period, to the semi-colon, to the difference between a hyphen and a dash.

Commas

These nine rules and a list of additional miscellaneous instances cover the majority of the times you will need a comma. You will notice that some of them even overlap a bit.

1. **Before a coordinating conjunction joining two independent clauses.**
   Separate two independent clauses with a comma plus a coordinating conjunction. English has seven coordinating conjunctions. One way to remember them is with the acronym FANBOYS (**F**or, **A**nd, **N**or, **B**ut, **O**r, **Y**et, **S**o). In the following examples, both the coordinating conjunction and comma connecting the two independent clauses are in bold.

Examples of Commas with Coordinating Conjunctions Joining Independent Clauses

The cat ran out of the house, **but** Katie caught him on the patio.

Everyone listens to Viola play the violin, **for** her technique is flawless.

John and Jane are three years old, **so** their mother helps them get dressed.

Note: Don't confuse two Independent clauses with a *single subject*/**compound verb**.

Example of Single Subject/Compound Verb
The *student* **missed** the bus and **ran** late to class.

2. **Dependent clause, independent clause.**
When the dependent clause comes first, separate it from the independent clause with a comma, but not the other way around. In the examples below, the dependent clause is in bold.

Examples of Commas Separating Dependent and Independent Clauses
After I walked in the front door, I turned on the TV. I turned on the TV **after I walked in the front door.** **Because he had studied all night,** Brian fell asleep in class. Brian fell asleep in class **because he had studied all night.**

3. **After a long introductory phrase.**
Place a comma between long introductory phrases and an independent clause. These are most often prepositional phrases. Handbooks tend to disagree about what makes an introductory phrase "long"; however, Table 5.12 offers some suggestions.

Example of Comma After Long Introductory Phrase
In 1945 the USA dropped an atomic bomb on Japan. At the final bell(,) the boxers looked very weary. **With a parking lot at each end of the building,** my company has ample parking space.

Table 5.12. Introductory phrases and commas.

Number of Words in an Introductory Phrase	Use of a Comma?
1–3	No
4–6	Optional (usually yes)
7 or more	Yes

4. **Items in a series.**
Separate items in a series of at least three with commas; the comma before the final "and" is optional and called the "Oxford comma" or the serial comma. Whether you choose to use the serial comma or not, be consistent throughout your document.

Examples of Commas Separating Items in a Series

Life is a series of wanderings, searchings, and nomadic quests.

I have three favorite TV shows: *Leverage*, *Unforgettable*, and *Numb3rs*.

5. **Coordinate adjectives.**
   Use a comma between coordinate adjectives not linked by a coordinating conjunction. Coordinate adjectives are separate words that modify a noun rather than a compound adjective, which is a single modifier that is composed of two words. If you're unsure whether you are using coordinate adjectives, try 1) reversing the order of the adjectives and 2) placing "and" in-between the adjectives. If the sentence's meaning has not changed, you are likely using coordinate adjectives.

Examples of Commas Between Coordinate Adjectives

She is an **outgoing, sociable, hard-working** student.

A **tall, handsome** gentleman entered the **dark, oppressive** room.

Exceptions: Colors, nouns acting as adjectives, old/young, (and additional random adjectives

Examples of Exceptions to Commas Between Coordinate Adjectives

The man with the shiny red hair jumped over the sturdy brick wall.

That lovely old lady is the mother of that sweet young lady.

He couldn't open the large cardboard box.

6. **Non-restrictive relative clauses.**
   A relative clause is a clause that begins with a relative pronoun such as "who," "which," or "that." Non-restrictive relative clauses offer nonessential, parenthetical information, and are thus bracketed by a pair of commas. Restrictive clauses, in contrast, use no commas because the information they provide is essential to the meaning of the sentence.

Examples of Commas with Non-Restrictive Relative Clauses

Boston, which was settled in the early 17th century, was inhabited by Puritans.

Mr. Smith, who lives next door, visited me last night.

I will interview Mary Smith, who manages the bakery.

Examples of Commas with Restrictive Relative Clauses

People who live in glass houses should not throw stones.

Students who score over 600 on the SAT verbal usually do well in college composition.

I will interview the Mary Smith who manages the bakery.

Whether a phrase is restrictive or not depends on context and the audience's knowledge.

Examples of Commas with Restrictive/Non-Restrictive Phrases Based on Context

The girl(,) who broke her leg(,) was not hurt otherwise.

He introduced me to the club president(,) who came into the room just then.

The coach(,) who is chewing gum and clapping his hands(,) is Mr. Jones.

7. **Appositives (non-restrictive phrases).**
   Appositives rename/describe the noun they come after. Since these phrases are non-restrictive and do not contain essential information, they should be set off with a pair of commas.

Examples of Commas with Appositives

John, a hopeless romantic, walked slowly into the room.

Judy declared that she loved Marvin, the boy of her dreams.

8. **Parentheticals.**
   Set off parenthetical comments, often transitional words, with a pair of commas. In the examples below the parenthetical phrase and commas are in bold.

Examples of Commas as Parentheticals

Literature, **for example,** is the most comprehensive of all academic subjects.

Science, **we hasten to add,** will never solve the world's problems.

Our college curriculum is settled; history, **then,** will be a major course.

9. **Participial phrases.**
   Separate a participial phrase from the independent clause with a comma whether it appears before or after that clause. Participial phrases usually describe "background" actions and feature an -ing verb; commas help to distinguish these actions from the main action of the independent clause. Be

careful not to have a “misplaced modifier” or “dangling participle” with this type of sentence construction. Make sure the subject of the sentence is the person doing the action of the participle.

Examples of Correct Use of Commas with Participial Phrases

Having swept the court, the boys proceeded to play three sets of tennis.

Mr. Swift was very gentle with his daughter, **sensing that she was about to cry.**

Example of **Incorrect** Use of Commas with Participial Phrases

Parking in the handicapped spot, the police officer gave him a ticket. (This structure means that the police officer was the one who parked in the handicapped spot).

Other Comma Guidelines

Use a comma whenever clarity demands it. For instance, use a comma here, even though the introductory phrase is short, because otherwise the sentence is a little more difficult to read.

Example of Comma for Clarity

Before leaving, the soldiers cleared the town.

Use a comma (before and) after all transitional phrases/words.

Example of Comma after Transitional Phrases

In **addition,** you may not bring your friend; **on the other hand,** you may bring your enemy.

Use a comma after interjections. Interjections include such words as “Well,” “Yes,” or “No.”

Use a comma to mark direct address.

Example of Comma for Direct Address

Let’s eat, **Grandma**!

Separate contrasting elements with a comma. This rule means that sometimes you use a comma before “but” even though it is not between two independent clauses.

Example of Commas Separating Contrasting Elements
Racing should be a test of skill, **not** a dice game with death. The student intended to submit her homework, **but forgot** in the excitement of game day.

Use a comma to separate days, dates, and years.

Example of Comma Separating Days, Dates, and Years
On **Monday, January 14, 2021,** we will hold elections for class president.

Use a comma to separate streets, cities, and states.

Example of Commas Separating Streets, Cities, and States
Sherlock Holmes lived at **221B Baker Street, London, England**, during the Victorian Era.

Always remember the most important rule of comma use: commas, like all parts of technical writing, are primarily about reader comprehension and the impression you make on your audience. Use commas for clarity in these places, but keep in mind that readability is the most important aspect.

Punctuation Other than Commas

1. **.**
   Period/Full Stop. The most common form of end punctuation.
   - Used at the end of complete sentences.
   - Used at the end of abbreviations.
   - Goes inside the quotation marks if there is no citation, or after the parenthesis if there is a parenthetical citation.
2. **!**
   Exclamation Point/Exclamation Mark. Used to convey emphasis or surprise.
   - Should be used very sparingly! In other words, you should hardly ever use it, especially in technical and professional writing.
3. **?**
   Question Mark. Used at the end of questions.
   - In English, questions are often marked not only by the question mark, but also by a

rearrangement of the syntax of a sentence. Do you know what I mean?
    - Rhetorical questions can be effective, but should be used carefully, as too many can be distracting.

4. **’ and ‘ ’**
   Apostrophe and Single Quotes. Used in possessives, contractions, and quotes-within-quotes. Use in the following scenarios listed below:

    - After all singular nouns that do not end in “s” and singular proper nouns that do not end in “s,” add an ’s to mark possession.

Examples of Apostrophe After Singular Nouns That Do Not End in “S”
The student’s pen Dr. Pattison’s book

    - After singular nouns that end in “s,” add only an ’ after the “s” to mark possession.

Example of Apostrophe After Singular Noun That Ends in “S”
The spyglass’ lens

    - After singular proper nouns that end in “s,” add an ’s at the end to mark possession.

Examples of Apostrophes After Singular Proper Nouns Ending in “S”
Dr. Francis’s books James’s notes

    - After plural nouns that do not end in “s,” add an ’s to mark possession.

Examples of Apostrophes After Plural Nouns Not Ending in “S”
The children’s toys The mice’s tails

    - After plural nouns that end in “s,” add only an ’ after the “s” to mark possession.

Examples of Apostrophes After Plural Nouns Ending in "S"
The families' toys The Smiths' tickets The students' pens.

- An apostrophe can also be used to note missing letters or sounds in a contraction. Contractions are usually fine in correspondence. For the most formal situations, avoid contractions.

Examples of Apostrophes in Contractions
Do not ↔ Don't Cannot ↔ Can't I am ↔ I'm.

- Finally, single quotation marks ' ' are used when you have a quotation within a quotation.

Example of Single Quotation Marks Used For a Quotation Within a Quotation
Dr. McKinney exclaimed, "I can't believe he said, 'I'm always right.'"

1. **""**
   Quotation Marks. Used around quotations and to mark specific types of words.
   - Always come in pairs.
   - Mark the beginning and endings of direct quotations, which are the exact words of someone else, or yourself at an earlier time, whether written or spoken.
   - Also used when a word or term is mentioned rather than used, especially when identifying a term to be defined.
2. **:**
   Colon. Used to show a particular relationship between the information before and after the colon or within certain types of numbers and marking systems.
   - Colons may only be used after complete sentences.
   - What comes after the colon expands on or explains what came before.
   - It has two common uses: after a complete sentence before a list and after a complete sentence before a quotation.
   - Also used in notations of time and verse/chapter references.

3. ;
   Semicolon. Used to separate independent clauses or to separate long or punctuated items in lists.

   - Semicolons can be used when two complete sentences are very closely related, especially if the second sentence begins with a conjunctive adverb such as "however" or "thus".

Example of Semicolon With Two Closely Related Complete Sentences
I worked hard all weekend; however, I did not get anything done.

   - Semicolons can also be used in lists when the items in the lists contain commas.

Example of Semicolons Used in a List
I have been to Davao, Philippines; London, England; Qindao, China; and Jakarta, Indonesia.

4. **()**
   Parentheses. (A single mark is a parenthesis.) These can be used to insert side comments or to mark citations.

   - Parenthetical statements often add clarity or humor, but are ultimately unnecessary (though they can be interesting).
   - Parentheses are also used to indicate in-text citations in MLA, APA, and some other styles.

5. **. . .**
   Ellipsis. (The plural is ellipses). An ellipsis indicates that something is omitted.

   - An ellipsis marks an omission. For instance, in a quotation, if a word is left out to make it flow better or an unnecessary phrase is left out to make it more concise, an ellipsis marks where the information or words were removed.
   - An ellipsis should be three periods with spaces on either side and between, unless the ellipsis occurs at the end of a sentence, in which case there is an immediate period followed by three periods (making four periods total).

6. **[]**
   Square Brackets. Brackets are the opposite of ellipses. They indicate that something was added or changed in a quotation.

   - For instance, when adding an article or a preposition or pronoun to make a quotation flow smoothly with the rest of the sentence, the writer adds square brackets to mark the change.

7. **-**
   Hyphen. Hyphens are short dashes used to combine words.

- Hyphens are used in compound words and adjectives, indicating that the hyphenated words are to be considered one unit.
- Some words are always hyphenated (though which words these are changes over time).

Examples of Words That Are Always Hyphenated
mother-in-law x-ray

- Compound adjectives that precede their noun are often hyphenated to show they act as a unit.

Examples of Hyphen and Compound Adjectives Preceding a Noun
a low-budget film a well-trained dog

8. –
   En dash. En dashes are the medium-length line. They separate number ranges, including ranges of time.

Examples of En Dash Separating a Range of Time
1947–1955 March–June

- When using an en dash, do not add spaces between the dash and the words or numbers it is connecting.
- To type an en dash on Windows, use CTRL+Minus(-); on Mac, use Option+Minus(-).
- The ALT code for the en dash is 0150.

9. —
   Em dash. The longest dash of the three can grammatically replace a comma, parentheses, semicolon, or colon. Em dashes are more emphatic than other forms of punctuation; they draw attention to the information following a dash. They are also considered less formal than the types of punctuation they replace, so use them wisely in technical and professional communication. The following examples demonstrate how the em dash may replace different punctuation marks.

- Used as parentheses.

Example of Em Dash Used as Parentheses

Students who have completed certain requirements—an upper-level writing course, a proposal, and a cover letter—are eligible for the scholarship.

- Used as a semicolon.

Example of Em Dash Used as a Semicolon

The study revealed a potentially significant gap in science test scores between School A and School B—future research will test whether that gap is cause for concern.

- Used as a colon.

Example of Em Dash Used as a Colon

Students likely remember the three main rhetorical appeals—ethos, pathos, and logos.

- When using an em dash, do not add spaces between the dash and the items t replaces.
- To type an em dash, on Windows use Alt+Ctrl+Minus(-); on Max, use Option+Shift+Minus(-). For Google Docs, you will need to insert the em dash using Insert Special Character.
- The ALT code for the em dash is 0151.

Punctuation, like all parts of technical and professional writing, is primarily about reader comprehension and the impression you make on your reader. The rules are in place so that there is a common basis of understanding. By using correct punctuation, sentence structure, and strong verbs, you will increase clarity for your reader. Furthermore, by following the 7 Cs addressed at the beginning of the chapter, you will further increase your ethos and credibility, thus encouraging your readers to trust your professionalism and expertise.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/.

Notes

1. "Mechanical," Purdue Online Writing Lab, Purdue University 1995-2020, accessed Jan. 28, 2022, https://owl.purdue.edu/owl/general_writing/mechanics/index.html.

6 - ORGANIZATION

Introduction

Matt McKinney, Kalani Pattison, and Nicole Hagstrom-Schmidt

When you were learning to write, your first experiences with organization likely revolved around the classic five-paragraph essay structure: an introduction, three body paragraphs that covered specific points, and a conclusion. As you've advanced in your academic career, much of the writing you've done has expanded on this structure (such as by adding more body paragraphs for longer papers).

Technical and professional communication, however, often follows more nuanced structural templates. These templates reflect how information is used in these contexts. Whereas an essay begins with a general introduction and weaves summary, purpose, analysis, and persuasion throughout, technical and professional communication often begins with "spoilers." In these types of documents, readers often expect to see the purpose and major takeaways before any analysis or discussion. (For more on analyzing writing situations in technical and professional communication, see Chapter 2: The Rhetorical Situation.)

Audiences also expect to see more extensive use of headings and subheadings. One genre that frequently relies on headings is the memo, which typically conveys specific information to a variety of audiences within one organization. (See Chapter 15 for more on memos.) Different sections that appear in a memo reflect different audiences:

- A **Purpose** section explains the goal and focus of the document.
- A **Summary** section covers key points for an audience who will not need to read the full document (such as an executive).
- A **Discussion** section provides additional context for the key points and the writer's conception of the task or subject (likely read by the writer's coworker or immediate supervisor).
- A **Recommendation** section clarifies the response that the writer wants or expects from their audience(s) once they have read the memo.

Another organizational strategy that characterizes a great deal of technical and workplace writing (particularly in scientific fields) would be **IMRaD**: Introduction, Methods, Results, and Discussion. This structure reflects an emphasis on the scientific method, and it breaks down information in a manner that promotes the objectivity that research requires. This strategy is often employed in abstracts and recommendation reports. See Chapter 20: Recommendation Reports for additional information.

Each of these sections has the following purposes:

> The **Introduction** provides essential background information on the topic for the purpose of clarifying the area of investigation and why it needs to be addressed.
>
> The **Methods** section details how the writer intends to investigate the topic and collect data, outlining the research process. It also conveys the labor involved in this process, as well as defends the writer's design choices in constructing the project.

The **Results** section reports what data was collected without any commentary or interpretation by the writers. This section allows the audience to assess any potential patterns in the data for themselves, and it reinforces the writer's objectivity.

The **Discussion** section is where the writer provides an interpretation of the results based on any emergent patterns. It is also an opportunity for the writer to reflect on their choices in designing data collection methods, evaluating potential limitations for the study, and identifying possibilities for future research.

Note

These basic memo and IMRaD structures, with some variations, will be used extensively in our class, but they are not the only ones technical and professional writers should be aware of. The following section will provide additional guidance for organizing different kinds of technical and professional documents.

ORGANIZING PRINCIPLES

Anonymous and Matt McKinney

Once you know the basic elements of your message, you need to decide in what order to present them to your audience. A central organizing principle will help you determine a logical order for your information. These principles are helpful in both written and verbal communication (see Chapter 14: Oral Communication).

One common organizing principle is **chronology**, or time: the writer tells what happens first, then what happens next, then what is happening now, and, finally, what is expected to happen in the future. Another common organizing principle is comparison: the writer describes one product, an argument on one side of an issue, or one possible course of action, and then compares it with another product, argument, or course of action.

As an example, let's imagine that you are a business writer within the streaming services industry and you have been assigned to write a series of informative pieces about the evolution of Netflix and the need for a new business strategy that deals with contemporary competitors. Just as Netflix overcame industry titans like Blockbuster and Hollywood Video by shifting to a subscription model and streaming service, it will need to maintain its edge against Amazon Prime, Hulu, and others through a retooling of its design and original content.

In deciding how to organize your report, you have several challenges and many possibilities regarding different organizing principles to use. Part of your introduction will involve a historical perspective and a discussion of the events that led from the birth of Netflix as a DVD-by-mail rental company to an international streaming service that now faces a number of competitors. Other aspects will include comparing the business strategies of Netflix with other major streaming services and the potential transformative effects your new plan will have on the market. You will need to acknowledge the complex relationships and challenges that the company's previous adaptations have overcome and highlight the common benefits. You will be called on to write informative documents as part of a public relations initiative, persuasive essays to underscore the benefits for those who prefer the status quo, and even speeches for celebrations and awards.

Table 6.1 lists 17 different organizing principles and how they might be applied to various pieces you would write about Netflix. The left column provides the name of the organizing principle. The center column explains the process of organizing a document according to each principle, and the third column provides an example. Some of the principles in this chart can also be found in Chapter 14: Oral Communication, and some are unique to written communication.

Table 14.7. Sample organizing principles for a speech.

	Explanation of Process	Example
1. Time (Chronological)	Structuring your document by time shows a series of events or steps in a process, which typically has a beginning, middle, and end. "Once upon a time stories" follow a chronological pattern.	Before Netflix, people primarily consumed media at home through VHS and DVD players and rented titles from corporations like Blockbuster and Hollywood Video. Netflix initially started as a DVD-by-mail company in 1998, then it switched to its subscription model shortly after. Blockbuster had the chance to purchase Netflix for $50 million in 2000, but declined.[1]
2. Comparison	Structuring your document by comparison focuses on the similarities and/or differences between points or concepts.	A comparison of Netflix and its competitors such as Hulu and Amazon Prime, focusing on available original content and platform design.
3. Contrast	Structuring your document by using contrasting points highlights the differences between items and concepts.	A contrast between Netflix's share of the streaming services market five and ten years ago versus today.
4. Cause and Effect	Structuring your document by cause and effect establishes a relationship between two events or situations, making the connection clear.	Netflix changed the way people consume and purchase media. Rather than renting or purchasing individual titles, people now purchase a monthly subscription to a library of content that changes regularly. Advertising shifted from commercials to product placement and viral marketing. Netflix also gave rise to "binge-watching" habits of media consumption.
5. Problem and Solution	Structuring your document by problem and solution means you state the problem and detail how it was solved. This approach is effective for persuasive speeches.	Netflix enjoyed a head start in the streaming service market, but major companies like Amazon, Disney, and Apple have started to offer increasing competition. Netflix can stay ahead of the competition by rebooting franchises popular with its primarily millennial and Gen Z audience, continuing to produce creative original content, etc.
6. Classification (Categorical)	Structuring your document by classification establishes categories.	Netflix features competitive original content in several categories: television series, film, stand-up comedy specials, and documentaries. A focus on these categories allows us to see which type of content has the most potential for increasing market share.
7. Biographical	Structuring your document by biography means examining specific people as they relate to the central topic.	Marc Randolph and Reed Hastings founded the company in 1997. Randolph served on the board of the company until his retirement in 2004. In 2019, Netflix negotiated a massive content deal with Benioff and Weiss, the showrunners for Game of Thrones.[2]
8. Space (Spatial)	Structuring your document by space involves the parts of something and how they fit to form the whole.	A description of the layout of Netflix's website and platform.

	Explanation of Process	Example
9. Ascending and Descending	Structuring your document by ascending or descending order involves focusing on quantity and quality. One good story (quality) leads to the larger picture, or the reverse.	he document may start by describing the browsing habits of a streaming service consumer. Major technological advancements and shifts in marketing strategy over time can be expressed through sections with subheadings, body paragraphs, or bulleted lists. Further details can also be expressed through embedded visuals, such as graphs and charts.
10. Psychological	It is also called "Monroe's Motivated Sequence."[3] Structuring your speech on the psychological aspects of the audience involves focusing on their inherent needs and wants. See Maslow[4] and Shutz.[5] The speaker calls attention to a need, then focuses on the satisfaction of the need, visualization of the solution, and ends with a proposed or historical action. This is useful for a persuasive speech.	The millennial and Gen Z generations craved media that reflected their own experiences and circumstances, which cable television was not providing. These experiences included an increasing emphasis on intersectionality and diversity, exploring topics that were previously too controversial for television, etc.
11. Elimination	Structuring your document using the process of elimination involves outlining all the possibilities.	Netflix pioneered the streaming service model that now dictates how content is created and purchased. Tracing the company's evolution from DVDs-by-mail to streaming content, as well as the progression of its competitors from Blockbuster to Amazon, reveals the outsized influence this corporation has had. By reviewing this progression, we can come to see which factors are most important to consider in implementing fresh changes to our business model.
12. Example	Structuring your document by example involves providing vivid, specific examples (as opposed to abstract representations of data) to support main points.	Prior to Netflix, television series were typically consumed on a weekly basis on their initial run. This forced shows to come up with strategies to reinforce continuity, such as frequent recaps or self-contained storylines (such as The Office or Friends). With Netflix, however, viewers can consume an entire season of a show in one sitting. This allows for longer and more complex forms of storytelling (such as Ozark or Sense8).
13. Process and Procedure	Structuring your document by process and procedure is similar to the time (chronological) organizational pattern with the distinction of steps or phases that lead to a complete end goal. This is often referred to as the "how-to" organizational pattern.	From mail order to streaming, licensed content to original, and content development to consumption, we can examine the history of Netflix's business model in terms of successful adaptation and why continuous adaptation has been so important for the company's success.
14. Point Pattern	Structuring your document in a series of points allows for the presentation of diverse assertions to be aligned in a cohesive argument with clear support.	Informed changes to Netflix's current business model can result in an increased number of subscriptions, a higher rate of continuous subscriptions, and a more impressive selection of content compared to competitors.

	Explanation of Process	Example
15. Definition	Structuring your document with a guiding definition allows for a clear introduction of terms and concepts while reducing the likelihood of misinterpretation.	An effective streaming service can be defined in terms of its user interface, available content, and subscription rates.
16. Testimonial	Structuring your document around a testimony, or first- person account of an experience, can be an effective way to make an abstract concept clearer to an audience.	According to our recent focus group, consumers are now much more savvy in how they subscribe to streaming services. When Netflix dominated the market in prior years, these group members were more likely to continuously subscribe. With more competition, however, they are more likely to subscribe intermittently–just long enough to consume a specific bit of content. This highlights the need for Netflix to change its approach regarding original content.
17. Ceremonial (Events, Ceremonies, or Celebrations)	Structuring your document ceremonially focuses on the following: 1. Thanking dignitaries and representatives 2. The importance of the event 3. The relationship of the event to the audience 4. Thanking the audience for participation in the event, ceremony, or celebration	Many thanks to all of the marketing strategists, content creators, and software engineers for maintaining the quality and integrity of Netflix as a platform. Without your contributions, this company would not be as successful as it is today.

Notes

1. “Timeline of Netflix,” Wikipedia, accessed August 15, 2020, https://en.wikipedia.org/wiki/Timeline_of_Netflix.
2. “Timeline of Netflix,” Wikipedia, accessed August 15, 2020, https://en.wikipedia.org/wiki/Timeline_of_Netflix.
3. Joe Ayres and J. Miller, Effective Public Speaking, 4th ed. (Madison, WI: Brown & Benchmark, 1994), 274.
4. Abraham Maslow, Motivation and Personality, 2nd ed. (New York, NY: Harper & Row, 1970).
5. William Shutz, The Interpersonal Underworld (Palo Alto, CA: Science and Behavior Books, 1966).

SIGNPOSTING

Anonymous and Matt McKinney

Signposts

Signposts (or indicators), are key words that alert the audience to a change in topic, a tangential explanation, an example, or a conclusion. Readers and listeners can sometimes be lulled into "losing their place"—forgetting what point is being made or how far along in the discussion the writer or speaker has gotten. You can help your audience avoid this confusion by signaling to them when a change is coming.

Common signposts include "on the one hand," "on the other hand," "the solution to this problem is," "the reason for this is," "for example," "to illustrate," and "in conclusion" or "in summary."

Internal Summaries and Foreshadowing

Like signposts, internal summaries and foreshadowing help the audience to keep track of where they are in the message. These strategies work by reviewing what has been covered and by highlighting what is coming next.

As a simple example, suppose you are writing or presenting information on how to assemble a home emergency preparedness kit. If you begin by stating that there are four main items needed for the kit, you are foreshadowing your message and helping your audience to watch or listen for four items. As you cover each of the items, you can say, "The first item," "The second item," "Now we've got X and Y in our kit; what else do we need? Our third item is," and so forth. These internal summaries help your audience keep track of progress as your message continues.

The home emergency kit example also demonstrates the importance of repetition in foreshadowing and signposting. Specifically, repeating the number sequence and the word "item" helps the reader identify significant pieces of information, as well as the transitions between them. Beginning with the internal summary that four items are needed for the kit, strategic repetition also conveys the writer's rationale for the structure of their document. See Chapter 14 for information on how repetition can be used effectively in oral communication.

As effective as repetition can be, however, you want to be careful not to overdo it. If you were to use the word "item" near the beginning of every sentence, for example, the reader would no longer be able to use that word to identify transitions between major points.

Ultimately, these practices help you reinforce relationships between points, examples, and ideas in your message. This can be an effective strategy to encourage selective retention of your content.

This text was derived from

TRANSITIONAL WORDS AND PHRASES

Suzan Last; Anonymous; Kalani Pattison; and Nicole Hagstrom-Schmidt

Transitional words and phrases show the connection between ideas and how one idea relates to and builds upon another. They help create coherence. When transitions are missing or inappropriate, the reader has a hard time following the logic and development of ideas. The most effective transitions are sometimes invisible; they rely on the vocabulary and logic of your sentence to allow the reader to "connect the dots" and see the logical flow of your discussion.

In previous English classes, you may have learned the simple transitional words or phrases in Table 6.2. These transitions can be effective when writing simple information in a structure where you simply add one idea after another or want to show the order of events.

Table 6.2. Simple transitions

First	Firstly	First of all
Second	Secondly	Next
Third	Thirdly	Then
Last	Last but not least	Finally
Moreover	Furthermore	Besides

However, more complex academic and professional communication requires more sophisticated transitions. It requires you to connect ideas in ways that show the logic of why one idea comes after another in a complex argument or analysis. For example, you might be comparing/contrasting ideas, showing a cause-and-effect relationship, providing detailed examples to illustrate an idea, or presenting a conclusion to an argument. When expressing these complex ideas, the simple transitions you've learned earlier will not always be effective–indeed, they may even confuse the reader.

The above "Simple Transitions" are mostly about communicating ideas that come in sequence. That is, the transitional words merely let the readers understand that the writer is moving to the next idea on a list. More complex transitions, however, can convey a range of relationships between ideas. The following Table 6.3, "Types of Transitions in Writing," provides a list of how transitions can present conceptual links, the definition of each type of transition, and examples of how those transitions can be worded. Using these more complex transitions allows writers to present connections between ideas with more nuance and precision.

Table 6.3. Types of Transitions in Writing

Type	Definition	Examples
Internal Previews	An internal preview is a brief statement referring to a point you are going to make. It can forecast or foreshadow a main point in your document.	If we look ahead to, next we'll examine, now we can focus our attention on, first we'll look at, then we'll examine
Signposts	A signpost alerts the audience you are moving from one topic to the next. Signposts or signal words draw attention to themselves and focus the audience's attention.	Stop and consider, we can now address, turning from/to, another, this reminds me of, I would like to emphasize
Internal Summaries	An internal summary briefly covers information or alludes to information introduced previously. It can remind an audience of a previous point and reinforce information covered in your document.	As I have said, as we have seen, as mentioned earlier, in any event, in conclusion, in other words, in short, on the whole, therefore, to summarize, as a result, as has been noted previously
Sequence	A sequence transition outlines a hierarchical order or series of steps in your document. It can illustrate order or steps in a logical process.	First…second…third, furthermore, next, last, still, also, and then, besides, finally
Time	A time transition focuses on the chronological aspects of your order. Particularly useful in an article utilizing a story, this transition can illustrate progression of time for the audience.	Before, earlier, immediately, in the meantime, in the past, lately, later, meanwhile, now, presently, shortly, simultaneously, since, so far, soon as, long as, as soon as, at last, at length, at that time, then, until, afterward
Addition	An addition or additive transition contributes to a previous point. This transition can build on a previous point and extend the discussion.	Additionally, not to mention, in addition to, furthermore, either, neither, besides, on, in fact, as a matter of fact, actually, not only, but also, as well as
Similarity	A transition by similarity draws a parallel between two ideas, concepts, or examples. It can indicate a common area between points for the audience.	In the same way, by the same token, equally, similarly, just as we have seen, in the same vein
Comparison	A transition by comparison draws a distinction between two ideas, concepts, or examples. It can indicate a common or divergent area between points for the audience.	Like, in relation to, bigger than, the fastest, larger than, than any other, is bigger than, both, either…or, likewise
Contrast	A transition by contrast draws a distinction of difference, opposition, or irregularity between two ideas, concepts, or examples. This transition can indicate a key distinction between points for the audience.	But, neither…nor, however on the other hand, although, despite, even though, in contrast, in spite of, on the contrary, conversely, unlike, while instead, nevertheless, nonetheless, regardless, still, though, yet, although
Cause and Effect, Result	A transition by cause and effect or result illustrates a relationship between two ideas, concepts, or examples, and it may focus on the outcome or result. It can illustrate a relationship between points for the audience.	As a result, because, consequently, for this purpose, accordingly, so, then, therefore, thereupon, thus, to this end, for this reason, as a result, because, therefore, consequently, as a consequence, and the outcome was
Examples	A transition by example illustrates a connection between a point and an example or examples. You may find visual aids work well with this type of transition.	In fact, as we can see, after all, even, for example, for instance, of course, specifically, such as, in the following example, to illustrate my point

Type	Definition	Examples
Place	A place transition refers to a location, often in a spatially-organized essay, of one point of emphasis to another. Again, visual aids work well when discussing physical location with the reading audience.	Opposite to, there, to the left, to the right, above, adjacent to, elsewhere, far, farther on, below, beyond, closer to, here, near, nearby, next to
Clarification	A clarification transition restates or further develops a main idea or point. It can also serve as a signal to a key point.	To clarify, that is, I mean, in other words, to put it another way, that is to say, to rephrase it, in order to explain, this means
Concession	A concession transition indicates knowledge of contrary information. It can address a perception the audience may hold and allow for clarification.	We can see that while, although it is true that, granted that, while it may appear that, naturally, of course, I can see that, I admit that while

In addition to specific transitional words or phrases, writers may use other transitional strategies to link their ideas. These strategies typically employ strategic repetition. Of these strategies, the easiest to employ is to begin a sentence with the modifier "this" with the type of noun being described in the preceding sentence. As a generic example: "According to a recent study, 76% of homeowners feel like they overpaid for their home. **This finding** shows…" In the previous sentence, the phrase "this finding" refers back to the previous information. (Avoid using "this" or "these" or other demonstrative pronouns without a corresponding noun).

Another common and more advanced transitional tactic is to repeat a word or phrase from the previous sentence (or use a synonym or related word) to show that the same idea is still being discussed and is being developed further. This focused repetition, often called the "**Known-New Principle**" works because the writer starts with information that the audience knows and then adds on new information. For more information, see Chapter 5.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/.

University of Minnesota. *Business Communication for Success*. Minneapolis: University of Minnesota Libraries Publishing, 2015. https://open.lib.umn.edu/businesscommunication/.

7 - DESIGN

Introduction

Suzan Last and Kalani Pattison

Document design is the "nuts and bolts" of technical writing. No matter how brilliant or important the content, if it is not formatted in a way that enhances readability, it will likely not receive the attention it deserves. This chapter provides information on how technical writers use formatting features to optimize readability.

In addition, you may wish to consider the design choices within this textbook. While you may not have consciously noticed them previously, as you read through this chapter think about how the principles discussed have been applied to *Howdy or Hello?* and how such design elements have made it easier to follow the book's organization and content.

FOUR PRINCIPLES OF DOCUMENT DESIGN

Kalani Pattison and Nicole Hagstrom-Schmidt

Page design means different things to different people, but here it will mean the use of typography and formatting such as you see in professionally designed documents.

Our focus in this book is technical documentation, which implies modest, functional design.

The following general principles of document design were popularized by Robin Williams in *The Non-Designers Design Book*, which was first published in 1993 when word processors became more sophisticated and non-designers were more easily able to adjust formatting, layout, and other design choices on printed documents.[1] Williams's principles of design use an easily remembered acronym: CRAP. These principles are **contrast**, **repetition**, **alignment**, and **proximity**.

Design trends and choices change over time. Consider the common structure of websites in the past with their sidebars, as compared to the dynamic and vertically arranged blocks common to many websites today. However, these four general principles (CRAP) remain useful guidelines for designing easily readable and attractive documents for both screen and print.

Subsequent sections feature a discussion of Williams's basic principles, with a few illustrations to demonstrate her points. The following figures (Figures 7.1–7.2 and 7.6–7.8) display the transformation of a collection of recipes for frosting from a difficult-to-read document into a document that is readable, usable, and attractive. Though the example given starting with 7.1[2] is not a traditional professional document, the same principles apply to designing the appearance of professional and technical documents using headings, typefaces, spacing, appropriate color, images, etc.

```
Frosting
Chocolate Frosting:
(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
¼ cup shortening, melted
¼ teaspoon salt
¼ cup cocoa
⅓ cup milk
1½ teaspoons vanilla
3½ cups powdered sugar
Combine melted shortening, cocoa, and salt; then add the milk and vanilla.
Stir in the sugar in three parts, mixing until smooth and creamy. Add more
sugar to thicken or milk to thin frosting, if required, until of spreading
consistency.
Creamy Frosting:
(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
2¾ cups powdered sugar
¼ cup maple blend syrup
½ teaspoon salt
1 egg (put in boiling water for a minute to sanitize)
½ cup shortening
2 teaspoons vanilla
Mix powdered sugar, salt, and egg. Blend in syrup. Add shortening and
vanilla, mixing until smooth and creamy. Add more sugar to thicken or water
to thin frosting, if required, until of spreading consistency.
Speedy Caramel Frosting:
Melt ½ c. butter or marg. in large saucepan.
Blend in 1 c. firmly packed brown sugar and ¼ tsp. salt.
Cook over low heat 2 min, stirring constantly.
Add ¼ c. milk.
Continue stirring until mixture comes to a boil.
Remove from heat. Blend in 2 ½ c. sifted powdered sugar gradually.
Add ½ tsp. vanilla and mix well.
Thin with small amount of cream if needed.
White Mountain Icing:
Blend:
½ c. sugar
¼ c. white corn syrup
2 tbsp water
Boil rapidly until mixture spins 6-8" threads.
Beat ¼ c. egg whites (2 med. Eggs) until they stand in stiff peaks.
Pour hot syrup in steady stream into egg whites, beating constantly until
the icing stands in very stiff peaks.
Blend in 1 tsp. vanilla.
```

Figure 7.1. Example of a Difficult-to-Read Document. (Alternative PDF Version: [Figure 7.1.](#))

Contrast

According to the principle of **contrast**, different elements on a page should be formatted in distinct ways. That is, if things are different, they should be noticeably and obviously different. If elements are formatted differently, but not differently enough, these elements will cause visual conflict rather than contrast. As an example, picture a suit with a jacket and pants that are different shades of black—the jacket and pants will not look as if they belong together. However, black pants and a lighter gray jacket pair more effectively.

When it comes to a document, contrast can come from contrasting fonts/typefaces, sizes, colors, weight (bolded or unbolded text—the thickness of the lines), position, and alignment. Observe how small additions of contrasting size, font, and weight improve the readability of these recipes in Figure 7.2.[3]

Frosting

Chocolate Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
¼ cup shortening, melted
¼ teaspoon salt
¼ cup cocoa
⅓ cup milk
1 ½ teaspoons vanilla
3 ½ cups powdered sugar
Combine melted shortening, cocoa and salt; then add the milk and vanilla. Stir in the sugar in three parts, mixing until smooth and creamy. Add more sugar to thicken or milk to thin frosting, if required, until of spreading consistency.

Creamy Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
2 ¾ cups powdered sugar
¼ cup maple blend syrup
½ teaspoon salt
1 egg (put in boiling water for a minute to sanitize)
½ cup shortening
2 teaspoons vanilla
Mix powdered sugar, salt, and egg. Blend in syrup. Add shortening and vanilla, mixing until smooth and creamy. Add more sugar to thicken or water to thin frosting, if required, until of spreading consistency.

Speedy Caramel Frosting:

Melt ½ c. butter or marg. in large saucepan.
Blend in 1 c. firmly packed brown sugar and ¼ tsp. salt.
Cook over low heat 2 min, stirring constantly.
Add ¼ c. milk.
Continue stirring until mixture comes to a boil.
Remove from heat. Blend in 2 ½ c. sifted powdered sugar gradually.
Add ½ tsp. vanilla and mix well.
Thin with small amount of cream if needed.

White Mountain Icing:

Blend:
½ c. sugar
¼ c. white corn syrup
2 tbsp water
Boil rapidly until mixture spins 6-8" threads.
Beat ¼ c. egg whites (2 med. eggs) until they stand in stiff peaks.
Pour hot syrup in steady stream into egg whites, beating constantly until the icing stands in very stiff peaks.
Blend in 1 tsp. vanilla.

7.2. Contrast Example. (Alternative PDF Version: [Figure 7.2](#).)

Contrasting Typefaces

As mentioned above, contrasting alignment and color, among other visual factors, are just as important as contrasting fonts, but often design choices need to start with what your letters look like. For text to be contrasting in size, there should be a minimum of 4 points difference. Contrasting size 10 and size 12 font usually offers more conflict than contrast. A key place you might see this type of contrast is in a résumé where the applicant's name appears in size 16 font, but the remainder of the document is in size 12.

The best way to contrast font or typeface choices is to use contrasting types of fonts. The difference between typeface and fonts is that a typeface includes all of the related versions of a font—Arial, **Arial Bold**, and *Arial Italics* are all different fonts of the typeface "Arial." There are three major kinds of typefaces: serif, sans serif, and display.[4] Generally speaking, a single document shouldn't use more than one of each type. Including a display font/typeface is usually optional.

Serif typefaces have little feet/tails. These extra strokes are called "serifs." Figure 7.3[5] shows a few strong examples of Serif typefaces.

Times New Roman, Garamond, Georgia, and Spectral

Figure 7.3. Examples of Serif Typefaces.

Serif typefaces (often called "fonts" in word processing software) are best used for body text and printed documents, especially when text stretches across a page.

Sans serif typefaces do NOT have (are without or sans) feet/tails. Figure 7.4[6] shows some strong examples of Sans Serif fonts.

Arial, Helvetica Neue, Century Gothic, Calibri, and Verdana

Figure 7.4. Examples of Sans Serif Typefaces.

These typefaces are best used for headings, short lines of text, text displayed on a projector (e.g. PowerPoint, Google Slides, etc.), some advertisements, and text on webpages. Sans serif fonts tend to look more clean and clear.

Display typefaces are fancy typefaces meant for titles, advertisements, or name brands. Figure 7.5[7] shows a few particular examples of display typefaces.

Rye, Pacifico, and PERMANENT MARKER

Figure 7.5. Examples of Display Typefaces.

These typefaces are best used for titles or headings, if they are used at all. They are often more difficult to read, and they are more effectively used to establish branding than to communicate significant content.

Other Contrast Opportunities

In addition to typeface, the clarity and attractiveness of documents can be improved by paying attention to contrast in spacing, in color choices, and in any other areas where opportunities present themselves. For instance, having a contrasting amount of space after paragraphs and after headings helps the headings to stand out from the body text. Contrast in vertical alignments (a different kind of spacing) can help lists to stand out in clearer ways as well. Contrast in color is important when putting text on a colored background—while black on white reads easily, it is also sometimes too much contrast for people reading on screens. However, black on a dark blue background also would be difficult to read. As red/green color-blindness is relatively common, designers should avoid contrasting shades of red and green. Changing the letters of headings to a dark color distinguishable from black is one way to add contrast between headings and body text and give documents a little extra attractiveness, while keeping the document formal.

Repetition

Just as different elements need different formats, similar elements need similar formats. **Repetition** is the concept for providing visual consistency across a document. For example, if a Level 2 heading is formatted in a specific way—size, weight, font/typeface—then every Level 2 heading needs to be formatted in that same way. Likewise, every time there is a bulleted list, the bullets should be in the same style.

Repetition is primarily about consistency. In addition to similar elements repeating the same formatting, if there are added design elements such as rules (the proper term for lines), images, or other visual components, they should repeat elements of design from elsewhere on the page. For instance, a color choice in a heading for text might repeat a color found in a photograph. If illustrations are provided, they should all be in the same style.

In the following example, Figure 7.6[8], measurements have been revised to use consistent terminology and abbreviations, directions have been repeatedly italicized to further provide contrast between instructions and ingredients, and some colors and added design elements have provided other instances of repetition. [9]

Frosting

Chocolate Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
¼ cup shortening, melted
¼ teaspoon salt
¼ cup cocoa
⅓ cup milk
1 ½ teaspoons vanilla
3 ½ cups powdered sugar
Combine melted shortening, cocoa, and salt; then add the milk and vanilla. Stir in the sugar in three parts, mixing until smooth and creamy. Add more sugar to thicken or milk to thin frosting, if required, until of spreading consistency.

Creamy Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
2 ¾ cups powdered sugar
¼ cup maple blend syrup
½ teaspoon salt
1 egg *(put in boiling water for a minute to sanitize)*
½ cup shortening
2 teaspoons vanilla
Mix powdered sugar, salt, and egg. Blend in syrup. Add shortening and vanilla, mixing until smooth and creamy. Add more sugar to thicken or water to thin frosting, if required, until of spreading consistency.

Speedy Caramel Frosting:

Melt ½ cup butter or marg. in large saucepan.
Blend in 1 cup firmly packed brown sugar and ¼ tsp. salt.
Cook over low heat 2 minutes, stirring constantly.
Add ¼ cup milk.
Continue stirring until mixture comes to a boil.
Remove from heat. Blend in 2 ½ cup sifted powdered sugar gradually.
Add ½ teaspoon vanilla and *mix well.*
Thin with small amount of cream if needed.

White Mountain Icing:

Blend:
½ cup sugar
¼ cup white corn syrup
2 tablespoons water
Boil rapidly until mixture spins 6-8" threads.
Beat ¼ cup egg whites (2 medium eggs) until they stand in stiff peaks.
Pour hot syrup in steady stream into egg whites, beating constantly until the icing stands in very stiff peaks.
Blend in 1 tsp. vanilla.

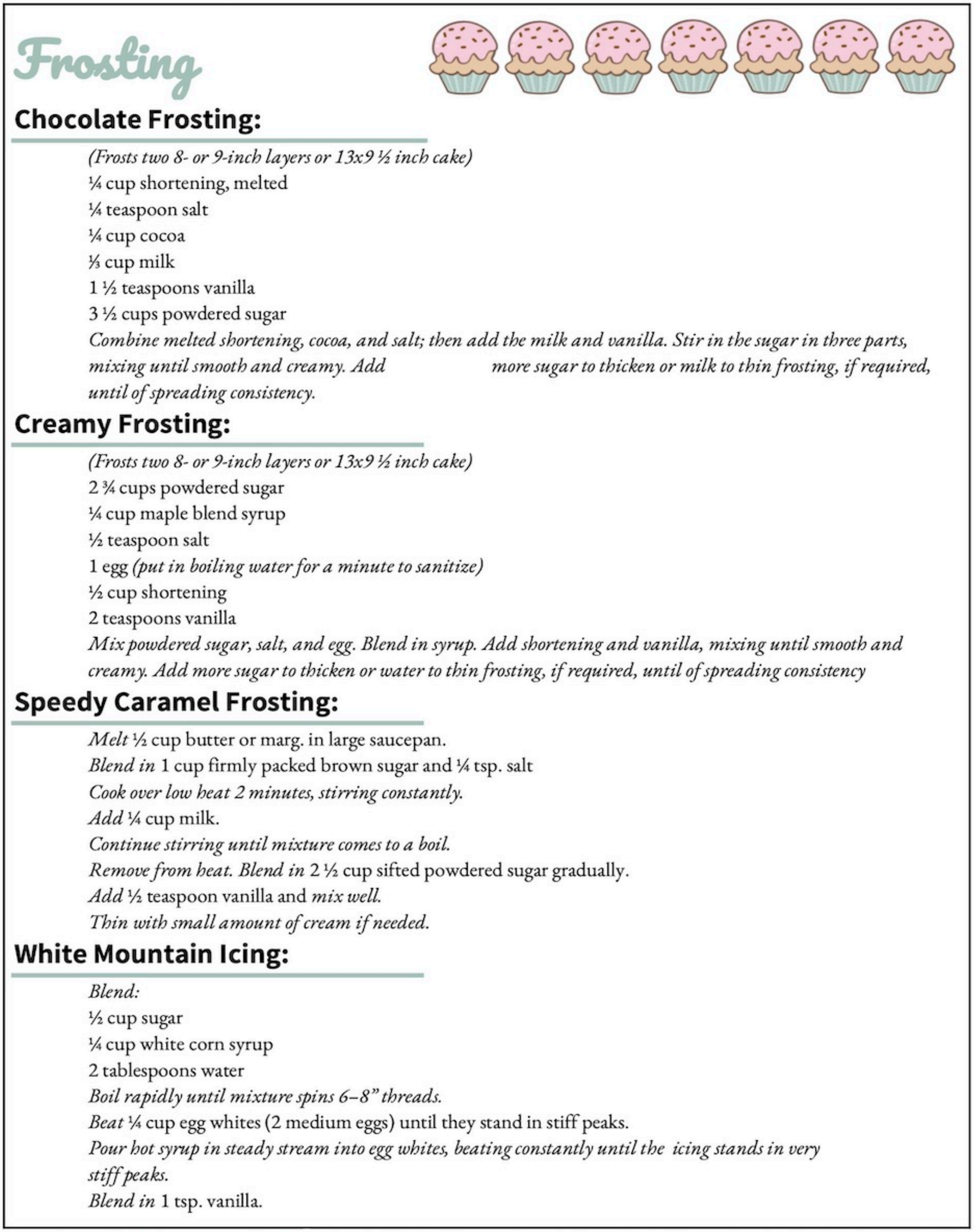
7.6. Repetition Example. (Alternative PDF Version: Figure 7.6.)

Alignment

Alignment consists of both the visible and invisible lines that connect different objects on a page. If the text is all left aligned (as above in Figure 7.6), then the eye makes an invisible vertical line down the front of the text near the margin. Both text and other elements on a page need to be aligned with at least one other element.

Alignment provides structure for a page and influences how a reader approaches the information presented; it also influences the order in which information is examined. Alignment also communicates the hierarchy of ideas presented on a page. Typically, the most general or most important information is presented either centered (as in a title) or furthest to the left margin (in left-to-right-oriented writing systems). As text is aligned further to the right (that is, indented or tabbed), it indicates that it is a more specific part of the general system introduced or is less essential information. To visualize an example of this concept, think of a standard outline. Major topics for a section or paragraph are aligned further to the left, while sub-topics and evidence are placed underneath the main points and indented further to the right.

Contrast can also be applied to a document's alignment to make a document more "skimmable." Keeping consistent alignment and applying alignment to other elements help to keep a page visually unified. Examine how these principles applied to the recipes in Figure 7.7[10] contribute positively to the appearance and readability of the document by clarifying the recipe titles and aligning the cupcakes more clearly and attractively with other textual elements.



Frosting

Chocolate Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
¼ cup shortening, melted
¼ teaspoon salt
¼ cup cocoa
⅓ cup milk
1 ½ teaspoons vanilla
3 ½ cups powdered sugar
Combine melted shortening, cocoa, and salt; then add the milk and vanilla. Stir in the sugar in three parts, mixing until smooth and creamy. Add more sugar to thicken or milk to thin frosting, if required, until of spreading consistency.

Creamy Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)
2 ¾ cups powdered sugar
¼ cup maple blend syrup
½ teaspoon salt
1 egg *(put in boiling water for a minute to sanitize)*
½ cup shortening
2 teaspoons vanilla
Mix powdered sugar, salt, and egg. Blend in syrup. Add shortening and vanilla, mixing until smooth and creamy. Add more sugar to thicken or water to thin frosting, if required, until of spreading consistency

Speedy Caramel Frosting:

Melt ½ cup butter or marg. in large saucepan.
Blend in 1 cup firmly packed brown sugar and ¼ tsp. salt
Cook over low heat 2 minutes, stirring constantly.
Add ¼ cup milk.
Continue stirring until mixture comes to a boil.
Remove from heat. Blend in 2 ½ cup sifted powdered sugar gradually.
Add ½ teaspoon vanilla and *mix well.*
Thin with small amount of cream if needed.

White Mountain Icing:

Blend:
½ cup sugar
¼ cup white corn syrup
2 tablespoons water
Boil rapidly until mixture spins 6–8" threads.
Beat ¼ cup egg whites (2 medium eggs) until they stand in stiff peaks.
Pour hot syrup in steady stream into egg whites, beating constantly until the icing stands in very stiff peaks.
Blend in 1 tsp. vanilla.

7.7. Alignment Example. (Alternative PDF Version: Figure 7.7.)

Proximity

The final principle of document design—**proximity**—means making sure elements that are more closely related to each other conceptually are more closely positioned to each other on the page.

This principle doesn't mean that you need to reorganize everything on the page so that, for instance, all of the ingredients in the recipes document are together, as the contents follow other organizational principles (in this case, division/partition and then chronological order). What good proximity does mean, however, is that similar pieces of information should be close to each other and set off from different types of information by white space. Headings should be closer to the text/paragraphs they describe than to previous text. In the case of the following recipes, adding space between different recipes and different types of steps/information within the recipes, allows the reader to more easily follow the steps provided (Figure 7.8[11]).

Frosting

Chocolate Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)

¼ cup shortening, melted
¼ teaspoon salt
¼ cup cocoa
⅓ cup milk
1 ½ teaspoons vanilla
3 ½ cups powdered sugar

Combine melted shortening, cocoa, and salt; then add the milk and vanilla. Stir in the sugar in three parts, mixing until smooth and creamy. Add more sugar to thicken or milk to thin frosting, if required, until of spreading consistency.

Creamy Frosting:

(Frosts two 8- or 9-inch layers or 13x9 ½ inch cake)

2 ¾ cups powdered sugar
¼ cup maple blend syrup
½ teaspoon salt
1 egg *(put in boiling water for a minute to sanitize)*
½ cup shortening
2 teaspoons vanilla

Mix powdered sugar, salt, and egg. Blend in syrup. Add shortening and vanilla, mixing until smooth and creamy. Add more sugar to thicken or water to thin frosting, if required, until of spreading consistency.

Speedy Caramel Frosting:

Melt ½ cup butter or marg. in large saucepan.
Blend in 1 cup firmly packed brown sugar and ¼ tsp. salt.
Cook over low heat 2 minutes, stirring constantly.

Add ¼ cup milk.
Continue stirring until mixture comes to a boil.
Remove from heat.

Blend in 2 ½ cup sifted powdered sugar gradually.
Add ½ teaspoon vanilla and *mix well.*
Thin with small amount of cream if needed.

White Mountain Icing:

Blend:
½ cup sugar
¼ cup white corn syrup
2 tablespoons water

Boil rapidly until mixture spins 6-8" threads.

Beat ¼ cup egg whites (2 medium eggs) until they stand in stiff peaks.
Pour hot syrup in steady stream into egg whites, beating constantly until the icing stands in very stiff peaks.

Blend in 1 tsp. vanilla.

7.8. Proximity Example. (Alternative PDF Version: Figure 7.8.)

The Four Principles in Technical and Professional Documents

These figures above have given examples in formatting and design as applied to a somewhat more informal document. However, the four principles of contrast, repetition, alignment, and proximity apply just as much in more formal reports, correspondence, and application materials. Things as simple as font choice and size, space between paragraphs, etc. *are* design choices — even if you just go with the default settings of your word processor. Professional documents often use premade designs set by organizations' conventions and branding. However, when writing application materials, working for a small business, designing webpages, or writing types of documents not often used at an organization or company, it is important to make conscious design choices in order to convey professional ethos.

Notes

1. Robin Williams, *The Non-Designer's Design Book*, 4th Ed. (Berkeley, California: Peachpit Press, 2014).
2. Kalani Pattison, "Example of Difficult-to-Read Document," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
3. Kalani Pattison, "Contrast Example," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
4. These three types are deliberately simplified to help you understand how to choose appropriate fonts and typefaces for strong document design. For more information on ways of classifying fonts, typefaces, differences in use, history of typefaces, etc. see "Fontology," Fonts: Learning, accessed August 14, 2020, https://www.fonts.com/content/learning/fontology.
5. Kalani Pattison, "Examples of Serif Typefaces," 2022. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
6. Kalani Pattison, "Examples of Sans Serif Typefaces," 2022. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
7. Kalani Pattison, "Examples of Display Typefaces," 2022. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
8. Kalani Pattison, "Repetition Example," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. This image incorporates the following: Arousaland, "Hand Drawn Cupcake." *Wikimedia Commons*, October 15, 2018, https://commons.wikimedia.org/wiki/File:Cupcake-icon.svg. This item is made available under a CC0 1.0 Universal Public Domain Dedication.
9. Arousaland, "Hand Drawn Cupcake." Wikimedia Commons, October 15, 2018, https://commons.wikimedia.org/wiki/File:Cupcake-icon.svg. This item is made available under a CC0 1.0 Universal Public Domain Dedication.
10. Kalani Pattison, "Alignment Example," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. This image incorporates the following: Arousaland, "Hand Drawn Cupcake." *Wikimedia Commons*, October 15, 2018, https://commons.wikimedia.org/wiki/File:Cupcake-icon.svg. This item is made available under a CC0 1.0 Universal Public Domain Dedication.
11. Kalani Pattison, "Proximity Example," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. This image incorporates the following: Arousaland, "Hand Drawn Cupcake." *Wikimedia Commons*, October 15, 2018, https://commons.wikimedia.org/wiki/File:Cupcake-icon.svg. This item is made available under a CC0 1.0 Universal Public Domain Dedication.

SPECIFIC/APPLIED BEST PRACTICES

David McMurrey; Jodi Naas; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Anonymous; Kalani Pattison; Nicole Hagstrom-Schmidt; and Claire Carly-Miles

In addition to contrast, repetition, alignment, and proximity, a few additional expectations regarding business writing should be considered. As discussed above, you may be used to writing academic documents where your fonts, margins, and colors are defined for you. Using contrasting fonts, less or greater than one inch margins and tasteful use of colors will increase the professionalism of your documents. Paying attention to the following guidelines also will help you ensure that your document is readable and that it meets your readers' expectations and conveys your professional ethos.

Specific Guidelines on Headings

The following sections present some standard guidelines on headings:

> **Use headings liberally.** Headings create visual focus for readers, so use them to draw your reader's attention to a specific topic, counter-argument, or set of information. Frequent heading usage, with perhaps one heading for every two to three paragraphs, is common in technical and professional communication. Of course, try to avoid overusing headings: lots of headings with only one or two sentences per heading does not work.
>
> **Design headings so that they clearly indicate their level.** "Levels" of headings are like levels in an outline: first level would correspond to the roman numerals; second level, to the capital letters; and so on. Use type size, type style, color, bold, italics, and alignment in such a way that the level of the heading is obvious. The Level 1 headings should have the strongest contrast with the body text, Level 2 should have slightly less contrast, and so on. For this reason, it is a good idea to know approximately how many levels of headings you will be using before designing each.
>
> **Consider using "run-in" headings for your lowest-level heading.** It can be difficult to rely solely on type style and size to indicate heading levels. A run-in heading "runs into" the beginning of a paragraph and ends with a period. You can use some combination of bold, italic, or color for these headings. The sections you've just read (including this one) use run-in headings.

Margins, Indentation, & Alignment

Unlike academic documents, business documents do not need to have a standard one-inch margin and left-aligned text. Apply general design best practice to make sure headings, paragraphs, lists, etc. are clearly laid out and look clean on the page.

You should avoid margins less than a .5 inch, as too-little white space makes a page look crowded or overly busy. You should also avoid overusing center alignment, as the edges look ragged rather than clean or "aligned" with another element on the page, and you need to keep in mind the hierarchy implied by indentation. See the section on "Alignment" within the "Four Principles of Document Design" section above for more details.

Bulleted and Numbered Lists

Use bulleted, numbered, and two-column lists where appropriate. Lists help by emphasizing key points, making information easier to follow, and breaking up solid walls of text. Always introduce the list so that your audience understands the purpose and context of the list. Whenever practical, provide a follow-up comment, too. Here are some additional tips:

- Use lists to highlight or emphasize text or to enumerate sequential items.
- Use a lead-in sentence to introduce the list items and to indicate the meaning or purpose of the list (make sure it is a complete sentence and punctuate it with a colon).
- Use consistent spacing, indentation, punctuation, and caps style for all lists in a document.
- Make list items parallel in phrasing. (Notice how each item in this list you're reading here begins with an implied "You"-subject and a verb.)
- Make sure that each item in the list reads grammatically with the lead-in.
- Avoid using headings as lead-ins for lists.
- Avoid overusing lists; using too many lists destroys their effectiveness.
- Use similar types of lists consistently in similar text in the same document.

Following up a list with text helps your reader understand context for the information distilled into list form. The tips above provide a practical guide to formatting lists.

Use of Color

People love color, and understandably your audience will appreciate the visual stimulation of a colorful presentation. If you have ever seen a car painted a custom color that just didn't attract you, or seen colors put together in ways that made you wonder what people were thinking when they did that, you will recognize that color can also distract and turn off an audience.

Color is a powerful way to present information, and that power should be used wisely. You will need to give some thought and consider what impact you want to make, how color will contribute or possibly distract, and what colors will work well for you to produce an effective and impressive presentation. You will be selecting which color you want to use for headers, graphics, and background illustrative elements and determining how they relate to the colors in other visuals such as drawings or photographs. Together, the use of color in your images, keywords, headings, backgrounds, tables, and graphs can have a significant impact on your audience.

There are inherent relationships between colors, and while you may have covered some of this information in art or design classes you have taken, it is valuable to review here. According to the standard color wheel, colors are grouped into primary, secondary, and tertiary categories (see Figure 7.9[1] for an image of the color wheel). Primary colors are the colors from which other colors are made through various combinations. Secondary colors represent a combination of two primary colors, while tertiary colors are made from combinations of primary and secondary colors. The different categories of colors are listed below:

- **Primary colors.** Red, blue, and yellow
- **Secondary colors.** Green, violet, and orange
- **Tertiary colors.** Red-orange, red-violet, blue-violet, blue-green, yellow-orange, and yellow-green

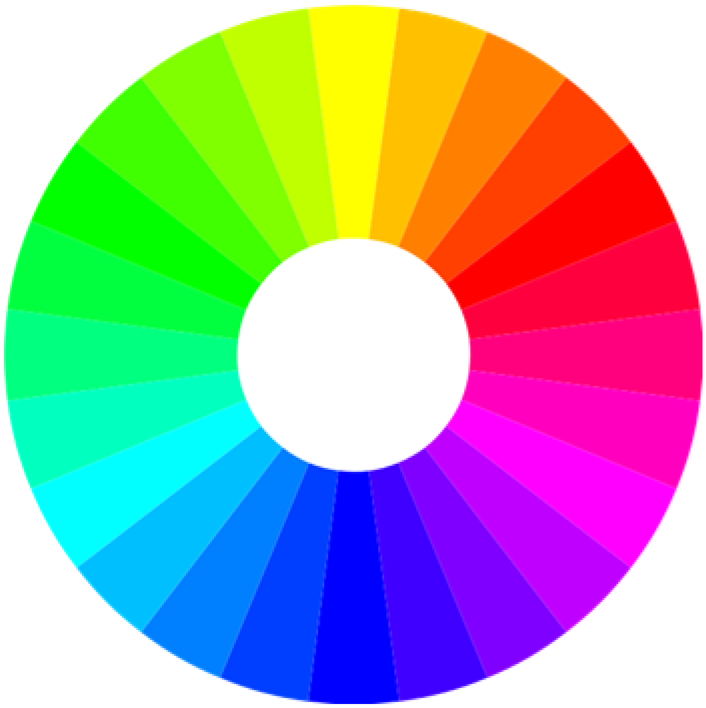


Figure 7.9. RGB color wheel with 24 colors.

Colors have relationships depending on their location on the wheel. Colors that are opposite each other are called complementary. Complementary colors, such as blue and orange, contrast, creating a dynamic effect. Analogous colors are located next to each other and promote harmony, continuity, and a sense of unity.

Here are some specific suggestions concerning color:

> **Use color minimally in text-driven documents.** While color works well for image-driven documents such as slide presentations or advertisements, most writers avoid using an abundance of color for texts with long word counts. For example, if you have black text on a white background, you might select another color for headings. You might use that same color for figure and table titles as well as the tags for notices (the actual "Note," "Warning," "Caution," and "Danger" labels on notices).
>
> **Avoid unusual combinations of background and text colors.** For example, purple or red text on a black background is very difficult to read. For body text and documents, stick with black text on a white or gray background unless there is a strong functional reason for some other color combination, though headings can be more colorful. For websites, both light text on a dark background or dark text on a light background may be acceptable, depending on the anticipated website use.
>
> **Be mindful of individuals who are color blind.** Being color blind does not usually mean that an individual does not see color at all. Rather, color blindness refers to a condition where an individual does not visually distinguish between certain colors—they appear similar to them. The most common types are red-green color blindness and blue-yellow color blindness. Especially when you want to provide contrast, you can improve clarity for your readers by avoiding the use of these color combinations.

Slides and PowerPoint Presentations

Microsoft PowerPoint has been a staple of slide-based presentations in the classroom and in the workplace since its introduction in 1990. Of course, PowerPoint is not the only slideware program available; others include Google Slides, Keynote, Prezi, and Easel.ly, to name a few. These programs all allow the presenter to create visual slide decks that they may use to supplement a spoken presentation. At their strongest, slides are powerful visual aids that make presentations more comprehensible, interesting, and memorable to their audience. At worst, they are serious distractions that can damage a speaker's ethos.

The Problem with PowerPoint

In your experience as a student or employee, you have likely seen presenters doing all sorts of things with slides. Some presenters may have posted what feels like their entire script on their slides; others have used ill-fitting sound effects or lengthy slide transitions; still others may have included images too small to be seen from the back of the room. These poor design and presentation choices have contributed to what presentation expert David J. P. Phillips has called "Death by PowerPoint." [2]While Phillips refers specifically to PowerPoint, the problems he notes are not limited to that program.

For many, "death by PowerPoint" is a problem of genre caused by a lack of both specific instruction and good examples. Think back to your elementary and secondary school education. You were likely taught specific ways to create certain written genres such as an essay. You also were likely provided with samples of good essays (perhaps even by experts in their craft) to show you what successful examples of the genre look like. With slide design, the story is often different. Teachers may provide this instruction—and do so extremely well—while others may not. You also may have seen several slide-assisted presentations, but how many used slides in creative, interesting, and clear ways?

Ultimately, slides are a supplemental, rather than primary, tool in a presentation. Therefore, slides follow different rules for effectiveness than word-heavy documents like reports or applications. Think of a slide presentation as a way of supporting or augmenting the content in your talk. Slides should neither replace your content, nor include your entire script.

Designing Effective Slides

All of this chapter's design guidelines—CRAP in particular—will help you design consistent, helpful, and visually appealing slides. But all the design skill in the world won't help you if your content is not tightly focused, smoothly delivered, and clearly visible. Slides overloaded with text and/or images will strain your audience's capacity to identify important information. Complex, distracting transitions or confusing (or boring) graphics that aren't consistent with your content are worse than no graphics at all. Here are some general tips:

> **Simplicity is best.** Use a small number of high-quality graphics and limit bullet points and text. Don't think of a slide as a page that your audience should read.
>
> **Break up your information.** Think of a slide as a way of reminding you and the audience of the topic at hand.

Slides should have a consistent visual theme. Some pros advise that you avoid using the stock PowerPoint templates, but the Repetition and Alignment aspects of CRAP are so important that if you don't have considerable design skill, templates may be your best bet.

Choose your fonts carefully. Make sure the text is readable from a distance in a darkened room. Practice good repetition (the "R" in CRAP) by keeping fonts consistent.

Try to design your slides so that they contain information that your viewers might want to write down. Effective presentation slides may contain specific data points that speakers may not have memorized, but still want to clearly reference as needed. They might also offer definitions of key concepts that viewers may not be familiar with. As discussed in Chapter 14: Oral Communication, visuals should focus solely on key points so that they are on permanent display, thus providing the audience with an anchor for the presentation and freeing the speaker to go into more detail. In all cases, the information on your slides should be purposeful and designed with the goal of improving clarity for your audience. If you can't explain how the slides add value to your presentation, don't use them.

Notes

1. László Németh, "RGB Color Wheel with 24 Colors," *Wikipedia Commons*, June 25, 2013. https://commons.wikimedia.org/wiki/File:RGB_color_wheel_24.svg. This image is made available under the Creative Commons CC0 1.0 Universal Public Domain Dedication.
2. David J.P. Phillips, "How to Avoid Death by PowerPoint | TEDxStockholm Salon," TEDx Talks, YouTube. 14 April 2014. https://youtu.be/Iwpi1Lm6dFo. Transcript available from: https://singjupost.com/how-to-avoid-death-by-powerpoint-david-jp-phillips-at-tedxstockholmsalon-transcript/

8 - GRAPHICS

When and Why to Use Graphics and Visuals

Suzan Last, David McMurrey, Nicole Hagstrom-Schmidt, James Francis, and Kalani Pattison

Visual elements capture your readers' attention and help them to understand your ideas more fully. Like the illustrations used to help tell a story, visuals augment your written ideas and simplify complicated textual content. Common visuals for professional and technical writing include:

- graphs
- charts
- tables
- photographs
- diagrams
- maps

Graphics and visuals such as these can help the reader understand a complicated process or visualize trends in the data. They can also draw attention to key points or present information quickly. The key concept to remember here is that visuals *clarify*, *illustrate*, and *augment* your written text; *they are not a replacement for written text*. The old adage "a picture is worth a thousand words" does not hold true in technical writing, but adding visuals may save you a hundred words or so of additional explanation and clarification.

If you have visual elements in your document, they must be based on your written content and supplement your ideas. Adding graphics just to decorate or take up space may confuse your reader. Therefore, it is important to choose the right kind of visual to convey the story you want your readers to understand. If visuals are poorly chosen or poorly designed for the task, they can actually confuse the reader and have negative consequences.

Before getting into details on creating, formatting, and incorporating graphics, consider the different kinds and their functions. You can use graphics to represent the following elements in your technical writing:

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

Relationships. If you want to show how your company is organized in terms of the relationships between different departments and officials, you could set up an **organization chart** using boxes and circles connected with lines that show how everything is hierarchically arranged and related. This organization chart is an example of a graphic for a concept: this type depicts nonphysical, conceptual things and their relationships.

Words. Finally, graphics are used to emphasize written text. You may have noticed how textbooks put key definitions in a box, maybe with different colors. The same can be done with key points or extended examples. In addition to **callout boxes**, other word-driven graphics include **word clouds**, company or brand **logos**, and **word art**.

Tables vs. Figures

Visual elements in a report are referred to as either **Tables** or **Figures**. Tables are made up of **rows** (horizontal) and **columns** (vertical), which in turn create boxes or **cells**. Cells usually have numbers in them (but may also have words or images). In contrast, figures refer to any visual elements—such as graphs, charts, diagrams, photos—that are not tables. Both figures and tables may be included in the main sections of the report, or if they contain supplemental material, they may be contained in an appendix. Try to ensure that figures and tables are not broken over two pages. Tables that require a full page might be best placed in an appendix.

Often, if a more formal report is long enough to contain a Table of Contents (see Chapter 20), it will also contain a **List of Figures and Tables** or a **List of Illustrations** if the document has both tables and figures, or a **List of Figures** or **List of Tables** if the document contains only one type of visual element. The list of tables and figures or list of illustrations is similar to a table of contents, in that it lists the *pages* on which the visual elements can be found. Strong lists of figures include more than a label such as "Figure 2" — they contain the concise and clear titles of the figures or tables, so that a reader will easily be able to identify the contents of the visual element. For instance, the first table in this chapter would be designated, "Figure 8.1. Table of domestic weekend box office revenues, July 3-5, 2020." See Chapter 20 for more details and for examples.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.

McMurrey, David. *Online Technical Writing*. n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

TABLES

Suzan Last; David McMurrey; James Francis, Jr.; Nicole Hagstrom-Schmidt; and Claire Carly-Miles

Tables are made up of rows and columns that contain data, usually in numerical form. They permit rapid access to and relatively easy comparison of information. If the data is arranged chronologically (for example, sales figures over a ten-year period), the table can show trends (for example, patterns of rising or falling activity). Of course, tables are not necessarily the most vivid or dramatic means of showing such trends or relationships between data—that's why we have charts and graphs. These figures are discussed in greater detail later in the chapter.

Uses for Tables

Tables are used to organize detailed data and information into categories for comparison. The most typical use of tables is for large amounts of numerical data, so tables should be used when exact figures are important. Tables also have an added advantage over charts and graphs by being able to compare multiple factors, whereas a 2D chart can only compare two variables. For example, imagine that you are comparing different models of laser printers in terms of physical characteristics such as height, depth, length, weight, and so on. A table is perfect for demonstrating and allowing comparison of the exact measurements of these specific printer models.

However, tables are not only used for numerical data. They may also be used to organize multiple qualitative categories that are best expressed using words. A qualitative category could be something like color, a ranking such as "Good" or "Ineffective," or even a definition of a concept. Imagine again that you are comparing several models of a laser printer. As part of your evaluation, you would use different categories (such as cost, print speed, cost of ink, warranty) as criteria. These criteria would be ideal content for a table that uses words rather than numbers.

Effective Table Format and Design

When formatting your tables, there are several guidelines you should follow in order to increase their usability for your audience.

> **Title.** Traditionally, the title of a table is placed on top of the table or is the first row of the table, rather than below. This is because tables are usually read from top to bottom, so it makes sense that the title would be in the first place a reader looks. The tables in this textbook are formatted according to this principle. To provide a title for your table, first include an identifier. This identifier will usually be the label "Table" combined with a number. Tables should be numbered sequentially, with the first table appearing in your report being labeled as Table 1, the second table labeled as Table 2, and so on. Conclude the label with a period. After the label, provide a descriptive title that identifies the content of the table. This title may be formatted in "sentence case," with only the first word and any proper nouns capitalized, or in "title case," with all words other than non-primary articles or prepositions being capitalized. Whichever you choose, make sure it is consistent across all tables and figures. For an example of how to title a table and other figures, see "Captions

(Labels, Titles, and Citations)" later in this chapter. In addition, consider how figures and tables are labeled throughout this text.

Headings. Another major formatting feature of tables is the use of headings. Headings are used at the top of each column (where they are called **box heads**) and on the leftmost-side of each row (where they are called **stubs**). These headings are used to identify the content being provided in their given row or column. When providing a heading for a column that has numerical data, include the units for that column in the header rather than in each individual cell.

When it comes to headings, formatting becomes more complicated when rows or columns must be grouped or subdivided. In such cases, you have to create row or column subheadings. Figure 8.1[1] illustrates a way to handle this challenge. In this table, there are twelve total columns. Ten of these columns are given headings in cells of the same height. The Distributor information is first identified in an eleventh column. This information is immediately sub-divided into two separate columns and given headings below. Combined, these cells make up the same height as the rest of the row with headings.

Alignment. Left-align or center-align words and phrases in table columns (including the column heading). Right-align numeric data in table columns.

Footnotes and Citation. The final item to consider when formatting a table is whether to add a note or caption below the table itself. There are three types of notes you may use for a table: general, specific, and probability. General notes refer to general information included in a table, such as an explanation of the data source or a citation. Citations are formatted as in-text citations that follow your chosen style guide. General notes appear first and include a label such as "Note:"; "Source:"; or "Data from" (without quotation marks). Specific notes are reserved for specific details about a column, row, or cell. These notes go below any general notes and are labeled with a superscript number or letter that corresponds to a specific place on the table. Finally, probability notes provide information on probability testing. These notes appear last, after any general or specific notes. They do not contain a label. When there is some special point you need to make about one or more of the items in the table, use a footnote instead of clogging up the table with the information

Table 4. Domestic (U.S.) weekend box office: July 3-5, 2020. *Source:* boxofficemojo.com (https://www.boxofficemojo.com/weekend/2020W27/?ref_=bo_wey_table_1).

Rank	LW[1]	Release	Gross ($)	%± LW	Theatres	Change	Average Per Theatre ($)	Total Gross ($)	Weeks in Release	Distributor	
										IFC Films	Vertical Enter-tainment
1	-	Relic	192,352	-	69	-	2,787	192,352	1	✓	
2	3	The Wretched	25,215	-36.3	62	-35	406	1,684,854	10	✓	
5	6	Miss Juneteenth	11,883	-32.7	6	-5	1,980	70,224	3		✓
6	4	Infamous	2,462	-93.3	4	-5	615	427,407	4		✓
7	-	The Truth	2,200	-	10	-	220	2,200	1	✓	

[1] LW = Last Week

*Figure 8.1. Example of table with title, caption, and clear source attribution. (Alternative PDF version: **Figure 8.1**)*

Effectively Integrating Tables into Your Document

In order to integrate tables into your document effectively, include text that precedes the table and explains the general significance of the data in the table. Don't expect readers to figure out the table entirely for themselves. Also, be sure that you don't overwhelm your readers with extremely large tables; include only the amount of data needed in order to illustrate your point.

Occasionally, rough drafts of technical reports present information in regular running-text form that could be better presented in table (or tabular) form. When revising, review your rough drafts for material that can be transformed into tables. Figure 8.2[2]below shows an example of how to revise a draft by converting information into a table format. Note how the writer pulls the specific data points from the paragraphs and places them into a table for easy reference. Note also that in the revised paragraphs below, the points in the text also clearly introduce and link to the information in the table. These details help fully integrate the table into the document and make the overall text easier to quickly read and understand.

Original text:
A lot of the data points between the 2013 report and the 2017 data are similar; most respondents are in the engineering or "other" category (oftentimes, "other" means they fulfill two or more roles at the company). Also, a hefty percentage of our respondents, almost 62%, work for companies with more than 500 employees; that is up from 57% working for companies with more than 500 employees in the 2013 data. Also similar was that approximately 62% of respondents indicated that a technical, business, or science writing course was taken in college, up only slightly from 60% in the 2013 report.

A notable difference was that the number of respondents who were required to take a technical, business, or science writing course went up from 51% in 2013 to 87% in the 2017 data. Another notable difference is the metric about writing being important to a job. In 2013, 91% of respondents said that writing was either "very important" or "essential" to their job. In 2017, though, only 75% indicated that writing was "extremely" or "very important." Some of this variance could be that the 2013 metric gave the options "Essential," "Very Important," "Not Very Important," "Unimportant," and "Irrelevant." However, in 2017, the metric options were "Extremely Important," "Very Important," "Moderately Important," "Slightly Important," or "Not at all Important." While that's a slight shift in language, the change from "Not Very" to "Moderate" opened a new avenue. In this respect, 94% of 2017 respondents indicated that writing was at least moderately important to their job, which is much closer to the 91% reported for the 2013 study. In short, what we can take from each of these studies is that writing/written communication continues to be important in technical, business, and scientific contexts.

In a related topic, 86.5% of respondents in 2013 said that their writing was important to their career advancement, while 91% of the 2017 respondents said that writing was at least moderately important to their career advancement. As in the previous example, the metric options were different, but we can still draw the conclusion that writing and the quality of writing are indeed important to career advancement.

Revised text with added table:
Many of the data points between the 2013 report and the 2017 data are similar; most respondents are in the engineering or "other" category (oftentimes, "other" means they fulfill two or more roles at the company). As can be seen in Table 1.1, there are also similarities between the numbers of respondents who work in companies with over 500 employees, who indicated that a technical, business or science writing course was taken in college, and who indicated that writing was important to their career advancement.

Some notable differences were between the percentages for whom a technical, business, or science writing course was required, and the metric of those who indicated that writing was important to their job. Some of the variance in indicated writing importance could be due to variations in the metric. The 2013 metric gave the options "Essential," "Very Important," "Not Very Important," "Unimportant," and "Irrelevant." However, in 2017, the metric options were "Extremely Important," "Very Important," "Moderately Important," "Slightly Important," or "Not at all Important." While that's a slight shift in language, the change from "Not Very" to "Moderate" opened a new avenue. See Table 1.1 for details.

Table 1.1 Compared results of the 2013 report and 2017 data	2013 Report	2017 Data
Work in Companies with More than 500 Employees	57%	62%
Took a Technical, Business, or Science Writing Course	60%	62%
Stated that a Technical, Business, or Science Writing Course was Required	51%	87%
Indicated that Writing was "Very Important" or "Essential" in 2013 **OR** "Extremely" or "Very Important" in 2017	91%	75%
Indicated that Writing was at Least Moderately Important	91%	94%
Indicated that Writing was Important to Career Advancement	86.5%	91%

Figure 8.2. Incorporating Tables into Text. (Alternative PDF version: Figure 8.2)

Notes

1. James Francis, "Table of Domestic Weekend Box Office Revenues, July 3-5, 2020," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Created using data derived from Box Office Mojo, "Domestic 2020 Weekend 27," accessed August 14, 2020, https://www.boxofficemojo.com/weekend/2020W27/?ref_=bo_wey_table_2_table_2.
2. Kalani Pattison, "Revising Text into Tables," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International license. Derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, & Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018). https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

FIGURES

Suzan Last; David McMurrey; Kalani Pattison; James Francis, Jr.; Nicole Hagstrom-Schmidt; Matt McKinney; and Gia Alexander

Figures comprise several types of visuals. Examples include nearly any visual that is not text-heavy or a table, such as graphs, charts, maps, and diagrams. The following sections will cover the most common types of figures in detail, as well as their potential utility in technical and professional writing.

Types of Figures and Appropriate Uses

Different figure types have different strengths and uses. For example, you would not use a pie chart if you were presenting data that could not add up to 100%, and you would not use a bar graph to show the layout of a community garden. Table 8.1 lists common figure types used in technical writing, along with their general purpose or description. [1]

Table 8.1. Common types of illustrative graphics

Type of Visual		Description and Purpose
Graphs	**Bar Graph**	Compares and contrasts two or more subjects at the same point in time, or compares change over time.
	Column Graph	Reveals change in a subject at regular intervals of time.
	Line Graph	Shows the degree and direction of change relative to two variables; compares items over time, shows frequency or distribution, or shows correlations.
Charts	**Pie Chart**	Displays the number and relative size of the divisions of a subject; shows relation of parts to a whole (parts must sum to 100% to make sense). Typically pie charts will include between three and eight slices.
	Organization chart	Maps the divisions and levels of responsibility or hierarchy within an organization.
	Flow Chart	Shows the sequence of steps in a process or procedure.
	Gantt Chart	Indicates timelines for multi-stepped projects, especially used in proposals and progress reports.
Illustrations	**Diagram**	Identifies the parts of a subject and their spatial or functional relationship; emphasizes detail or shows dimensions.
	Photo	Shows what a subject looks like in realistic detail or shows it being used.
	Animation	Simulates a process, operation, or incident.
	Film Clip	Depicts a process, operation, or incident in realistic detail.

Note: Notice the "box heads" on the top and "stubs" on the left are bolded and centered to enhance readability.

Common Uses of Graphics in Technical Documents

As with any writing decision, use your audience as your guide. Where in technical documents (such as instructions, reports, and proposals) could your reader benefit from visual clarification? Table 8.2 below reviews common types of information that may be clarified by the use of graphics.

Table 8.2. Common places for graphics in technical documents.

What You are Writing	Graphic Ideas
Results of a survey question	Table, chart, or graph
Numeric data in relation to two or more things	Table, chart, or graph
Definitions of multiple terms	Table
Chain of command or relationships in an organization	Organization chart
A complex process or procedure	Flow chart
A timeline for completing a project	Gantt chart
An important piece of equipment	Photograph or diagram
A specific geographic location	Map

If you're not sure where you could incorporate a figure, remember that charts and graphs are just another way of presenting the same data that is presented in tables. The advantage of graphs and charts is that they are more dramatic and interesting; however, this strength may come at the cost of detail or precision, where tables excel. Imagine the difference between a table of sales figures for a ten-year period and a line graph for that same data. In the graph, you get a better sense of the overall trend but not of the precise dollar amount.

Drawings, Diagrams, Photos

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

Major types of illustrations and photographs run from minimal to maximal detail. A simple line drawing of how to graft a fruit tree reduces the detail to simple lines representing the hands, the tools, the graft stock, and the graft. Diagrams are more abstract, schematic views of things; for example, a diagram of a car engine hardly resembles the actual physical thing at all. Photographs, of course, provide the most detail of all. These graphics, supplying gradations of detail as they do, have their varying uses. Here are some examples:

- In instructions, simple drawings (often called line drawings because they use just lines, without other detail such as shading) are the most common. They simplify the situation and the objects so that the reader can focus on the key details.
- In descriptions, you would want to use drawings, but in this case drawings with more detail, such as

shading and depth perspectives.

- In feasibility, recommendation, and evaluation reports, photographs are often used. For example, if you are recommending a photocopier, you might want to include photos of the leading contenders.

The ethical responsibility to promote diversity arises when incorporating photographs into technical documents. When using photos, work to achieve a balance of representations throughout your document, including both men and women, older and younger people, people using assistive technology like wheelchairs and people of color.

Effective Formatting and Design for Figures

When you create charts and graphs, keep these requirements in mind (most of these elements are illustrated in Figure 8.3 [2]below):

Labels. Certain figures contain labels—words and phrases—with pointers to the parts of the things being depicted. In bar charts and line graphs, don't forget to indicate what the x- and y- axes represent. One axis might indicate millions of dollars; the other, five-year segments from 1960 to the present.

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

Titles. Except in special cases, illustrations should have titles, and these titles should be numbered (Figure 1, Figure 2, and so on). The exceptions are these:

- If you have lots of illustrations (for example, in certain instructions, there are illustrations practically after every paragraph) and if there is no benefit from the titles
- If you only have one or two illustrations and they are not cross-referenced
- If you do not cross-reference your illustrations.

In some of these cases, you might want to keep the title but discard the word "Figure" and the number following it. The title of a figure goes in a caption below the figure.

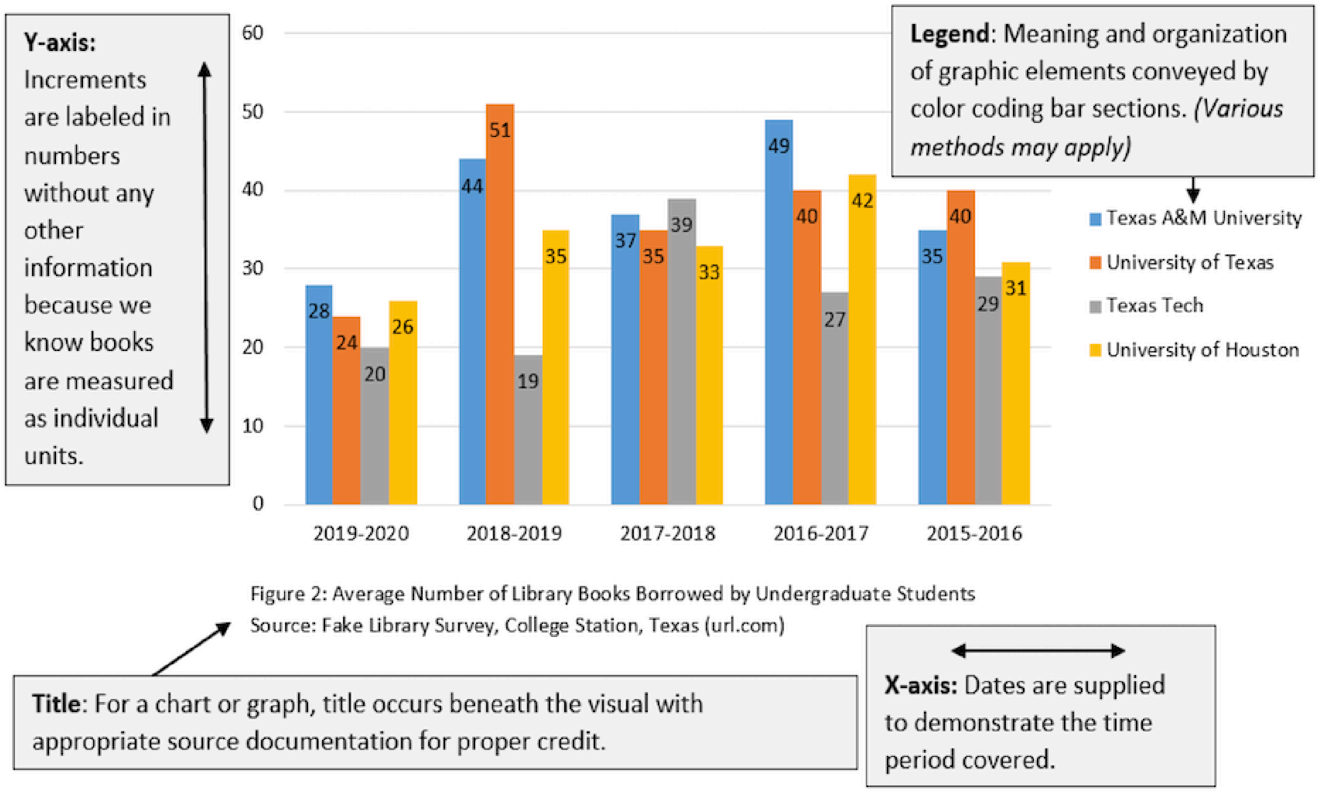


Figure 8.3. Example of a Bar Graph.

Cross-references. Almost all illustrations should be referred to from the relevant point in the discussion. Prior to providing the graphic, identify its purpose and explain any relevant details for your readers.

Location within the report. Figures should be placed just after the point where they are needed. However, sometimes because of the pagination (the way the text falls on the pages) and the size of the illustrations, this close placement is not possible. If this occurs, place the graphic at the top of the next page. Your figure numbers and cross-referencing will make it clear what information the graphic is associated with.

Size of illustrations. Ideally, you want illustrations to be between one-quarter to one-half of the vertical size of the page. You also want them to fit on the page with other text. In fact, that's what you really want—to intersperse text and graphics in a report. Extremely large figures may need to be resized, revised to focus on specific information, or placed on their own page.

Placement within margins. Make sure that your illustrations fit neatly and comfortably within standard (usually one-inch) margins. You don't want the illustration spilling over into the right or left margins. You want to allow the equivalent of at least two blank lines above and below the illustration.

Level of technical detail. Design your figures to be at the right technical level for your readers. For example, a chip circuitry diagram for an audience of computer beginners would likely be too complex.

Design. Avoid unnecessarily convoluted, distracting, or misleading design elements. For instance, don't use 3D for figures such as pie charts or bar graphs. A 3D pie chart can distort the impression that the size of the slices makes, and 3D bar graphs can make it difficult for the reader to tell whether to read from the "front" or the "back" of the bar. See Figure 8.4[3] for a good example of a pie chart with clear slices, labelling, and design.

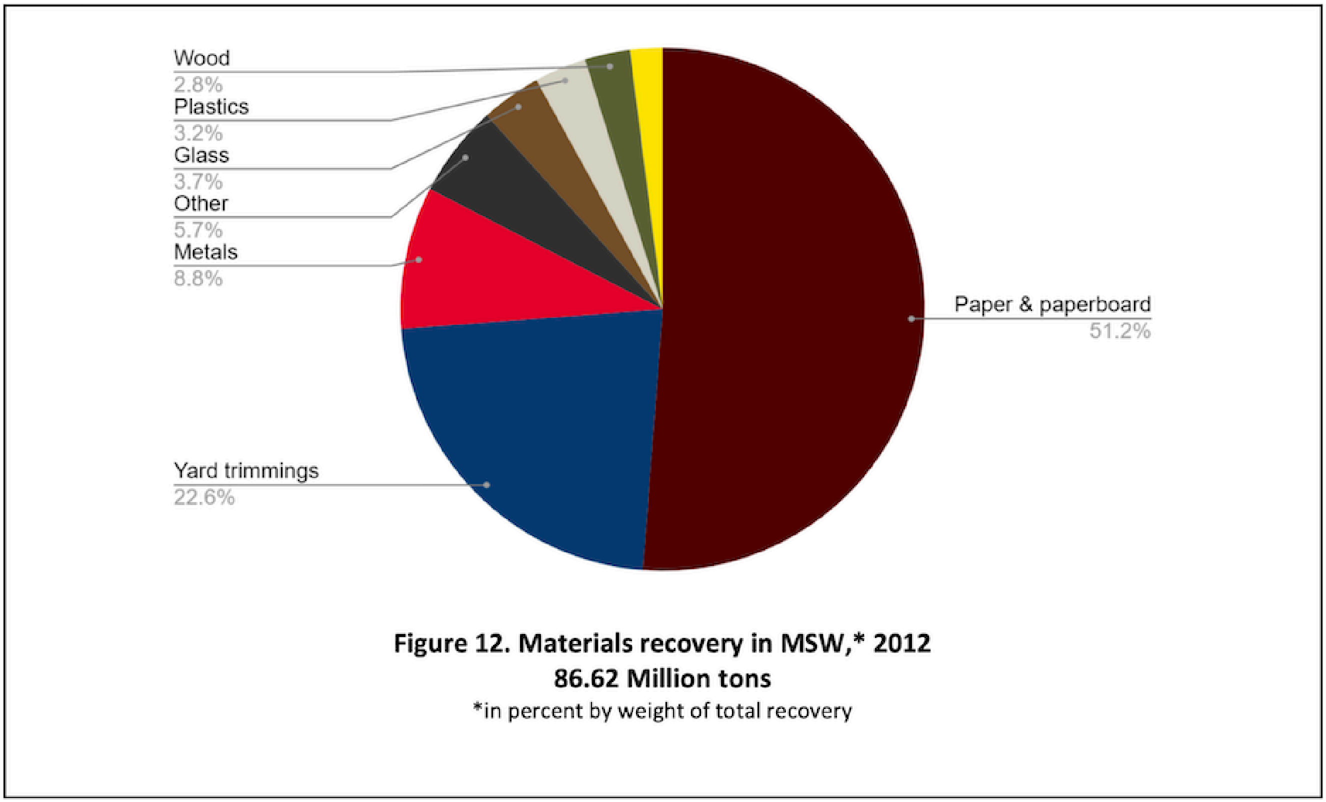


Figure 8.4. Example of a Pie Chart.

Accessibility/Usability. Be sure that your figures are accessible to a wide variety of readers and in a variety of formats. In addition to using actual text rather than pictures of text and including alternative text where needed, choose your colors wisely. While different shades of the same color may look nice, those shades may be easily misread if they are too similar. Combinations of red and green or yellow and blue may make it difficult for those with the most common types of color-blindness to determine the figure's meaning. Remember that clear communication is the most important consideration in design choices.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/.

McMurrey, David. *Online Technical Writing*. n.d. https://www.prismnet.com/~hcexres/textbook/.

Notes

1. For a detailed discussion of how and when to use these kinds of visuals, see H. Graves and R. Graves, "Communicating through Visuals," in *A Strategic Guide to Technical Communications*, 2nd ed. (Peterborough, ONT: Broadview Press, 2011), 137-148.
2. James Francis and Sarah LeMire, "Example of a Graph," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
3. U.S. Environmental Protection Agency, Office of Resource Conservation and Recovery, "Figure 12. Materials recovery in MSW,* 2012 86.62 Million tons," in Municipal Solid Waste Generation, Recycling, and Disposal in the United States Tables and Figures for 2012, February 2014, 46. https://archive.epa.gov/epawaste/nonhaz/municipal/web/pdf/2012_msw_dat_tbls.pdf

INTEGRATING VISUALS

Suzan Last; David McMurrey; Kathy Anders; Claire Carly-Miles; James Francis, Jr.; Kalani Pattison; and Nicole Hagstrom-Schmidt

In technical business writing, visuals are utilized in conjunction with written content to deliver a variety of information to a reader. When incorporating visuals into a document, consider the 12 guidelines below to ensure that the combination of text and graphics is complementary and effective.

12 Rules for Integrating Graphics into your Document

1. **Create purposeful graphics.** Graphics should be used to clarify and emphasize information that is difficult to convey concisely in written form. A pie chart that illustrates a 50% "Yes" and 50% "No" response from a survey is something that can be easily expressed in writing without visual representation. If a graphic's purpose is not immediately clear, it may need to be revised or removed.
2. **Label your graphics.** Give each visual a numbered caption that includes a clear descriptive title. For tables, this numbered caption and title should go above the graphic. For figures and illustrations other than tables, place these captions below.
3. **Introduce the graphic by label in your document.** Refer to the caption number within the body text and discuss its content. You do not need to repeat specific information from the graphic, but you should explain what the reader should be looking for. You should also highlight key information from the graphic.
4. **Cite any copied graphics and/or data sources.** If you did not create the graphic yourself, or if you used data from another source, include that information in a caption below the graphic.
5. **Review graphics for accuracy and clarity.** Once you have drafted your graphic, make sure you review it critically. Are all numerical values correct? Are all words spelled correctly? Does the graph accurately and fairly represent the data?
6. **Utilize consistent font style and sizing.** Your graphics should use the same typeface as the body text of your document. All figures and tables should also follow a consistent structure and design choice. For example, if your first row header on a table is in bold white text with a maroon background, all first-row headers for tables should follow this same format.
7. **Arrange the visual image in the same direction as the body text.** While it can be tempting to flip or invert an image so that it fits better on a page, this approach ends up distracting a reader who then has to switch their screen view, which results in the inability to quickly compare the figure with the text where it is introduced.
8. **Avoid crowding the page with too many graphics.** Graphics work best, at least visually, when they are interspersed and integrated with texts. This contrast creates balance on a page while also drawing attention to specific information. When graphics are all one page together, especially if they are unrelated, their significance is diminished.
9. **Provide sufficient spacing between graphics and text.** Graphics should not overlap text and vice-versa. Aim for at least 1-2 full lines of space between a figure or table and body text.
10. **Consider how assistive technologies may interpret the graphic and/or its descriptive text.** When designing and integrating graphics, remember that certain users may be encountering them through a screen reader or other application. To make your graphics accessible, make sure that any text is typed rather than presented as an image. For photographs and other images,

offer an "alt-text" description.

11. **Make sure all visual elements are clear.** For all graphics, make sure that the print size is readable. This means that the graphic should not be too small or blurry due to copy and pasting. If a copied graphic is unclear, you may need to recreate it, with proper attribution, of course.
12. **Incorporate color coding.** Use complementary color systems or colors associated with your organization to offer visual interest, distinguish different types of information, and add to the professionalism of your document.

Cross-referencing

Any figures or tables you use in your document must be discussed in your text. Use the following guidelines when discussing and referring to tables and figures (as illustrated in Figure 8.5[1]):

- Whenever you use a chart or graph, provide some explanation of what is going on in the graphic, how to interpret it, what its basic trends are, and so on.
- Place the table/figure close to where it is first referred to in the text (preferably immediately below the paragraph in which it is first mentioned).
- Refer to tables and figures in your text by their numbers, not their placement in the text. For example, "See Figure 9 for a detailed schematic" (not "see the figure below"); "the test results are summarized in Table 1."
- When referring to a figure or table in your body text, it is helpful to place the reference in bold font.

In an annual survey, Texas A&M students reported several popular study spaces on campus. In the three years studied, over 50% of students indicated that they spent time studying in Evans Library **(Figure 2).** Evans Library proved to be more popular than its closest competitors, the MSC and Rudder.

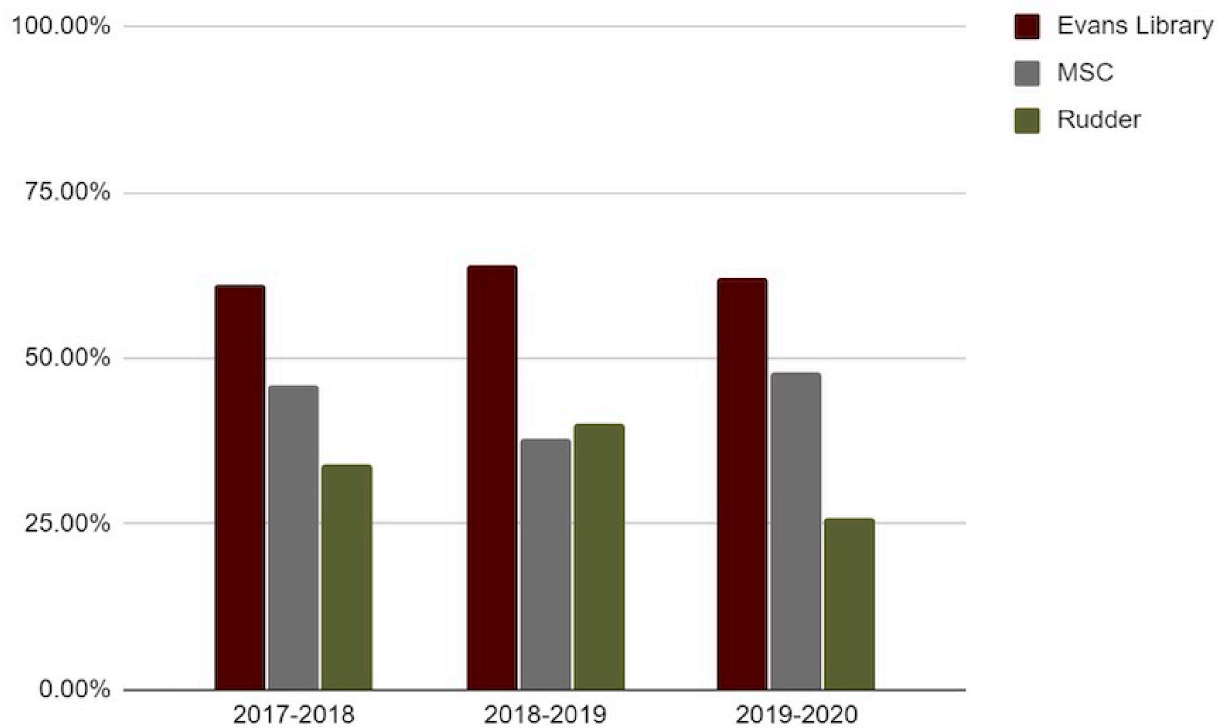


Figure 2: Popular Texas A&M Study Spots

The survey did not ask students about popular off-campus study locations, so it is unclear if other area locations are even more popular.

Figure 8.5. Example of a figure integrated into body text. Notice that the text above and below the chart calls attention to the chart and briefly indicates its significance. Also note that the figure does not represent the results of an actual survey. (Alternative PDF version: Figure 8.5).

Captions (Labels, Titles, and Citations)

Tables and figures must all be labeled with numbered captions that clearly identify and describe them. Captions should immediately identify what the figure or table represents for the reader. Table captions must be placed above the tables because we generally read tables from the top down, and therefore want to see the caption at the top. In contrast, figures are not always read from top to bottom, so figure captions are generally placed below the figures. If you choose to place figure captions above the figures, however, do so consistently throughout your document.

Use the following conventions to assist the reader in understanding your graphics:

> **Numbering.** Tables and figures are numbered sequentially but separately. For example: Table 1, Table 2, Figure 1, Figure 2, Table 3, etc.

Figure and Table titles. For most figures and tables, you'll want to include a title. Readers need some way of knowing what they are looking at and a convenient way of naming and discussing the illustration other than by its number alone.

Captioning. After the figure or table number, add a descriptive title that clearly indicates what the figure or table illustrates without having to read anything else on the page. Be sure to cite the source of any information you borrowed to create the graphic or to cite the source of the graphic itself.

There are two systems for numbering figures and tables within your document:

Simple Consecutive Numbering. All figures and tables are numbered consecutively (Figure 1, Figure 2, Figure 3, Table 1, Table 2, Table 3, etc.) throughout the document regardless of which section they are in.

Section-based Numbering. Within each section, figures and tables may be numbered sequentially through each section (e.g. Table 1.1 refers to the first table in section 1; Table 2.4 refers to the fourth table in section 2).

If a large number of illustrations are presented, section-based numbering is the better choice; however, this can become confusing when the sections of text include sub-sections. Carefully weigh and choose which of the above systems of numbering figures and tables will be the clearest one to use for your particular document.

Finally, alter the font of your captions to distinguish them from body text. Caption font is usually the same type of font (such as Calibri or Times New Roman), but it is slightly smaller than body font and sometimes italicized. The label and number (for example, "Figure 1; Table 3.5") are often both bolded in their corresponding graphic's caption and in the body text.

Figures 8.6 and 8.7 demonstrate the difference that clear labeling, titles, captions, and key/legends can make in clarifying the meaning of a figure.

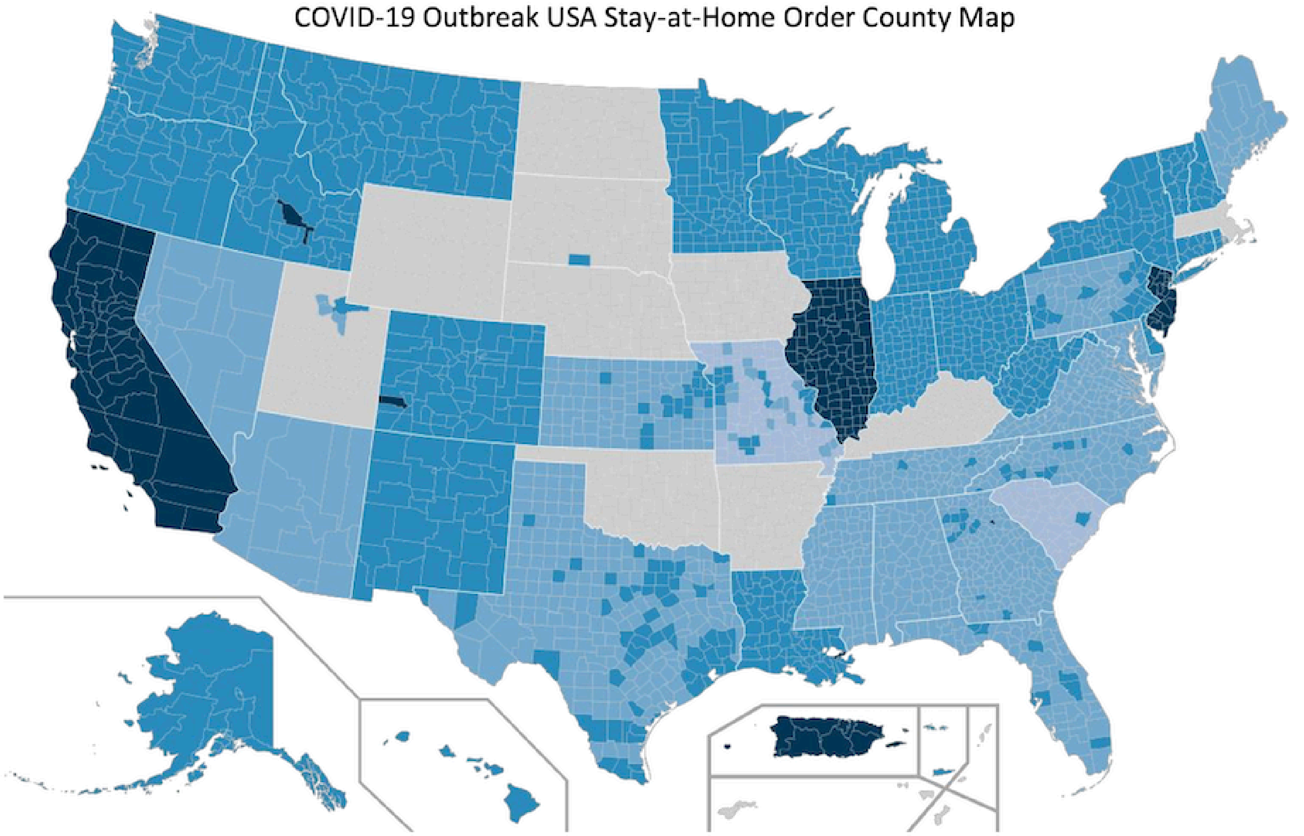


Figure 8.6. A map without a legend, key or clear labels, purporting to depict COVID-19 stay-at-home orders by county.

Can you understand what Figure 8.6[2] is trying to say? You may know the United States well enough to recognize state lines and the lighter county lines. Could you do the same if it was a map of South America or Europe? Some might be able to, but many would not. In addition, what do the colors actually mean? When during the pandemic is this information from? When was the information on this map accurate? What limitations or restrictions apply to the information here?

Consider this version of the map:

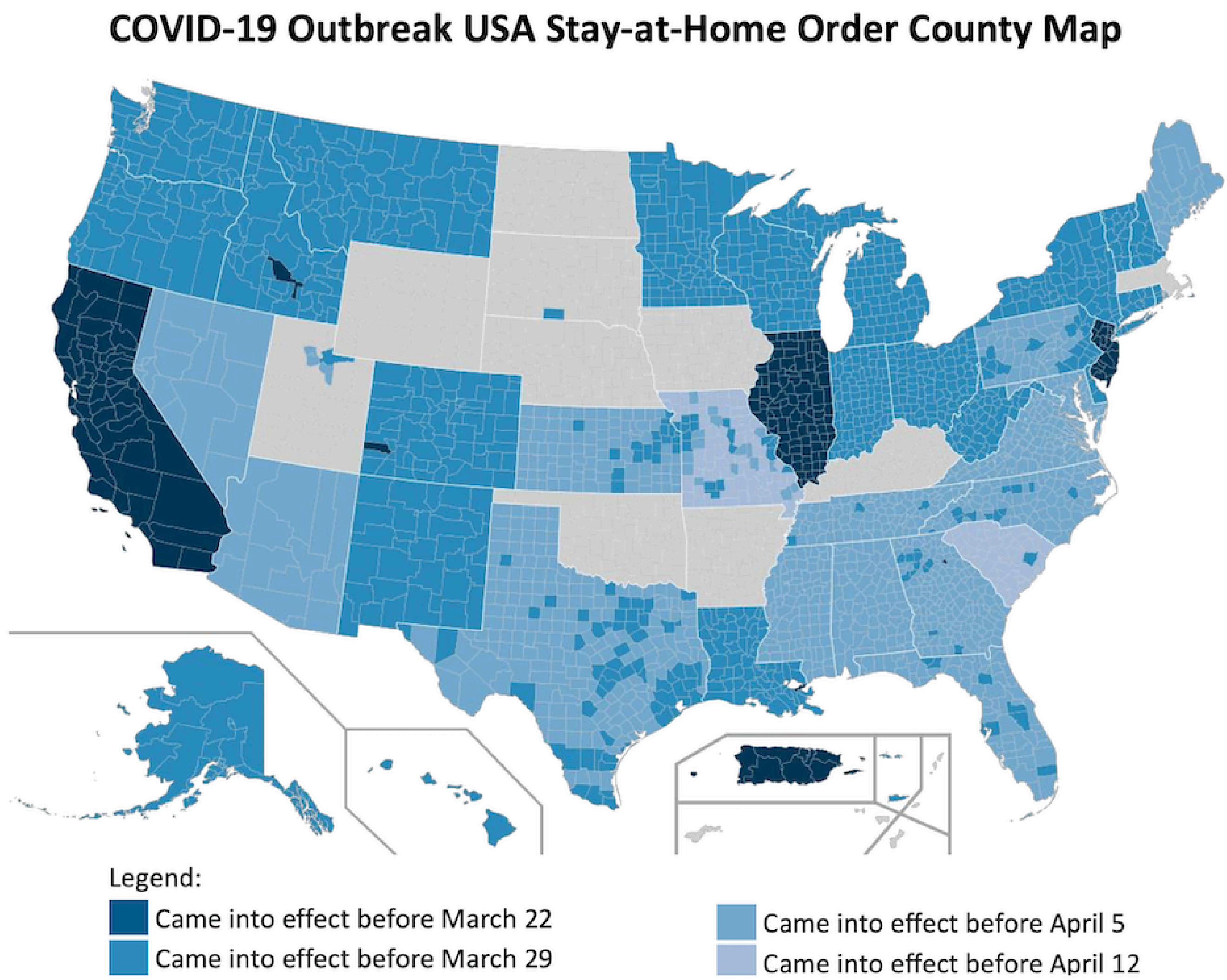


Figure 8.7. Example of a Map with a Legend.

Figure 8.7[3] has a numbered label, a descriptive title, an explanatory caption, and a properly labelled legend. The caption also cites the source the graph was retrieved from, using an in-text citation that is linked to a full reference below. The original image has not been distorted in any way. Altogether, the title, explanatory caption with appropriate citation, and the clear legend make the figure readable, useful, and credible, unlike the previous figure, despite still not being completely accessible.

Documenting Graphics

If the table or figure that you present in your report was not created by you and instead comes from other sources, you must include a reference for the original source in your caption, such as "Figure 1. Network Design (Smith, 2015)."

Data used from outside sources to create a figure or table must also be cited. You must ensure that all figures and tables represent data accurately and ethically, and that they do not distort data to create bias. You need to cite the original dataset because it's important for readers to be able to understand where the data being represented in a graphic originates, and it's expected ethically that you credit the source of your data.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields.* Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.

McMurrey, David. *Online Technical Writing.* n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

Notes

1. Sarah LeMire, "Example of a Column Chart," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
2. Mihn Nguyen, "COVID-19 Outbreak USA Stay-at-Home Order County Map," Wikimedia Commons, uploaded May 4, 2020, File:COVID-19_outbreak_USA_stay-at-home_order_county_map.svg. Made available under the Creative Commons CC0 1.0 Universal Public Domain Dedication.
3. Kalani Pattison added a legend to Mihn Nguyen, "COVID-19 Outbreak USA Stay-at-Home Order County Map," Wikimedia Commons, uploaded May 4, 2020, File:COVID-19_outbreak_USA_stay-at-home_order_county_map.svg. Made available under the Creative Commons CC0 1.0 Universal Public Domain Dedication.

COPYRIGHT, CREATIVE COMMONS, AND PUBLIC DOMAIN

William Meinke and Kalani Pattison

Open Educational Resources (OER), like this one, rely on working within copyright law using tools, such as Creative Commons (CC) licenses, to enable frictionless sharing and collaboration that would otherwise be difficult to manage from an intellectual property perspective. Open licenses tell others how they can use your work by explicitly granting them copyright permissions to share and adapt your work, with CC licenses being the gold standard in interoperable open licenses for content. This section explains essential aspects of copyright, Creative Commons licenses, and openly licensed content.

Copyright law varies quite widely between countries and has changed over time, particularly in how long a work remains protected by copyright law. The information in this chapter deals with U.S. copyright law. If you ever work for an international company or work with creative content produced in another country, you need to read any contracts carefully, as they may have different regulations and expectations regarding intellectual property.

Why is Copyright Important?

The copyright status of a work will (along with other factors) determine what you can and cannot do with someone else's creative work. U.S. copyright law and patent law were originally established as part of the U.S. Constitution in order to encourage creativity and innovation. Copyright law helps ensure that creators are compensated for their work, which allows them to continue to invent and create.

In the U.S., creative works are often categorized regarding their potential use under copyright law: fully protected by copyright, in the public domain, and licensed for Creative Commons (CC) use. Knowing how to identify and differentiate between these common relationships of works to copyright will be useful when determining what content you may reuse and how.

Under current copyright laws, anything written or created is automatically protected from the moment of its creation provided it meets the criteria for copyright. There is no necessary paperwork, form, or registration to complete–if your six-year-old cousin draws a picture for you and writes a letter to you, that picture and letter would be protected by copyright.

According to Title 17 of the United States Code (The Title related to copyright law), Copyright protection applies to:

> original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. Works of authorship include the following categories:
>
> 1. literary works;
> 2. musical works, including any accompanying words;
> 3. dramatic works, including any accompanying music;

4. pantomimes and choreographic works;
5. pictorial, graphic, and sculptural works;
6. motion pictures and other audiovisual works;
7. sound recordings; and
8. architectural works.[1]

The "fixed" requirement to copyright reflects that ideas, facts, or concepts are not protected. This is why sometimes it seems as if different movies or books have the same plots or the same type of character. Using someone else's ideas or concepts without giving credit doesn't violate copyright law (a legal issue) but is actually plagiarism (an ethical issue). Giving credit for the source of ideas, facts, and concepts is an ethical necessity, but re-using a "fixed" version of a work protected by copyright, even if you give credit (outside of certain situations–see below), is a copyright violation.

Copyright

The rights to fully copyrighted works a.k.a. All Rights Reserved (ARR) are held by the creator(s) of the work. It can be unlawful to use copyrighted works of others without their permission, and no permissions are granted in the case of ARR works. Activities such as copying, modifying, publicly displaying, publicly performing, and distributing copies of ARR work may be illegal unless legal permission is granted by the creator.

You may have seen copyright marks or statements at the beginning of books or in the credits of a film, often in the format of "Copyright [creator name] [year]" and with the Copyright symbol (see Figure 8.8[2]). These marks can be useful, but due to the automatic nature of copyright, works that have no marking should be seen as having all rights reserved—no permissions granted until you are granted them specifically from the owner of the rights.

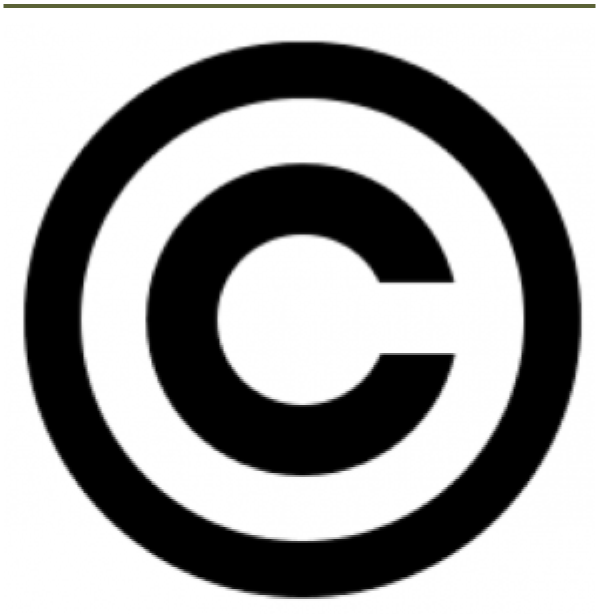


Figure 8.8 Copyright Symbol.

Public Domain (PD)

Work in the public domain (PD) can be reused freely for any purpose by anyone, without legally having to give credit or attribution to the author or creator, though for reasons pertaining to ethos (establishing your own credibility and reliability) and ethics (avoiding plagiarism, misattribution, and unfairness) attribution should still be given whenever possible. With few exceptions, such as being unable to claim the PD work of others as your own, works in this category can be used with great confidence, as copyright has either expired or the works were produced by the U.S. Federal Government, and so entered the U.S. PD immediately after creation or publication.

Currently in the U.S. (and in all works created in the U.S. since January 1, 1978) creative works enter the public domain 70 years after the death of the creator or 95 years after publication or 120 years after creation, (whichever expires first) if it is a work made for hire, anonymous, or pseudonymous. Work "made for hire" is work done for and under the direction of a company. Individual animators at a film studio, for instance, don't own the copyright for their work–the company does. Whether individuals or companies own the copyright to work created in the workplace depends a lot on disciplines, fields, and locations. Occasionally, employment contracts even extend the company's copyright to works created by the employee unrelated to the individual's job. Be sure to read any contract carefully to see who will own the work you create.

Works published before 1978 and after the 1920s mostly had an original 28 year protection, followed by an renewal which may or may have been automatically given–works created before 1926 are all in the public domain (as of 2021).

Creative Commons (the organization) created a legal tool called CC0 (pronounced "see-see-zero") to help creators place their work as close as possible to the public domain by releasing all rights to it. The following Figures 8.9[3] and 8.10[4] demonstrate what two marks you may find on certain works to convey the rights of public domain.

Figure 8.9. Public Domain mark developed by the Creative Commons organization.

Figure 8.10. A second mark indicating the public domain status of the work developed by the Creative Commons Organization.

Creative Commons (CC)

Creative Commons (CC) is a non-profit organization that offers free legal tools to make creative work more shareable. Composed of combinations of four different elements (see Table 8.3 for a description of each major element[5]), there are six different CC licenses that explicitly grant permission for others to use your work in certain ways, forming a spectrum of openness. The most open CC licenses require only attribution (giving credit), but otherwise permits nearly any use imaginable. The less open licenses include components that limit or prevent commercial reuse and modification.

CC license marks are visible symbols telling others that work can be reused without requiring direct contact or permission from the creator. Properly applied to digital content, a CC license contains a link to a human-readable description of the license with a further link to the legal deed behind the license. (See Table 8.4[6]).

Table 8.3. Creative Commons elements

Creative Commons Element Type	Meaning	Creative Commons Image
BY	Credit must be given to the creator	
SA (ShareAlike)	All adaptations must be shared using the same licenses.	

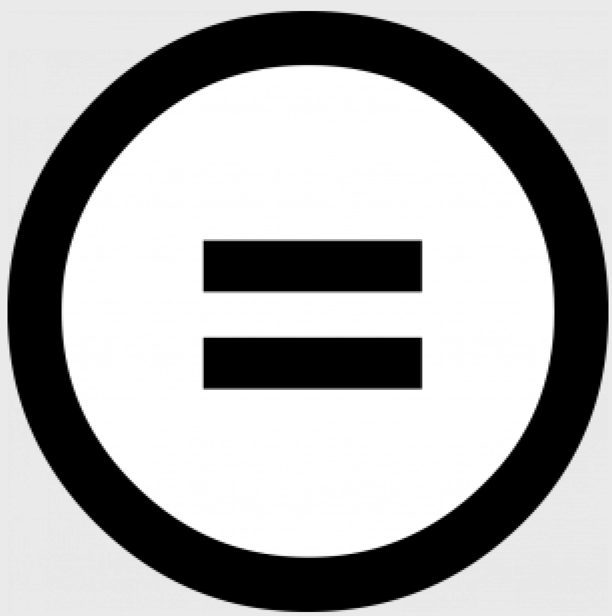
Creative Commons Element Type	Meaning	Creative Commons Image
NC (NonCommercial)	Only noncommercial uses of the work are permitted	
ND (No Derivatives)	No derivatives or adaptations of the work are permitted. The work may not be altered by future users.	

Table 8.4. Creative Commons Licenses

License Type	Description of license from Creative Commons.	Creative Commons Image
CC BY	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use.	
CC BY-SA	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, so long as attribution is given to the creator. The license allows for commercial use. If you remix, adapt, or build upon the material, you must license the modified material under identical terms.	
CC BY-NC	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format for noncommercial purposes only, and only so long as attribution is given to the creator.	
CC BY-NC-SA	This license allows reusers to distribute, remix, adapt, and build upon the material in any medium or format for noncommercial purposes only, and only so long as attribution is given to the creator. If you remix, adapt, or build upon the material, you must license the modified material under identical terms.	
CC BY-ND	This license allows reusers to copy and distribute the material in any medium or format in unadapted form only, and only so long as attribution is given to the creator. The license allows for commercial use.	

License Type	Description of license from Creative Commons.	Creative Commons Image
CC BY-NC-ND	This license allows reusers to copy and distribute the material in any medium or format in unadapted form only, for noncommercial purposes only, and only so long as attribution is given to the creator.	

There are many sites that publish collections of images or other media using the CC0 licensing or other CC licenses. If you are looking for works to incorporate into your own (for entertainment, work-related presentations, etc.), these are a good place to start. Another source of media and images is Wikimedia Commons–the repository for images and media used on Wikipedia. Always look for the specific license that a work is published under on the original webpage, rather than trusting an "image search," and scroll down on the relevant Wikimedia page to see the specific license and requirements given.

Overall, copyright protection and various licenses provide a range of openness for various works.

Fair Use

Fair use is not a copyright status but a copyright principle that suggests that the public can make certain uses of works still protected by copyright without permission. According to Title 17, Chapter 1, section 107, works can be used without violating copyright "for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research."[7]

Whether or not a specific use falls under Fair Use is determined by four factors:

1. the purpose and character of your use,
2. the nature of the copyrighted work,
3. the amount and substantiality of the portion taken, and
4. the effect of the use upon the potential market.[8]

You should use these principles to make your best determination regarding fair use, but fair use can be complicated and interpreted in different ways by different courts and judges, so be cautious.

Thus far in your life, your use of media has most likely been covered by "educational fair use," that is, fair use for the purposes of teaching or scholarship. For instance, if you ever googled an image to insert as part of a class presentation and used a popular image that was likely protected by copyright, your use of the image would have been considered fair use because it was part of a "teaching" scenario. If, however, you were to find that same popular image and use it in a work-related presentation, then you would most likely be considered in violation of copyright. Out of the context of non-profit education, you need to be much more careful about how you find and repurpose media.

In order to avoid getting yourself (or your company) into legal trouble, be very careful how you use text, images, media, clips, and even memes within the workplace or when creating materials for your workplace, and be sure to consult with your company's lawyers when necessary.

Regardless of copyright status—whether you are using works in the public domain, licensed with Creative Commons licensing, or protected by copyright—remember that you are obligated to cite your sources for media (images, sounds, clips), tables, charts, and graphs just as you are for the words you borrow, or you risk plagiarism (and ethical violation) even if you aren't breaking the law. Normally, this is done in either the table title or in a footnote just below the table. Figure 8.3 is an example in this chapter.

For more information on citing sources of information and details on the contents of source citations, see Chapter 12: Avoiding Plagiarism and Citing Sources Properly.

Notes

1. 17 U.S.C. § 102(a) https://www.copyright.gov/title17/92chap1.html.
2. Copyright.svg, uploaded September 21, 2021, Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Copyright.svg. In the public domain.
3. Creative Commons, *Public Domain Mark*, digital file, Creative Commons, accessed October 15, 2021, https://creativecommons.org/about/downloads.
4. Creative Commons, *CC0*, digital file, Creative Commons, accessed October 15, 2021, https://creativecommons.org/about/downloads.
5. Table content and images derived from Creative Commons, "About CC Licenses," accessed March 11, 2022, https://creativecommons.org/about/cclicenses/
6. Content from Creative Commons, About CC Licenses, accessed March 11, 2022, https://creativecommons.org/about/cclicenses/; Images from Creative Commons, *BY*, *BY SA*, *BY ND*, *BY NC*, *BY NC SA*, *BY NC ND*, digital files, accessed October 15, 2021, https://creativecommons.org/about/downloads.
7. 17 U.S.C. § 107 https://www.copyright.gov/title17/92chap1.html#107.
8. 17 U.S.C. § 107 92chap1.html#107.

9 - THE WRITING PROCESS

The Writing Process: An Overview

Kalani Pattison, James Francis, and Nicole Hagstrom-Schmidt

Well-written documents, whether essays, memos, letters, reports, instructions, or some other genre or form, don't move perfectly from a writer's thoughts and imagination through the keyboard or pen and onto screen or paper. Strong writing emerges through a process or series of steps. Writers may or may not engage in these steps purposefully, but understanding how certain skills, tools, and practices can be used at each point of the process helps the development of a document proceed more smoothly. The general steps of the writing process can be divided into five stages:

1. Prewriting
2. Outlining
3. Drafting
4. Revising
5. Editing

Though each stage is recognizable, writing is primarily recursive; in other words, it covers the same ground and techniques multiple times. When writing (especially when typing, where the delete and backspace keys are easily accessible), a writer doesn't smoothly type a sentence without stopping. Instead, a writer may type a few words, decide one word doesn't work, and delete it before continuing on. When constructing a paragraph, the writer may return to the middle of it and add a transitional phrase or word before continuing on to another section. Even after a first draft is complete, a writer may realize they are missing an idea and go back to conduct some prewriting and/or outlining of a section, and then return to revise the remainder of the document.

Overall, writing doesn't proceed in a straight line. Furthermore, the tools and strategies for each stage are helpful to understand and apply at the appropriate times in your own work.

PREWRITING

Rebecca Weaver; Lynne Bost; Michelle Kassorla; Karen McKinney-Holley; Kathryn Crowther; Lauren Curtright; Nancy Gilbert; Barbara Hall; Tracienne Ravita; Kirk Swenson; Kalani Pattison; James Francis, Jr.; Claire Carly-Miles; and Nicole Hagstrom-Schmidt

Loosely defined, prewriting includes all the strategies employed before creating a first draft. While many more strategies exist, the following sections detail common prewriting approaches such as the following:

- Considering the rhetorical situation
- Reading
- Brainstorming (freewriting, asking questions)
- Narrowing focus (listing, idea mapping/clustering)

Using these strategies can help a writer overcome the fear of a blank page and begin writing confidently. In several subsequent sections of this chapter, you will follow a writer named Mariah as she plans, explores, and develops a variety of types of documents. As you apply your understanding of the writing process to your own documents, remember the rhetorical situation, particularly the audience and the purpose of your writing.

Considering the Rhetorical Situation

It is often best to determine a **topic** before thinking about the other elements of a **rhetorical situation** when writing an essay or other academic assignment. In technical and professional writing, however, the topic is often either pre-determined or will be determined by the **purpose** of the document. To get started, consider the questions below. (For a more in-depth exploration, see Chapter 2: The Rhetorical Situation.)

> **What are you trying to accomplish with the document? (Purpose)**
> Are you trying to convey information (inform), convince someone to hire you (persuade), or explain how to accomplish a task (instruct)?
>
> **With whom are you trying to communicate in the document? (Audience)**
> This question is connected to your document's purpose: Who are you trying to convince, inform, or teach? How does the specific audience shape your writing strategies?
>
> **What else is happening, and what other factors in the situation make now the best time to communicate this information? (Context)**
> Is this document in response to a timely, specific event and/or the result of information you learned? Is there a "gap" that needs to be addressed?
>
> **Based on the purpose, audience, and context of your document, what is the most appropriate form for the document? (Genre)**
> Each genre and form comes with its own expectations and conventions. Predetermining these

standards can save you noticeable effort in deciding on a document's organization, content, tone, and design.

Reading

Reading refers to consuming any kind of text, whether that be viewing an article, listening to a podcast, or watching a YouTube video. Reading impacts all the stages of the writing process. First, it plays an integral role in the development of ideas and content. Different kinds of documents can help you figure out what context applies to the topic and content. For example, a magazine cover advertising the latest research on the threat of climate change may prompt you to consider the environmental impact of the actions of an organization or company, or a television courtroom drama may spark questions and considerations about legal details or implications of a project you are working on.

Critical reading is essential to the development of a topic when you know your purpose and have an idea of your content. While reading almost any document, you evaluate the author's argument by thinking about their main idea and supporting content. When you critique the author's claim, you discover more about not only their opinion but also your own. This stage might be considered preliminary research: a quick investigation to see what information already exists and is easily accessible. You might find, for instance, that someone related to your potential audience is already working on the issue. Alternatively, when writing a cover letter for a job application, you may find some information about the company that makes it seem like a particularly good or bad fit for you.

Brainstorming

Brainstorming refers to prewriting techniques used to

- Generate topic ideas,
- Transform abstract thoughts about a topic into more concrete ideas on paper (or digitally on a computer screen), and
- Organize generated ideas to discover a focus.

Although brainstorming techniques can be helpful in all stages of the writing process, you will have to find the techniques that are most effective for your writing needs. When initially deciding on a topic, the following general brainstorming strategies can be used: freewriting, asking questions, listing, and clustering/idea mapping.

Freewriting

Freewriting is an exercise in which you write or type freely about any topic for a set amount of time (usually five to seven minutes). During the time limit, you may jot down any thoughts that come to mind. Try not to worry about grammar, spelling, or punctuation. Instead, write or type as quickly as you can without stopping. If you get stuck, just copy the same word or phrase over and over again until you come up with a new thought.

Writing sometimes comes more easily when you either have a personal connection with the topic you have chosen or your project has real-world impact. To generate ideas in your freewriting, you may also think about readings that you have enjoyed or experiences and observations that have challenged your thinking. Doing this may lead your thoughts in interesting directions.

Quickly recording your thoughts on paper or on screen will help you discover what you have to say about a topic. When writing quickly, try not to doubt or question your ideas. Allow yourself to write freely and unselfconsciously. Once you start writing with few limitations, you may find you have more to say than you first realized. Your flow of thoughts can lead you to discover even more ideas and details about the topic. Freewriting may even lead you to discover another topic that excites you even more.

Freewriting looks different for every author, so it can be helpful to see what the process might look like. In the example below, Mariah, who recently received her bachelor's degree, is getting ready to apply for a position as a social media coordinator at a small company and wants to think of everything relevant to include or emphasize in her cover letter and application materials. Mariah starts by thinking about her experiences as a communications major. She uses freewriting to help her generate more concrete ideas from her own experience.

Freewriting Example

Last semester my favorite class was about mass media. We got to study radio and television. People say we watch too much television, and even though I try not to, I end up watching a few reality shows just to relax. Everyone has to relax! It's too hard to relax when something like the news (my husband watches all the time) is on because it's too scary now. Too much bad news, not enough good news. News. Newspapers I don't read as much anymore. I can get the headlines on my homepage when I check my email. Email could be considered mass media too these days. I used to go to the video store a few times a week before I started school, but now the only way I know what movies are current is to listen for the Oscar nominations. We have cable but we can't afford movie channels, so I sometimes look at older movies late at night. UGH. A few of them get played again and again until you're sick of them. My husband thinks I'm weird, but sometimes there are old black-and-whites on from the 1930s and '40s. I could never live my life in black-and-white. I like the home decorating shows and love how people use color on their walls. Makes rooms look so bright. When we buy a home, if we ever can, I'll use lots of color. Some of those shows even show you how to do major renovations by yourself. Knock down walls and everything. Not for me—or my husband. I'm handier than he is. I wonder if they could make a reality show about us?

When she completes her freewriting, Mariah is able to pick out various points she could emphasize in her application materials: the fact that she has studied mass media, her knowledge of pop culture (the reality shows she watches and the point that she listens to Oscar nominations), the idea that email and social media can be important sources of news, her appreciation for black-and-white classics, and her preference for color in design.

Asking Questions

Who? What? Where? When? Why? How?

In everyday situations, you pose these kinds of questions to get more information. *Who* will be my partner for the project? *What* day is the graduation ceremony? *When* is the next meeting? *Where* is the conference located? *Why* is my car making that odd noise? When faced with a writing assignment, you might ask yourself, "*How* do I begin?"

These questions are sometimes called the ***5WH Questions*** (5 Ws and 1 H) questions, after their initial letters. Reporters and journalists use these questions to gather information, and you can, too, in your own writing. Asking these questions will also help with the writing process. As you work on developing your content, answering these questions can help you revisit the ideas you already have and generate new ways to think about your topic. You may also discover aspects of the topic that are unfamiliar and that you would like to learn more about. All these idea-gathering techniques will help you plan for future work on your assignment.

Let's say Mariah's supervisor asks her to investigate how the company could establish the presence of a certain product in the media. First, Mariah has to figure out how to define "media" and how to narrow down the topic to something manageable. She decides to explore that topic by asking herself questions about it. Her purpose is to refine "media" into a topic she feels comfortable investigating. In order to see how asking questions can help you refine a topic, examine Table 9.1 that Mariah created to record her questions and answers. She asked, "Who? What? Where? When? Why? And how?" to reflect on her knowledge about mass media.

Table 9.1. Example of "Asking Questions."

Question	Example Text
Who?	I use media. Students, teachers, parents, employers, and employees—almost everyone uses media.
What?	Media can be a lot of things—television, radio, email (I think), newspapers, magazines, books.
Where?	Media is almost everywhere now. It's at home, at work, in cars, and even on cell phones.
When?	Media has been around for a long time, but it seems a lot more important now.
Why?	Hmm. This is a good question. I don't know why there is mass media. Maybe we have it because we have the technology now. Or people live far away from their families and have to stay in touch.
How?	Well, media is possible because of technological inventions, but I don't know how they all work.

Narrowing the Focus

"Narrowing the focus" means breaking up the topic into subtopics, or more specific points. Generating several subtopics will help you eventually select the ones that best fit the assignment and appeal to you and your audience.

After considering her boss' instructions, Mariah realizes her general investigation topic, mass media, is too broad to address effectively. The prewriting techniques of brainstorming by freewriting and asking questions help Mariah generate information and angles concerning a topic, but the following prewriting strategies can help her (and you) narrow the focus of a topic:

- Listing
- Idea Mapping/Clustering

Listing

Listing is a prewriting technique where the writer creates (usually vertical) a list or lists with one word, phrase, sentence, or idea per line. Start with a blank sheet of paper (or a blank word-processing document) and write or type the general topic across the top. Underneath your topic, make a list of more specific ideas. Think of your general topic as a broad category and the list of items as things that fit in that category. You will often find that one item can lead to the next, creating a flow of ideas that can help you narrow your focus to a more specific topic. Table 9.2 shows Mariah's prewriting list for her topic.

Table 9.2. Example prewriting for "Media."

Media	
Magazines	Internet Cell Phones
Newspapers	Smart Phones
Broadcasting	Text Messages
Radio/Television/Film	Tiny Cameras
DVD	GPS
Gaming/Video Games	Social Media
Twitch	YouTube

From this list, Mariah could narrow the focus of her investigation to a particular technology under the broad category of "media." A successful investigation into how to promote the product in media (as Mariah's supervisor requested) would most likely start with a specific subsection of media, as not all areas work the same or reach the same audiences.

Idea Mapping/Clustering

Idea mapping, sometimes called clustering or webbing, allows you to visualize ideas on paper or a screen using circles, lines, and arrows. This technique is also known as clustering because ideas are broken down and clustered, or grouped, together. Many writers like this method because the shapes show how the ideas relate or connect, and writers can find a focused topic from the connections mapped. By using idea mapping, you might discover interesting connections between topics that you had not considered before.

To create an idea map, follow these steps:

1. Start by writing your general topic in a circle in the center of a blank sheet of paper. Moving out from the main circle, write down in blank areas on the page as many concepts and terms/ideas as you can think of that are related to your general topic. Jot down your ideas quickly—do not overthink your responses. Try to fill the page. This can also be accomplished using digital art programs like Painter and Photoshop, but previous knowledge of the software is recommended.
2. Once you've filled the page, circle or box the concepts and terms that are relevant to your topic. Use lines or arrows to categorize and connect closely-related ideas. Add and cluster as many ideas as possible.

To continue narrowing her topic, Mariah tried idea mapping as shown in Figure 9.1[1] below.

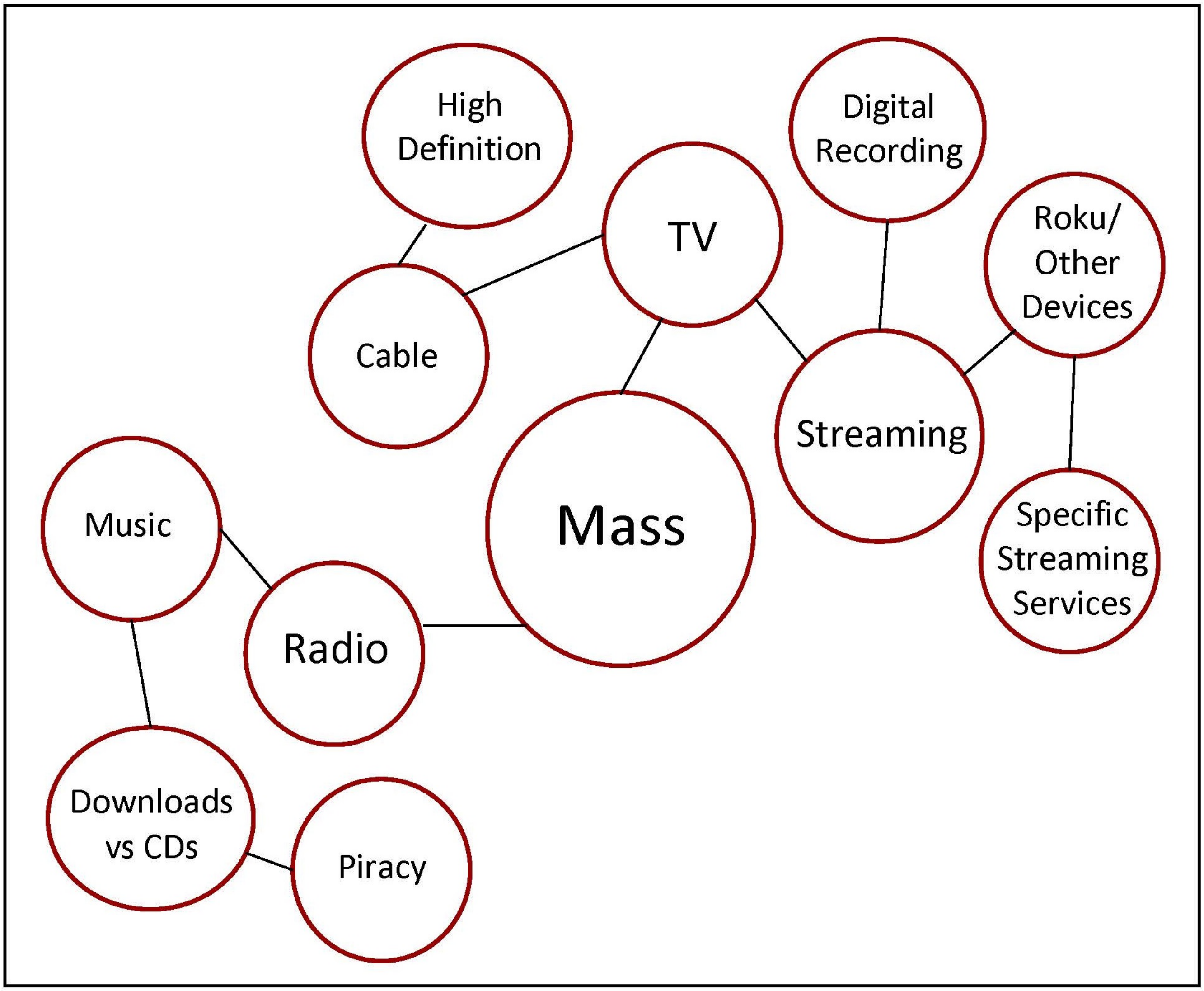


Figure 9.1: Mariah's idea map.

Notice in Figure 9.1, Mariah's largest bubble contains her general topic: mass media. Then, the general topic branches into two smaller bubbles containing two subtopics: Radio and TV. She then breaks TV down into Streaming and Cable, and comes up with further divisions for each. Based on this idea map, Mariah could decide specifically to investigate product advertising and product placement within various streaming services rather than on all types of media simultaneously. In addition, what she learns to apply within one "branch" may be applied to another cluster at a later time.

Prewriting strategies are a vital first step in the writing process. First, they help organize information and generate ideas concerning various aspects of a broad topic. Then, they help narrow the focus of the topic to a more specific idea that is appropriate to your document. A topic of appropriate breadth and focus ensures that you are ready for the next step: planning the organization of your document to ensure that it will accomplish your specific purpose.

Notes

1. Image adapted from Rebecca Weaver, Lynne Bost, Michelle Kassorla, Karen McKinney-Holley, Kathryn Crowther, Lauren Curtright, Nancy Gilbert, Barbara Hall, Tracienne Ravita, and Kirk Swenson, *Successful College Composition*, 3rd Edition. (English Open Textbooks, 2016), 44, https://oer.galileo.usg.edu/english-textbooks/8. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

OUTLINING

Rebecca Weaver; Lynne Bost; Michelle Kassorla; Karen McKinney-Holley; Kathryn Crowther; Lauren Curtright; Nancy Gilbert; Barbara Hall; Tracienne Ravita; Kirk Swenson; Kalani Pattison; James Francis, Jr.; Claire Carly-Miles; Nicole Hagstrom-Schmidt; and Matt McKinney

Typically, the next step in writing your document involves constructing an **outline**. Sometimes called a "blueprint" or "plan," an outline helps writers organize their thoughts and categorize the main points they wish to make in an order that makes sense. In technical and professional writing, the key components of the outline may actually be given to you. You might know, for example, that a lab report in many disciplines is generally written in the **IMRaD** format—that is, the main headings would be Introduction, Methods, Results, and Discussion. Proposals might be expected to have a Purpose Statement, Summary, Introduction, Plan of Action/Tasks, Schedule, Budget, Qualifications, and References. A cover letter may not have "headings" as such, but there is still a heading/salutation area, an introduction about you and your interest in the position or company, one or two body paragraphs connecting specific examples from information in the résumé to the company's characteristics and desires, and a closing/conclusion with a signature.

Purpose and General Format of Outlines

You most likely determined the most appropriate genre or form for your document at some point during the prewriting process. The form may have been given to you from the beginning, or you may have figured it out as you refined your topic, purpose, and audience through various prewriting techniques.

It may seem as if you do not need to provide a more detailed outline if you already have an idea of your document's main structure, if you are writing correspondence, or if your document will be relatively short. However, that isn't necessarily true. The purpose of an outline is to help organize your document by checking to see how (or if) your ideas connect to each other, and whether you need to provide additional development. Outlines can help you organize the overall structure of any type of document, whether a one-page cover letter or a 20-page recommendation report.

Consider Figure 9.2,[1] which provides an outline for an email related to building/safety code enforcement. While an email is a short piece of correspondence, taking the time to make sure each important piece of information is included and clearly organized will save you time in unnecessary back-and-forth correspondence to clarify the situation.

Outline

Purpose: To convince the Code Enforcement Department to come inspect the back porch for safety.

I. Greeting
II. Information about the property
    A. The address/location
    B. The property management company and their contact information
III. Information about the structural damage
    A. Description of the layout of the building and the back porch
    B. Description of the problems with the structure
IV. Information about the situation with the property managers and owners
    A. Things that I and my neighbors have tried in the past in order to get them to fix it
    B. Information about what maintenance of the property the managers have and haven't done
V. Information about my schedule and when I'm available to meet with the Code Enforcement officer to show them the specific problem spots
VI. Closing/Signature

Figure 9.2. Sample of a 2-level alphanumeric outline of an email.

The formatting of any outline is not arbitrary; the systems of formatting and number/letter designations create a visual hierarchy of the ideas, or points, being made in the document. Primary, major headings (or Level 1 headings) are often identified with capital Roman numerals (I, II, III, IV…). These headings are your major points or organizational patterns. In a report following the IMRaD format, the Level 1 headings could be

I. Introduction
II. Methods
III. Results
IV. Discussion
V. Conclusions

After Level 1 headings come subheadings (or Level 2 headings). Level 2 headings are more specific than Level 1 and often reflect specific points, claims, or examples that support the goal of the overall section. These headings are often organized by capital letters (A, B, C, and so on) and are indented one half-inch from the previous level. The ordering re-starts under each new Level 1 heading. After Level 2 headings, writers may opt for even greater specificity and subdivisions by incorporating Level 3 and Level 4 headings. Level 3 headings tend to use lower case Roman numerals (i, ii, iii, iv…) whereas Level 4 headings use lower case letters (a, b, c…). They are also indented one-half inch beyond their preceding heading. Figure 9.3 illustrates an outline that uses three levels of headings.[2] This example also demonstrates how you might use an outline to plan the organization of a document where the level 1 headings are provided or come from certain genre expectations.

Outline

Purpose: To propose researching the most effective way for Student Organization X (SOX) to gain publicity in hopes of gaining more members.

I. Summary
II. Introduction
    A. Information about SOX
    B. Information about current members of SOX
    C. Why having more members would benefit SOX and the surrounding communities
III. Proposed Research Tasks
    A. Determine how current members discovered SOX.
        1. I will survey current members.
        2. My survey will be through Google Forms.
        3. I will distribute the survey at the next meeting.
    B. Discover what SOX has already tried in order to increase membership.
        1. I will interview SOX leadership.
        2. I will ask these types of questions.
    C. Investigate how successful organizations similar to SOX recruit members.
        1. I will determine who is in the leadership of 3 similar organizations.
        2. I will contact the leadership of these 3 organizations and set up an interview.
        3. I will ask these questions/types of questions in the interview.
    D. Investigate what types of publicity or advertising are particularly effective at universities.
        1. I will use library resources to find relevant secondary sources.
        2. I will survey the general student population of Texas A&M and determine how they discover organizations to join.
        3. I will distribute the surveys in class, at the library, and over various social media platforms.
    E. Determine the most effective method of publicity.
        1. Collect the information learned from the previous tasks.
        2. Determine criteria for judging feasibility and effectiveness of publicity methods.
        3. Create a decision matrix using the information and criteria.
    F. Investigate the most effective way to use the method of publicity from the previous step.
        1. Discover relevant secondary sources through library resources.
        2. Use/apply principles from marketing courses and experience with consuming advertisements and publicity.
IV. Schedule
V. Budget for Research
VI. Qualifications
    A. My qualifications as a student member of SOX
    B. My qualifications due to past research experience
    C. The expected qualifications of the team I may work with to conduct this research
VII. References

Figure 9.3. Sample of 3-level alphanumeric outline of an internal research proposal.

Your outline should therefore include not only identified, planned Level 1 headings and Level 2 headings, but also paragraphs or points you plan to make within each section. Depending on your outline's level of detail, you may also include the main evidence or support for each major point. Major points, in other words, should not be buried in subtopic levels. If an idea is conceptually large and needs development, it should be part of a higher-order heading.

A well-developed outline breaks down the parts of a document in a clear, hierarchical manner. Writing an outline before beginning to write a document helps you to organize ideas generated through brainstorming and/or research, thus making the document easier to write. Moreover, having an outline also helps to prevent you from "getting stuck" when you sit down to write the first draft. For writers who prefer to outline after doing freewriting or preliminary drafting, the outline offers a way to organize thoughts and clarify larger connections.

Creating an Outline

While a finalized outline looks crisp and well organized, the process of creating one involves repeated decision-making and constant revising. Outlines represent higher-order thinking, so it is normal if early drafts do not fully capture what you hope the final product will look like. An outline is meant to be a document which helps you make the points you wish to make clearly and thoroughly. To help you navigate the process of writing an outline, follow the steps below:

1. **Identify your topic.** Put the topic in a single sentence or phrase using your own words. This sentence or phrase may eventually be revised into the purpose statement of a document if this is part of the expectations of the form.
2. **Determine what headings or overall organizational structures are expected within the genre or form you are using.** Were you given the main headings/organization by assignment instructions? Do you have access to similar documents written by colleagues or supervisors that you can use to determine expectations and follow? What other sample documents can you find to help communicate the expectations for the organization of this document?
3. **Determine your main points.** What are the main points you want to make to convince your audience? At what location/section of the document should each point be included? Refer back to the prewriting/brainstorming exercise of answering **5WH** questions.
4. **List your main points/ideas in a logical order.** Consider what information belongs within each major section or heading, and determine the most important organizational pattern to use to convey that information.
5. **Create sub-points for each major idea.** You can convert some of the items in your list from the previous step into sub-points. Consider the level of importance for each item. Is it a sub-point by itself? Does it have sub-sub-points underneath? Are these "paragraph-level" sub-points within a section, or should they be subheadings?
   Typically, each time you have a new number or letter, there need to be at least two points (that is, if you have an A, you need a B; if you have a 1, you need a 2; etc.). Though this process may seem frustrating at first, it is useful because it forces you to think critically about each point.
6. **Evaluate.** Review the organizational plan for your paper. Does each paragraph have a controlling idea/topic sentence? Is each point adequately supported? Look over what you have written. Does it make logical sense? Is each point suitably fleshed out? Are there areas that need more research? Is there anything unnecessary included?

This text was derived from Weaver, Rebecca, Lynne Bost, Michelle Kassorla, Karen McKinney-Holley, Kathryn Crowther, Lauren Curtright, Nancy Gilbert, Barbara Hall, Tracienne Ravita, and Kirk Swenson.

Notes

1. Kalani Pattison, "Sample of 2-level Alphanumeric Outline of an Email," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
2. Kalani Pattison, "Sample of 3-level Alphanumeric Outline of an Internal Research Proposal," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

DRAFTING TECHNIQUES

Rebecca Weaver; Lynne Bost; Michelle Kassorla; Karen McKinney-Holley; Kathryn Crowther; Lauren Curtright; Nancy Gilbert; Barbara Hall; Tracienne Ravita; Kirk Swenson; Kalani Pattison; James Francis, Jr.; Claire Carly-Miles; Nicole Hagstrom-Schmidt; and Matt McKinney

Drafting is the stage of the writing process in which you develop a complete version of a document. Even professional writers admit that an empty page intimidates them because they feel they need to come up with something fresh and original every time they open a blank document on their computers. Because you have completed the prewriting and outlining stages, you have already generated ideas for both content and organization. These pre-writing strategies will therefore make the drafting process substantially easier.

Goals and Strategies for Drafting

Your objective at this stage of the writing process is to compose a version of your document that contains all the necessary main sections. A draft is a complete version of a piece of writing, but it is not the final version. As you may remember, the step in the writing process that comes after drafting is revising. During revising, you will have the opportunity to make changes to your first draft before putting the finishing touches on it during the editing and proofreading stage. A first draft provides a working version that you will improve upon later.

If you have difficulty beginning your draft on the computer, you might choose to start out on paper and then type before you revise. You could also type using a font in your background color to make your writing invisible so that you don't become preoccupied with minor errors as you generate content. If you have difficulty writing or typing, consider using a voice recorder or voice recording app on your phone to get started. Dictate each section to get the information out of your head, and then either type or use a speech-to-text program to get your recordings into written words. Newer versions of Word also contain this feature if you prefer to dictate directly onto a document.

Depending on your English (or whichever language required for the document) proficiency, you can complete a draft in another language and translate it afterward. Another option would be to write your draft mostly in English but to use phrases or sentences more familiar to you in another language when you have difficulty figuring out how to express an idea in English. You can translate those parts later.

The point is this: For the very first draft (a draft no one else will see), get the ideas into the document in whatever manner works best for you. Stick to the outline you create and include all of the information you plan, but don't stifle yourself by expecting the first draft to be perfect or even understandable to anyone else.

Making the Writing Process Work for You

The following approaches, implemented alone or in combination with others, may improve your writing and help you move forward in the writing process if you get stuck:

Begin writing with what you know the most about. You can start with the third section in your outline if those ideas come to mind easily. You can start with the second section or the second paragraph of the third section, too. Although paragraphs may vary in length, remember that in technical and professional writing, paragraphs are expected to be short and to the point. A three-sentence paragraph is more common and expected than paragraphs in academic writing, which shouldn't be longer than one double-spaced page.

Write one section at a time, and then reevaluate what to write next. Choose how many paragraphs you complete in one sitting as long as you complete the assignment on time. Pace yourself. On the other hand, try not to procrastinate. Writers should always meet their deadlines.

Take short breaks to refresh your mind. This tip might be most useful if you are writing a multi-page report. Furthermore, if you cannot concentrate, take a break to let your mind rest, but do not let breaks extend too long. If you spend too much time away from your document, you may have trouble starting again. You may forget key points or lose momentum. Try setting an alarm to limit your break, and when the time is up, return to your workstation to write. In fact, if you need to take a break, it is often most useful to stop in the middle of a sentence or a paragraph so that it is easier to pick up momentum again rather than having to start a new section.

Be reasonable with your goals. If you decide to take ten-minute breaks, try to stick to that goal. If you tell yourself that you need more facts, then commit to finding them. Holding yourself accountable to your own goals will help you to create successful writing assignments. Keep a list of things to finish/fix later or use a tool like comments in Google Docs to make a note when you think of something to do so that you keep track of such items without losing your place or momentum.

Keep your audience and purpose in mind. These aspects of writing are just as important when you write a single paragraph for a document as when you consider the direction of the entire document.

As discussed at the beginning of this chapter, reminding yourself of the **rhetorical situation**, particularly **purpose** and **audience**, will lead to writing success. If your purpose is to persuade, for example, you will present facts and details in the most logical and convincing way possible. The purpose will guide your mind as you compose sentences, and your audience awareness will guide your word choice. Are you writing for experts, for a general audience, for other college students, or for people who know very little about your topic? Keep asking yourself what your readers, with their background and experience, need to be told in order to understand your ideas. How can you best express your ideas so they are completely clear and your communication is effective?

Drafting Paragraphs

Topic sentences indicate the location and main points of the basic arguments of your document. These sentences are vital to writing your body paragraphs because they always refer back to and support the main purpose of your section. Topic sentences are linked to the ideas you introduce in your heading or section, thus reminding readers what your document is about and helping to convey how the information within each section is organized. A paragraph without a clearly-identified topic sentence may be unclear and scattered, just like an essay without a thesis statement.

Each body paragraph should contain a topic sentence sentence and supporting details (examples, reasons, and/or arguments). The topic sentence for each paragraph should state one specific aspect of the main section, and then the following sentences should expand upon that aspect with adequate support. In other words, each topic sentence should be specific and supported by concrete details, facts, and/or explanations that you provide throughout the course of the paragraph.

You may be accustomed to academic writing in which you have the option of writing your topic sentences in one of three ways. You can state it at the beginning of the body paragraph, at the end of the paragraph, or not at all as an implied topic sentence. An implied topic sentence lets readers form the main idea for themselves. For beginning writers, it is best not to use implied topic sentences because they make it harder to focus your writing. In technical and professional writing, always start body paragraphs with topic sentences. **BLOT (Bottom Line on Top)** is a useful acronym to help you remember how to structure a paragraph. Use topic sentences to tell readers what you most want them to know/remember (this is the "bottom line"), and then use the rest of the paragraph to support those ideas. Remember that clearly conveying information in a way that is easy to read quickly is a main goal of most writing.

Drafting Introductory and Concluding Sections

The goal of the introduction is to give readers everything they need to know in order to understand what your purpose is and to follow the arguments you present in the rest of the document. Picture your introduction as a storefront window. You have a certain amount of space to attract your customers (readers) to your goods (topic) and bring them inside your store (discussion). Once you have enticed them with something intriguing, you then point them in a specific direction and try to make the sale (persuade them to accept your proposal or purpose). The introduction is an invitation to readers to consider what you have to say and then to follow your train of thought as you expand your argument.

Writing an Introduction

An introduction serves the following purposes:

- Establishing voice and tone, or attitude, toward the subject
- Introducing the general topic of the document
- Stating the ideas that will be discussed in the remaining sections of the document

First impressions are crucial and can leave lasting effects in a reader's mind, which is why the introduction is so important to a document. If an introduction is dull or disjointed, a reader may be confused or start out in an antagonistic position to your goal.

Writing a Conclusion

It is not unusual to want to rush when you approach a conclusion, and even experienced writers may find themselves exhausted. However, good writers remember that it is vital to put just as much attention into the conclusion as into the rest of the document. After all, a hasty ending can undermine an otherwise persuasive document. Think about how many "great" movies become "good" because of a lackluster ending.

Not all documents have formal conclusion sections. Technical and professional documents may end with recommendations, next steps, the discussion section of a lab report, or the closing of a letter. However, the end of a document does have to contain certain characteristics to provide a solid and persuasive ending. Whether it is a formal conclusion or not, an ending section that does not correspond to the rest of a document can unsettle your readers and raise doubts about your purpose or argument. However, if you have worked hard to write the earlier sections of a document, the conclusion can often be the most logical part to compose.

Avoid doing any of the following in your conclusion:

> **Introducing new material.** Introducing new material in a conclusion has an unsettling effect on readers. Raising new points makes a reader want more information, which cannot be provided in the limited space of a final paragraph.
>
> **Contradicting your earlier statements.** Contradicting or changing earlier statements or logical conclusions causes readers to think that you do not hold a strong conviction about your topic. After all, you have spent several sections persuading readers toward a specific point of view, so don't undercut your argument at the end.

Remember that a first draft (or even a second or third) is just a draft. Before the document can truly be considered finalized, you need to complete the last two steps of the writing process: revising and editing, which are covered in Chapter 10.

10 - REVISING AND EDITING

Revising vs. Editing

Suzan Last, Kalani Pattison, Matt McKinney, Nicole Hagstrom-Schmidt, and Claire Carly-Miles

Since revision and editing often occur at the same point in the writing process, the two terms are frequently used interchangeably. However, revision and editing are different in scale and purpose from one another. It is important to understand these differences, since they will help you develop a more efficient process for refining your drafts.

Revision refers to higher-order concerns (such as purpose, content, and structure) when making changes. For example, it is common for writers working on a first draft to arrive at their point most clearly at a paragraph's end, since the act of writing helps us to organize our thoughts. However, it is much more helpful for the reader to see the point clearly at the very beginning, so the writer might revise this paragraph by putting the last sentence first and making adjustments. The writer might also find that they need to spend more time explaining a particular point, or that a paragraph should be taken out because it is either off-topic or too similar in content to another.

Editing, by contrast, refers to lower-order concerns (such as grammar, word choice, and syntax) when making changes. The focus of editing is not to substantially alter a document but rather to make sure its presentation is more polished. Too many grammatical or syntactical errors, such as misspellings or sentence fragments, can make it harder for the reader to absorb content. They can even undermine the reader's assessment of the writer's expertise.

In addition to revision-based higher-order concerns and editing-based lower-order concerns, there are **mid-level concerns** that exist between pure revision and pure editing. Isolating these concepts from the previous two categories emphasizes how choices at the sentence level accumulate to impact a document's overall content and structure, such as paragraph length and tone.

As you may have guessed, higher-order revision concerns usually entail much more work than the others and should come first. This is because revision is essential to ensuring that a draft is composed and structured effectively, so that it fulfills its intended purpose and caters to audiences' expectations. There is also little point in checking for comma placement in a paragraph that might be removed from or rearranged in the final draft.

Revising to Enhance Readability

Anything that you write is designed to be read. That is its first and foremost purpose. Thus, increasing **readability** means increasing the functionality of your document in terms of both content and document design, thereby making it "user friendly." If your document is difficult to read because the vocabulary, sentence structure, paragraphing, organization, or formatting is unclear, your reader will likely stop reading.

The revision checklist in Table 10.1 offers a step-by-step process for revising your document to achieve a readable style. It incorporates key information from Chapter 2: Rhetorical Situation, Chapter 6: Organization, and Chapter 7: Design. Implementing this checklist means doing several "passes" or individual reviews over your document, looking at different aspects each time. Typically, you will start with higher-order concerns and progress to smaller, more detail-oriented issues. For example, in your "first pass," review the entire document for structural elements such as overall formatting, content requirements, organizational patterns, and coherent flow of information. Once you have addressed these concerns, your "second pass" might focus on your use of topic sentences and individual paragraph organization. The checklist below is intended as a brief overview of things to watch for, but the items in the list are not all of equal importance, and some items needing revision may become apparent during multiple steps in the process. The information in the later "Revision Techniques" section of this chapter will help you identify concepts across the spectrum of structure-level revision and sentence-level editing that you should keep in mind.

Table 10.1. Revision checklist.

Revision Checklist	
First Pass: Document-level review (structural-level revision)	• Review specifications to ensure that you have included all required content. • Make sure your title, headings, subheadings, and table/figure labels are clear and descriptive. Headings should clearly and efficiently indicate the content of that section; figure and table captions should clearly describe the content of the visual. • Make sure ideas flow in a logical order and explanations come in a timely manner. • Make sure each paragraph begins with a topic sentence that previews and/or summarizes the content to come. • Add/use coherent transitions to link one point logically to the next. • Review placement and purpose of any visuals such as tables, illustrations, or artistic elements
Second Pass: Paragraph-level review (mid-level revision and editing)	• Cut unnecessary or irrelevant information for your intended audience. • Make sure you are using an appropriate tone (neutral, objective, constructive, formal). • Locate and define key terms relative to your audience: experts can tolerate complex information with a lot of terminology; general readers require simpler, less detailed descriptions/explanations. • Review and revise any overly long or short paragraphs (5–10 lines long is a reasonable guideline).
Third Pass: Sentence-level review (sentence-level editing, part 1)	• Review sentence length. Consider revising sentences longer than 25 words. Vary the length and structure of sentences. • Examine ratio of verbs to number of words per sentence. Generally, the higher ratio of verbs to total words in the sentence, the stronger the sentence. • Identify and replace vague, passive verbs and forms of "to be" (is/are/was/were/being) where feasible. • Replace verbs such as “make,” “do,” ‘have,” and “get” that have multiple possible meanings with more precise wording. • Examine and clarify any vague Actor/Action (or Subject-Verb) relationships. • In general, keep the subject and the verb close together, and keep the verb near the beginning of the sentence.
Fourth Pass: Word-level review (sentence-level editing, part 2)	• Replace abstract, generalizing, and vague terms with concrete, specific, and precise words. • Remove filler phrases and unnecessary emphasizers. • Use a single word instead of a phrase whenever possible. • Remove and revise clichés, colloquial expressions, and slang. • Review second person (“you”) pronouns; remove unless you have a strong reason for keeping them. • Replace any “ad speak" with objective, measurable descriptors.

If your document incorporates sources, you will want to do an additional “pass” to make sure that all sources are cited properly and that they all appear in your list of References or Works Cited at the end of the document. You also should make sure all sources in your list of References or Works Cited are used and appropriately cited/referenced within the body text. See Chapter 12: Avoiding Plagiarism and Citing Sources Properly for details.

REVISION TECHNIQUES

David McMurrey; Jonathan Arnett; Anonymous; Nicole Hagstrom-Schmidt; Kalani Pattison; Matt McKinney; Claire Carly-Miles; and Kathy Anders

When you look at all the many ways you can review (look for potential problems) and then revise (fix those problems), you might think they're tedious and time-consuming. Revisions do take time, but the results are worth it. If you analyze writing in the ways outlined in this chapter, the way you write and the way you review what you write will change.

This section covers three major areas to focus on when reviewing your work: **structure-level revisions**, **mid-level revisions and editing**, and **sentence-level editing**.

The subsection on structure-level problems includes tips for checking these aspects of your documents:

- Informational value
- Internal organization
- Topic sentences and overviews

The subsection on mid-level problems focuses on areas where structure- and sentence-level problems overlap:

- Completion and balance
- Paragraph length
- Tone
- Definitions of key terms and concepts

The subsection on sentence-level problems includes tips for how to edit for the following common issues:

- Nominalizations
- Noun stacks
- Redundant phrasing
- Expletives
- Weak use of passive voice verbs
- Subject-verb mismatches
- Readability, sentence lengths, and sentence structures
- Commonly confused words

Structure-Level Revisions

Paying attention specifically to "big picture" items such as informational value, internal organization, and topic sentences will help ensure that your document clearly conveys your ideas and their relationships to each other. If you revise your document with these things in mind, you'll be able to more accurately meet your audience's expectations.

Informational Value

One of the most important ways you can review a rough draft is to check its contents for informational value. No matter how well organized it is or how many good transitions and active sentence structures are included, if your technical document doesn't contain the appropriate information for its audience, it cannot fulfill its purpose. When reviewing a document for informational value, examine your document for the following issues:

> **Information is missing.** For example, imagine that somebody wrote a technical report on "virtual communities" but never bothered to define what "virtual community" means. The reader would be utterly lost.
>
> **Information is there but is insufficient.** Take the same example, and imagine that the writer only made a few vague statements about virtual communities. Readers (unless they are experts on virtual communities) likely need at least a paragraph on the subject, if not a comprehensive three- or four-page section.
>
> **Information is there but at the wrong level for the audience.** Imagine that the report's writer included a two-page explanation of virtual communities but focused on highly technical information and phrased it in language that only a sociologist (an "expert" academic audience) would understand, when the document was really intended for high school students. The writer failed to match the readers' knowledge, background, and needs.

If you can get a sense of how information does or doesn't match your audience, you should be well on your way to knowing specifically what you need to do in order to revise.

Internal Organization

If you have the necessary and audience-appropriate information in a technical document, you're on the right track to crafting a successful document. However, that information may still not be sufficiently organized. When writing and revising a document, consider these two aspects of internal organization—levels (or priority) of information and sequence (or order) of information—on both individual-paragraph and whole-document levels.

Levels of Information

Some paragraphs and sentences contain general information or broader statements about the topic being discussed. Others contain more specific information or go into greater depth. The first type forms a framework that supports the second, subordinate elements of the second type. When thinking about levels of information, envision how a paragraph's or document's organization would look in outline format. The broader claims and statements that shape the document would be in Level 1 and Level 2 headings, whereas the detailed evidence, reasoning, and support would appear in lower levels.

When you revise, check if the document's framework is easy to follow. The most common and effective way to arrange general and specific information is to introduce the framework first, then follow it with specifics. This overarching pattern holds for sentences inside paragraphs and paragraphs inside longer documents, even if the paragraph or document uses a different sequence of information. Reverse outlining, or the practice of creating an outline based off of an already-written document, can also help you visualize the current structure and decide if it needs to change.

Sequence of Information

In addition to grouping information according to its levels, organization refers to the order information appears. This order or sequence is crucial to creating documents that make sense and achieve their purpose. As with a document's content, you will want to match a technical document's internal sequence of information to the document's audience, context, and purpose. Here are some examples of common informational sequences (some of these may be familiar to you from the organizational pattern tables in Chapter 6: Organization and Chapter 14: Oral Communication):

General → specific. Arrange information from general to specific. For example, listing categories of evidence is more general than defining examples of evidence specifically. This pattern is illustrated in Table 10.2.

Table 10.2. Revision with the general-to-specific organizational pattern.

Original Version	Revised Version
Making an argument from indirect evidence, also called circumstantial evidence, involves using evidence to make inferences, generally based upon probability, about the causes that led to a set of circumstances. Evidentiary arguments can be made from two categories of evidence, direct and indirect.	Evidentiary arguments can be made from two categories of evidence, direct and indirect. Making an argument from indirect evidence, also called circumstantial evidence, involves using evidence to make inferences, generally based upon probability, about the causes that led to a set of circumstances.

Simple → complex. Begin with the simple and fundamental concepts, and then move on to the more complex and technical.

Thing-at-rest → thing-in-motion. Describe the thing "at rest" (as if in a photograph), then discuss its operation or process (as if in a video).

Spatial movement. Describe a pattern of physical movement; for example, top to bottom, left to right, or outside to inside.

Temporal movement. Describe events in relation to what happens first, second, and so on.

Concept → application of the concept/examples. Discuss a concept in general terms, then discuss the concept's application and/or examples of the concept.

Data → conclusions. Present data (observations, experimental data, survey results) then move on to the conclusions that can be drawn from that data. (This pattern is sometimes reversed: present the conclusion first and then the data that supports it.)

Problem/question → solution/answer. Introduce a problem or raise a question and then move on to the solution or answer.

Simplified version → detailed version. Discuss a simplified version of the thing, establish a solid understanding of it, then explain it all again, but this time providing the technical details. (This approach is especially useful for explaining technical matters to nonspecialists.)

Most important → least important. Begin with the most important, eye-catching, dramatic information and move on to information that is progressively less so. (This pattern can be reversed: you can build up to a climax, rather than start with it.)

Strongest → weakest. Start with the strongest argument for your position to get your audience's attention, then move on to less and less strong ones. (This pattern can also be reversed: you can build up to your strongest arguments, but the weakest → strongest pattern is often less persuasive.)

The options above are some of many possibilities. Whichever sequence you choose, be consistent and avoid mixing these approaches randomly. For example, presenting some data, stating a few conclusions, and then switching back and forth between data and conclusions will confuse your reader.

Topic Sentences

A topic sentence is a sentence occurring at the beginning of a paragraph that informs the reader of the focus, purpose, and contents of that paragraph (and perhaps one or more paragraphs following). When used well, topic sentences focus the reader's attention and clarify the organizational structure of a document.

Often, when authors create technical documents, they don't consciously think about each paragraph's contents and logic. Instead, many authors focus on getting words onto the page, and they figure out what they mean while they're writing. Sometimes the results can seem disjointed. Accordingly, authors should go back and insert topic sentences that can help readers understand where they are going, what's coming up next, where they've just been, and how what they are reading connects to the document as a whole.

Types of Topic Sentences

Different topic sentences achieve different purposes. Therefore, when drafting and revising, consider what you want each paragraph to accomplish for a reader. Use that information along with the examples below to determine which structure is ideal for a particular paragraph or section.

Keyword topic sentence. This type of topic sentence contains a keyword that hints about the content and organization of the upcoming material. Use one if your section (one or more paragraphs) discusses multiple similar things (for example, problems, solutions, causes, consequences, reasons, aspects, factors).

Example

Plagiarism can result in many unpleasant consequences. (This topic sentence indicates that the rest of the paragraph will then delineate these consequences.)

Overview topic sentence. This type of topic sentence names all the subtopics in the upcoming material. Use one if you want to specify all the subtopics you will address.

Example

Plagiarism may occur in any number of ways; however, the most prevalent forms are incorrect in-text citation of sources, failure to include quotation marks around exact wording taken from another source, and failure to include correct and complete works-cited entries for all sources used. (This topic sentence gives an overview of several common types of plagiarism. The rest of the paragraph will then describe each of these in detail and provide an example of each.)

Thesis-statement topic sentence. This type of topic sentence makes an assertion—an argument or claim—that the rest of the paragraph must support. Use one if your section proves a point and includes multiple supporting statements.

Example

Plagiarism has resulted in the demise of more than one writer's professional credibility. (The topic sentence makes an argument that the rest of the paragraph will then develop and support.)

Topic definition. This type of topic sentence names the term being defined, identifies the class it belongs to, and describes its distinguishing characteristics. It must contain highly specific information. Use one if your section introduces an unfamiliar term.

Example

Self-plagiarism is a type of academic dishonesty that involves the reuse of a writer's own work that was completed for another class. (This topic sentence names the term, identifies the larger category to which it belongs, and then describes it. The rest of the paragraph will go on to discuss this term and give a specific example to illustrate it.)

Topic mention. This type of topic sentence simply names or reminds the readers about the general subject at hand. It does not forecast what will be said about the subject. Use one to refocus a discussion after a digression or to pull back to the more general topic after you have narrowed the discussion to address specific details about one aspect of the topic. This type of topic sentence serves as a transition between paragraphs. It is often then followed by a second topic sentence that falls into one of the categories described above and focuses the content of the rest of the paragraph.

Example

As we've seen throughout this document, plagiarism is a serious concern for writers. (The rest of the paragraph would address plagiarism in some way, but not necessarily expand on it being a "serious concern.")

No topic sentence. Sometimes (very rarely in technical and professional writing), you may not need or want a topic sentence. If your materials contain a story that leads to a point or are part of a popular science or technology writing project, a traditional topic sentence up front may be inappropriate.

In addition to clear topic sentences, another crucial way to ensure your sequence of information and your pattern of organization are clearly conveyed to your audience is to make sure you have exceptionally clear transitional sentences and phrases (see Chapter 6: Organization).

Mid-Level Revision and Editing

There is no clear border where higher-order structure-level revision ends and lower-order sentence-level editing begins, as both exist on a spectrum. As you work your way from revising to editing, you will find that recurring choices on the sentence level impact the overall content and structure of your document. While distinguishing structure-level revision and sentence-level editing is helpful, it is also helpful to recognize where they overlap in some specific concepts, rather than trying to categorize them solely into one level or another.

Paragraph Length

While there is no specific rule as to how long your paragraphs should be, in technical and professional writing you will more often rely on short, focused paragraphs as opposed to overly long ones. When determining paragraph length, consider the genre of your document, the content you are presenting, and how your reader will be interacting with any information you provide. This flexible approach will help you determine the "right" paragraph lengths for your document.

As you move from the structural level to the sentence level, check for paragraph breaks. A paragraph break is where one paragraph ends and a new one begins. Insert paragraph breaks where there is a shift in topic or subtopic, or a shift in the way a topic is being discussed.

Here are some suggestions for paragraph length:

- If your technical document needs a great deal of expository writing and will be printed in hard copy, you can probably use relatively long paragraphs. A single-spaced page full of text will probably contain one to four paragraph breaks.
- If your technical document does not require long blocks of text, consider breaking it up into very short paragraphs. Three sentences per paragraph is a widely accepted average.
- If your technical document will be posted online, use short paragraphs. People generally find it easier to read short paragraphs online than to read long paragraphs online.

When you are faced with particularly long blocks of text, think about breaking them up into smaller, distinct portions. This practice is sometimes referred to as **chunking** your information. Each "chunk" should include a specific and clear topic sentence, followed by 2–3 sentences that elaborate on that topic with more details and specificity. The next paragraph could take the idea into a next level of specificity, either by elaborating on one of the ideas or concepts presented in the latter part of the previous paragraph or introducing a consecutive idea at approximately the same level of specificity.

Transitions

As you transition from one paragraph to the next, you should clearly convey the relationships between the ideas in each paragraph. Just as topic sentences immediately clarify a paragraph's subject for the reader, **transitions** help the reader understand how the arrangement of content reflects and/or amplifies the writer's purpose. For the writer, transitions can also serve as a litmus test regarding the intuitiveness and fluidity of inter-paragraph transitions. In other words, the more difficult it is to articulate the relationship between two paragraphs' content, the more likely the paragraph sequence needs to be rearranged. Ultimately, smooth transitions help writers frame content in terms of their purpose and facilitate readers' comprehension (and even appreciation) of content.

Take Control of Your Tone

Does your writing or speech sound pleasant and agreeable, or simple and sophisticated? Conversely, does it come across as stuffy, formal, bloated, ironic, sarcastic, flowery, rude, or inconsiderate? Recognizing our own tone is not always easy, as we tend to read or listen from our own viewpoint and make allowances accordingly.

Once you have characterized your tone, you need to decide whether and how it can be improved. Figuring out how to make your voice match your intentions takes time and skill. One useful tip is to read your document out loud before you deliver it, just as you would practice a speech before you present it to an audience. Sometimes hearing your own words can reveal their tone, helping you decide whether it is correct or appropriate for the situation.

Another way you may learn to assess your own tone is to listen to or watch others' presentations. Martin Luther King Jr. had one style, while former President Barack Obama has another. The writing in *The Atlantic* is more sophisticated than the simpler writing in *USA Today*, yet both are very successful with their respective audiences. What kind of tone is best for your intended audience?

Finally, seek out and be receptive to feedback from teachers, classmates, and coworkers. Don't necessarily take the word of just one critic, but if several critics point to a speech as an example of pompous eloquence, and you don't want to come across in your presentation as pompous, you may learn from that example what to avoid.

Define Your Terms

Even when you are careful to craft your message clearly and concisely, not everyone will understand every word you say or write. As an effective communicator, it is your responsibility to give your audience every advantage in understanding your meaning. However, your document or presentation would fall flat if you tried to define each and every term—you would end up sounding like a dictionary.

The solution is to be aware of any words you are using that may be unfamiliar to your audience. When you identify an unfamiliar word, your first decision is whether to use it or to substitute a more common, easily understood word. If you choose to use the unfamiliar word, then you need to decide how to convey its meaning to those in your audience who are not familiar with it. You may do this in a variety of ways. The most obvious, of course, is to state the meaning directly or to rephrase the term in different words, but you may also convey the meaning in the process of making and supporting your points. Another way is to give examples to illustrate each concept or use parallels from everyday life.

Overall, keep your audience in mind and imagine yourself in their place. This will help you to adjust your writing level and style to their needs, maximizing the likelihood that your message will be understood.

Be Results Oriented

Ultimately, the assignment has to be complete. It can be a challenge to balance the need for attention to detail with the need to arrive at the end product—and its due date. Stephen Covey suggests beginning with the end in mind as one strategy for success.[1] If you have done your preparation, know your assignment goal and desired results, have learned about your audience, and have tailored the message to the audience's expectations, then you are well on your way to completing the task. No document or presentation is perfect, but the goal of perfection is worthy of your continued effort for improvement.

Therefore, it is crucial to know when further revision will not benefit the presentation or document. Work on knowing when to shift the focus to market testing, asking for feedback, or sharing a draft with a mentor or coworker for a quick review. Determining the balance between completion and revision while engaging in an activity that requires a high level of attention to detail can be a challenge for any communicator, but the key is to keep the end in mind.

Sentence-Level Editing

You've probably heard plenty of times that writing should be clear, direct, succinct, and active. This statement is one of those self-evident truths—why would anyone set out to write any other way? However, what does this advice really entail when we apply it? What do sentences that are not "clear" or "direct" look like? What sorts of things are wrong with them? How do you fix them?

Sentences can become redundant, wordy, unclear, indirect, passive, and just plain hard to understand while still remaining grammatically "correct." All their subjects and verbs agree, the commas are in the right places, and the words are spelled correctly. Still, these sentences are far more difficult to read than a sentence with a comma problem.

The following sections cover seven of the most common sentence-level problems and show you ways of fixing them. Knowing these seven things to watch for will enable you to spot others.

Repetitive Sentence Structures

As you read through your document, you may notice that your sentences, structurally speaking, look very similar. Perhaps you start three sentences in a row with the same word, or you are particularly fond of appositive phrases, or maybe your sentences are almost always over two lines long. While having a distinct style is not a bad thing, redundant phrasing can lead to reader fatigue or disinterest. You can address this issue by varying sentence structures. The basic sentence structure in English begins with the subject, or the primary actor of the sentence. Therefore, one way to insert sentence variety is to start sentences with something other than the subject, such as a verb, a phrase modifying the subject, or a prepositional phrase.

Another way to vary sentence structure is by using **coordination** by creating compound sentences. Compound sentences are made by joining two independent clauses with a comma and a coordinating conjunction such as "and." If the two sentences are closely related, you may be able to omit the conjunction and join them with a semicolon instead.

A final way to increase sentence length is by using **subordination**. Where coordinating means to combine things on an equal level, subordinating means to put one item lower (or subordinate it) to another. When subordinating, use a subordinating conjunction such as "although," "because," "even though," or "while."

Remember, a phrase that starts with one of these conjunctions becomes a dependent clause. This means that the clause can no longer function as a sentence on its own. It needs another independent clause to transform it into a complete sentence. If you begin a sentence with a subordinate conjunction, make sure you conclude its phrase with a comma.

Nominalizations

A **nominalization** is a verb that has been converted into a noun; look for -tion, -ment, -ance, and other suffixes. For example, “nominalization” is itself a nominalization; the root verb is “to nominate,” with the suffix “-tion” appended. Another popular example is a gerund, or verbal noun. In English, these are made by adding “ing” to a verb and using it as a noun. Check your writing for sentences that use a nominalization as the sentence’s subject and use “to be” as the main verb. The “to be” verbs are “am,” “is,” “are,” “was,” and “were.”

Sentences using nominalizations are frequently weak and indirect. Revise them by changing the nominalization into a verb and replacing the “to be” verb. Your sentences will become more active, and they will be easier for the reader to understand.

Sometimes, you can’t convert a nominalization into a main verb, or a nominalization needs to remain a sentence’s subject. For example, “information” is a nominalization, but try converting “information” into a main verb. The sentence will be awkward, at best. Sometimes nominalization allows a list to retain parallelism. More often, though, you can convert a nominalization into a main verb.

The following examples in Table 10.3 demonstrate this problem and how to fix it. In each revised version, notice how a noun has been converted into the sentence’s main verb and then used to replace the original “to be” main verb. This revision can occasionally slightly alter a sentence’s meaning, so be careful to make sure your new sentences accurately convey the information.

Table 10.3. Nominalizations to verbs.

Sentence with Nominalization in Bold	Revised Sentence
The *playing* of loud music early in the morning caused *irritation* to my neighbors.	Loud music *played* early in the morning *irritates* my neighbors.
The *permeation* of the smell of onion in the kitchen was strong.	Onion smell strongly *permeated* the kitchen.
At the outset, our *intention* was to locate algae samples.	We *intended* to locate five distinct algae samples.
The project displayed an *evolution* from start to finish.	The project *evolved* over time.

Noun Stacks

Noun stacks, as the name implies, occur when several nouns are placed in close proximity to each other. These long strings of nouns are notoriously difficult to understand.

Revise these sentences and “unstack” their long noun strings by separating them and transforming them into multiple verbs, clauses, and phrases.

The following examples in Table 10.4 demonstrate this problem and how to fix it. In each revised version, notice how a long string of nouns has been broken apart.

Table 10.4. Unstacking nouns.

Sentence with Noun Stacks	Revised Sentence
Recent young adult neurocognitive development research contains some exciting findings.	Recent research on the neurocognitive development of young adults contains some exciting findings.
Position acquisition requirements are any combination of high school graduation and years of increasingly responsible secretarial experience.	To qualify for the position, you'll need to be a high school graduate and have had increasingly responsible secretarial experience.
Rhetoric and composition theoretical frameworks and best pedagogical practices in hyflex learning environments will be analyzed.	Theoretical frameworks in rhetoric and composition will be analyzed, as well as the best pedagogical practices to apply in hyflex learning environments.
Analysis of enthymeme application and omission of syllogism components is an effective education tool for argument composition and arrangement.	Analyzing how syllogistic components are applied and omitted in enthymemes is an effective learning tool for composing and arranging arguments.
For more insight on the project, refer to the technical writing open electronic resource revision committee department report.	For more insight on the open electronic resource for technical writing, refer to the revision committee's report to the department.

Redundant Phrasing

Redundant phrasing refers to unnecessary repetition that occurs in close proximity. While some repetition can be useful, especially across paragraphs and documents, redundancies can clutter your writing. Common redundant phrases can come from these three main sources:

> **Wordy phrases.** Look for four- to five-word phrases; you can usually chop them into a one- to two-word phrase without losing meaning. For example, "in view of the fact that" can be reduced to "since or "because."
>
> **Obvious qualifiers.** Look for a word that is implicit in the word it modifies. For example, phrases like "anticipate in advance," "completely finish," or "important essentials" are examples of obvious qualifiers.
>
> **Compound synonyms.** Look for two or more compounded synonyms. These are two or more words that are indistinguishable in meaning and are placed close together. For example, "thoughts and ideas" (what's the difference?) or "actions and behavior" (if there is a difference between these two, does the writer mean to use it?) are common.

Table 10.5 presents some classic examples of wordy phrases and their revised versions.

Table 10.5. Revising wordy phrases.

Wordy Phrase	Revised Phrase
Due to the fact that	Since, because
In view/light of the fact that	Since, because
For the reason that	Since, because
In my own personal opinion	I believe, in my opinion, I think
Being of the opinion that	I/We believe
It is recommended that	I/We recommend
As per your request	As you requested
In accordance with your request	As you requested
Pursuant to your request	As you requested
At this point in time	Now, then
In this day and age	Now, currently
In the near future	Soon
During the time that	When
Until such time as	Until
To the fullest extent possible	Fully
Predicated upon the fact that	Based on
Insomuch as	Since, because
In connection with	Related to
Take cognizance of the fact that	Realize
It has come to my attention that	I have learned that
With reference to the fact that	Concerning, regarding, about
With regard to	Concerning, regarding, about
In close proximity to	Near, close
In the neighborhood of	Near, close, approximately
to the extent that	As much as
It would be advisable to	Should, ought
Has the ability to	Can
That being the case	Therefore
Four in number	Four

Expletives

In grammar, an expletive is a word that serves a function but has no meaning. The most common expletive phrases in English are "it is/are" and "there is/are." They are sometimes useful, but they are more often redundant and weaken a sentence's impact. If you can, delete them from technical documents.

Table 10.6 presents some examples of sentences with expletives and their revised versions without expletives.

Table 10.6. Removing expletives.

Original Sentence	Revised Sentence
When *there are* sparks emitting from the flint, you are close to making fire.	When sparks emit from the flint, you are close to making fire.
When *there is* a dramatic dip in the stock market, *there is* a temptation for people to sell their stocks instead of buying more.	When the stock market dips dramatically, people are tempted to sell their stocks instead of buying more.

Weak Use of Passive-Voice Verbs

One of the all-time worst offenders for creating unclear, wordy, indirect writing is the passive-voice construction. In simplified terms, the passive voice refers to a sentence construction where the direct object (rather than the actor) is the subject of the sentence. When you use this construction, you will need to use a prepositional phrase (and hence more words) to provide the main verb's actor, if you choose to provide one at all. While this construction has its advantages, it can easily lead to ambiguity and wordiness.

To locate a sentence using the passive voice, look for a "to be" verb coupled with a past participle (a past-tense verb, often ending in -ed). Change it to an active verb, and rearrange the sentence to make grammatical sense. To review how to convert a sentence from active voice to passive voice, and back again, see Table 10.7.

Table 10.7. Passive to active voice.

Passive Voice	Active Voice
The study was completed in 2020 by three undergraduate students.	Three undergraduate students completed the study in 2020.
The report was written by the student.	The student wrote the report.

Sometimes a sentence in the passive voice conveys all the necessary information, as above in Table 10.7. However, the passive voice allows for the actor to be concealed, as Table 10.8 shows.

Table 10.8. Passive-voice concealment.

Passive Voice	What is Unclear	Active Voice
The papers will be graded according to the criteria stated in the syllabus.	Graded by whom? The instructor? An anonymous reviewer? A TA?	The teacher will grade the papers according to the criteria stated in the syllabus.
The bill was passed last week.	Who passed the bill?	The state legislature unanimously passed the bill.

The ability to conceal the actor or agent of the sentence makes the passive voice a favorite of people in authority—politicians, police officers, city officials, and teachers. Table 10.9 shows how the passive voice can cause wordiness, indirectness, and comprehension problems.

Table 10.9. Passive voice comprehension examples.

Passive Voice	Active Voice
The surveys were filled out over the course of three days. An overwhelming preference for cheaper textbooks was indicated. (Who filled out the surveys, and what does the indicating?)	Students filled out the surveys over a three-day period. Results indicate an overwhelming preference for cheaper textbooks.
Most doctoral programs take five to seven years to complete. Between costs of living, tuition, and generally low stipends, it is difficult to avoid accumulating debt without significant financial aid. (Who completes these programs, and who is trying to avoid debt?) (Who makes the loans, and who can't pay them off?)	Most doctoral students complete their programs in five to seven years. Between costs of living, tuition, and generally low stipends, it is difficult for these students to avoid accumulating debt without significant financial aid.
Recently, the number of cases is rising for opioid addictions in rural communities, as is indicated by recent studies in medical science. (What is rising and where, and what proves this?)	Recently, rural communities are seeing a rise in opioid addiction cases, as recent medical science studies indicate.
Codes delineating appropriate forms of dress have long been enforced in public schools. The extent of this enforcement, however, is now called into question regarding facemasks. (Who enforces these codes, and who is now questioning them?)	Administrators have long enforced dress codes in public schools. Parents are now questioning administrators' enforcement of facemask regulations, however.
Once the fat from the bacon has been rendered, the chicken thighs need to be browned and the vegetables need to be added. Once the vegetables have been sautéed, cognac should be poured in and ignited. (Who is doing the browning, sautéing, pouring, etc.?)	Once you've rendered the bacon fat, brown the chicken thighs and add the vegetables. Once you've sautéed the vegetables, pour in the cognac and ignite it.
The report for the incident was filed at 10:30pm. One suspect was apprehended, and one escaped after having fled the scene. (Who filed the report and apprehended the suspect?) (Who heated the solution, and who or what stirred it?)	Officer Oyeniyi filed the incident report at 10:30pm. He apprehended one suspect, but the other fled the scene.

***Note:** All the above examples, regardless of voice, are grammatically correct sentences. Depending on the context, you may prefer to use the passive voice. Instructions and lab reports, as in the final two examples, are places where you may wish to obscure the actor in order to focus on the method.*

While there are some risks to using passive construction, the passive voice is nevertheless a great option in certain circumstances. These circumstances include when

- The subject is obvious or too-often-repeated.
- The actor is unknown.
- The actor isn't important.
- You want to stress the action more than who did it.
- You need to rearrange words in a sentence for emphasis.

Subject/Verb Mismatches

In dense, highly technical writing, it's easy to lose track of the real subject and pick a verb that does not make sense. The result is a noun physically unable to do what the verb says it is doing or an abstract thing performing a practical, real-world action.

When editing, make sure every sentence's subject matches the main verb. Checking for a match can be difficult if the subject and main verb are far apart in the sentence. When this happens, pretend that the words between the subject and verb are gone. Does the verb still make sense with the subject? If so, your subject and verb match.

Table 10.10 provides some examples and their revisions.

Table 10.10. Subject-verb mismatch examples.

Problem Sentence	Revised Sentence
The reasons why you ignored the "Do Not Touch" sign got paint on your hand.	You ignored the "Do Not Touch" sign and you got paint on your hand.
Fires tend to prefer dry weather, so it is important to take proper precautions.	Fires are more likely to happen in dry weather, so it is important to take proper precautions.
Ultimately, hearts do much better when they regularly exercise and eat well.	Ultimately, people become heart-healthy when they regularly exercise and eat well.

Commonly Confused Words

As with most languages, English contains many words that sound similar but that have different spellings and distinct meanings. Table 10.11 below identifies many commonly confused words and their correct usage.

Table 10.11. Commonly confused words in English.

Confused Words	Example 1	Correct Usage for Example 1	Example 2	Correct Usage for Example 2
accept or except	The office will _____ applications until 5 p.m. on the 31st.	accept (verb, meaning "to receive")	Attendance is required for all employees _____ supervisors.	except (preposition, used to show exemptions)
affect or effect	To _____ the growth of plants, we can regulate the water supply.	affect (verb, meaning "to have an impact on")	A lack of water has a predictable _____ on most plants.	effect (noun, meaning "the result of a change or impact"
e.g. or i.e.	Please order 2,000 imprinted giveaways (_____, pens or coffee mugs).	e.g. (in Latin, exempli gratia, or "for example"; used to indicate multiple, general examples)	Charge them to my account (_____, account #98765).	i.e. (in Latin, id est, or "it/that is"; used to reference something specific)
its or it's	The department surpassed _____ previous sales record this quarter.	its (possessive form; shows ownership)	_____ my opinion that we reached peak oil in 2008.	it's (contraction for "it is")
lay or lie	Please _____ the report on the desk.	lay (transitive verb, takes a direct object)	The doctor asked him to _____ down on the examination table.	lie (intransitive verb, does not take an object)
pressurize or pressure	We need to _____ the liquid nitrogen tanks.	pressurize (verb, used for technology and things)	It might be possible to _____ him to resign.	pressure (verb, used for people)
principle or principal	It's the basic _______ of farming: no water, no food.	principle (noun, "rule guideline")	The _____ reason for the trip is to attend the sales meeting.	principal (adjective, "first or primary"; noun, "head of a school (US)")
regardless or irregardless	_____ of what we do, gas prices are unlikely to go back down.	Regardless (adverb, "despite")	_____ of your beliefs, please try to listen with an open mind.	Regardless (irregardless is not a standard word)
than or then	This year's losses were worse _____ last year's.	than (conjunction or preposition, used for comparison)	If we can cut our costs, _____ it might be possible to break even.	then (adverb, used for time)
that or which	There are several kinds of data _____ could be useful.	that (pronoun, used for essential clauses. Essential means that it could not be removed from the sentence without altering the meaning and grammar.)	Karen misplaced the report, _____ caused a delay in making a decision.	which (pronoun, used for non-essential clauses. The clause could be removed from the sentence without impacting the meaning of the noun "which" is modifying).

Confused Words	Example 1	Correct Usage for Example 1	Example 2	Correct Usage for Example 2
there, they're, or their	The report is ______, in the top file drawer. ________ planning to attend the sales meeting in Pittsburgh.	there (adverb, referring to place or position) They're (contraction, "they are")	________ strategic advantage depends on a wide distribution network.	their (possessive plural adjective)
to, two, or too	We went ____Tucson last week. In fact, the _____ of you should make some customer visits together.	to (preposition, indicates movement toward a place or thing) Two (number, 2)	After the sales meeting, you should visit customers in the Pittsburgh area _____, but try not to be _____ pushy with them.	too (adverb, (1) also; (2) more than advisable, as in "too fast")
disinterested or uninterested	He would be the best person to make a decision, since he isn't biased and is relatively _____ in the outcome.	disinterested (adjective, impartial, does not have a stake in the matter or decision)	The sales manager tried to speak dynamically, but the sales reps were simply _____ in what he had to say.	uninterested (adjective, has not expressed interest)
whose or who's	________ truck is that?	Whose (possessive pronoun, shows ownership)	________ going to pay for the repairs?	Who's (conjunction, "who is")
who or whom	________ will go to the interview?	Who (nominative pronoun, used for subjects)	To ________ should we address the thank-you note?	whom (object pronoun; serves as the receiver of a thing or action)
your or you're	My office is bigger than _____ cubicle.	your (possessive pronoun, shows ownership)	_____ going to learn how to avoid making these common mistakes in English.	You're (contraction, "you are")
upmost or utmost	The faculty lounge is on the _____ floor of the building.	upmost (the highest position)	This decision is of the _____ importance for our group.	utmost (most extreme or greatest)

Readability, Sentence Lengths, and Sentence Structures

Highly technical subject matter easily lends itself to multiple long sentences with similar structures that can bore or confuse a reader. To address this common technical writing challenge, you will need to devote revision time to **readability**, or how easily your audience can comprehend your text. Improving readability involves careful attention to how you present your information in paragraphs and individual sentences.

Readability

The reader of a technical document needs to be able to extract information from it as easily as possible, so most technical documents are written at the U.S. 8th-grade level. The average sentence length should be about fifteen words.

When you revise, look for long sentences that contain lots of information. Break them into shorter, bite-sized chunks that contain single ideas, and run the resulting sentences through a readability checker. For example, MS Word has a built-in readability tool that will tell you the number of words per sentence and the Flesch-Kincaid model's estimate of the text's grade level. Open your document in Microsoft Word, click File > Options > Proofing, check the "Show readability statistics" box, and run the spellchecker.

Sentence Lengths

The average sentence in a technical document should contain about 15 words, but you can use significantly longer or shorter sentences if necessary. Any sentence over 35 words most likely needs to be broken up. An occasional short sentence (say, five to ten words) can be effective, but too many of them at once can cause writing to be choppy and hard to follow.

Similarly, if the document contains a string of sentences that are close to the same length (for example, six sentences of exactly fifteen words each), the reader will fall into a rhythm and find it hard to pay attention. Break apart or combine sentences to create variety in their length. See Chapter 5: Writing Skills for more information about rhythm on the sentence level.

Sentence Structures

In English, there are four basic sentence structures:

- A **simple sentence** contains a single independent clause.
- A **compound sentence** contains two independent clauses.
- A **complex sentence** contains an independent clause and a dependent clause.
- A **compound-complex sentence** contains a compound sentence and at least one dependent clause.

Technical writing usually relies upon simple and compound sentences, and sometimes complex sentences. It very rarely uses compound-complex sentences. Look for these sentence structures and revise your technical document accordingly.

Also, as with sentence lengths, if all your sentences use the same grammatical structure, your reader will be lulled by the repetition and find it challenging to concentrate on the meaning. Break apart or combine sentences to create variety in their grammatical structure.

Table 10.12 presents some examples of overly long, complex sentences and their revised versions.

Table 10.12. Overly complex sentence examples and their readability scores.

Problem Sentence	Revised Sentence
Before we can begin recommending specific classroom practices that help traditional first-year students cultivate the skills they will need to produce effective academic writing, it is important to examine and synthesize recent research in young adult neurocognitive development. **Length**: 38 words **Grade Level:** 23.4	We need to start by reviewing recent research in young adult neurocognitive development. After that, we can recommend specific classroom practices that help traditional first-year students write academically. **Average Length:** 14 words **Grade Level:** 14.3
The typical young adult neurocognitive profile, which is largely characterized by an increasing awareness of environmental factors and how they shape individual perceptions and behavior, presents a particularly valuable opportunity for college composition instructors to engage their students through experiential learning and critical dialogue exercises. **Length:** 45 words **Grade Level:** 29.4	The typical young adult neurocognitive profile is largely characterized by an increasing awareness of environmental factors and how they shape individual perceptions and behavior. This awareness presents a particularly valuable opportunity for college composition instructors. Specifically, instructors can engage with their students by using experiential learning and critical dialogue exercises. **Average Length:** 16.6 words **Grade Level:** 19.2

Note: Readability scores and grade levels are those determined by Microsoft Word's readability statistics.

This text was derived from

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University of Minnesota. *Business Communication for Success.* Minneapolis: University of Minnesota Libraries Publishing, 2015. https://open.lib.umn.edu/businesscommunication/.

Notes

1. Stephen Covey, *The Seven Habits of Highly Effective People* (New York, NY: Simon & Schuster, 1989).

PEER REVIEW

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Peer reviewing (also called peer editing) refers to people of equal (or near-equal) status and ability reading, commenting on, and recommending improvements to each other's work. Peer reviewing another's work provides experience in looking critically at writing and potentially offers suggestions for things you may try (or avoid) in your own writing.

When you peer-review another writer's work, you evaluate it, criticize it, suggest improvements, and then communicate all of that to the writer. As a first-time peer reviewer, you might be uneasy about criticizing someone else's work. For example, how do you tell somebody that the document is boring? This chapter offers advice and guidance for doing peer reviews and communicating peer feedback.

Peer Review: The Writer's Responsibilities

At the beginning of a peer review, the writer should provide reviewers with notes on the writing assignment and on goals and concerns about the writing project (topic, audience, purpose, situation, genre), and alert them to any problems or concerns. As the writer, you want to let your reviewers know what you'd like help with and what kinds of things you were trying to do. The questions to be answered in peer review should be specific. For example, consider the following questions asked by the writer of a set of technical instructions:

- Does my explanation of virtual machine X make sense to you? Would it make sense to our least technical customers?
- In general, is my writing style too technical? (I may have mimicked too much of the engineers' specifications.)
- Are the chapter titles and headings in this instruction manual clearly relative to the content that follows each? (I had trouble phrasing some of the titles and headings.)
- Are the screenshots clear enough? (I may have been trying to get too much detail in some of them.)
- Do I introduce the graphics clearly or do they just seem stuck into the section?

Peer Review: The Reviewer's Responsibilities

When you peer-review other people's writing, remember that you should consider all aspects of that writing, not just—in fact, least of all—the grammar, spelling, and punctuation. If you are new to peer reviewing, be sure to examine the draft for the following:

> **Rhetorical effectiveness.** How well does the document address the needs and interests of its audience? How persuasive is the document for its audience?
>
> **Clarity of purpose.** What is the purpose of the document? Does the writer succeed in fulfilling that purpose?

Content. Is the content of each major section appropriate? Are sufficient details and development provided? Is there any place where the author could add or remove content?

Organization and coherence. Does the document follow a logical organizational framework? Are genre conventions followed for headings and subheadings? Do all paragraphs in a section logically progress from or relate to each other? Does the writer use clear transitional words and phrases to signal how ideas/paragraphs/sentences/examples relate to each other? Do paragraphs contain clear topic sentences and remain focused throughout?

Sentence style and clarity. Are individual sentences clear? Does the writer use a variety of sentence styles? Does the writer avoid passive voice unless necessary?

Graphics. If graphics are used, are they used effectively? Are the graphics introduced in the text of the document prior to appearing? Are graphics appropriately labeled and titled? Are captions provided, as necessary? Is the meaning of the graphic immediately clear? Does the graphic have a specific and necessary purpose for appearing in the document?

After reviewing the document, you will then need to inform your peer of your evaluation, either in person or in writing. Receiving feedback can be stressful, so frame your comments constructively and conscientiously. Below are some specific guidelines you can use to help ensure that your critique is fair and helpful:

Use standard conventions. Be careful about making comments or criticisms that are based on your own personal style. Base your criticisms and suggestions for improvements on generally accepted guidelines, concepts, and rules. Explain the reasons why the change will better fit expectations and conventions. If you do make a comment that is your own preference, explain your reasoning.

Explain. Explain fully the problems you find. Don't just say a document "seems disorganized." Explain what is disorganized about it. Use specific details from the draft to demonstrate your case.

Provide Solutions. Whenever you criticize something in the writer's draft, suggest a way to correct the problem. For example, if the writer's paper seems disorganized, explain how that problem might be solved.

Be Moderate. Avoid rewriting the draft that you are reviewing. In your efforts to suggest improvements and corrections, don't go overboard and rewrite the draft yourself. Doing so steals from the original writer the opportunity to learn and improve. It can also be considered plagiarism, since you will not be listed as an author on the final draft.

Be Positive. Find positive, encouraging things to say about the draft you're reviewing. Compliments, even small ones, are usually much appreciated. Read through the draft at least once, looking for things that were done well, and let the writer know about them.

Be Honest. Although you should convey encouraging and positive things wherever appropriate, do *not* just be "nice." Be honest but tactful. A review full of compliments that ignores legitimate problems with a document is not helpful and doesn't actually demonstrate care towards your peer.

Peer Review Summary

Once you've finished a peer review, it's a good idea to write a summary of your thoughts, observations, impressions, criticisms, or feelings about the rough draft. Your summary should attempt to

> **Categorize your comments according to the type of problem or error.** Place higher-level comments on such things as content, organization, and interest-level in one group, and lower-order concerns such as grammar and usage comments in another group.
>
> **Indicate the relative importance of each category of comments.** Note which suggestions are critical to meeting assignment guidelines and which would be nice (but not necessarily crucial) to incorporate.
>
> **Explain your comments.** Include references to guidelines, rules, examples, or common sense. Don't simply say, "This is wrong; fix it."
>
> **Address questions to the writer.** Double check to see if the writer really meant to state or imply certain things.
>
> **Praise what works.** Include positive comments about the rough draft and find nonantagonistic, sympathetic ways to state criticisms.

Peer Review vs. Team Writing

As you can see above, peer reviewing is about people reading and commenting on the work of other people. While this involves working together, the writer's use of comments made by their peer reviewer still requires that the writer is responsible for the text that they've written and that their work does not incorporate the words of anyone else without proper citation. On the other hand, we have **team writing** (also called collaborative writing), which refers to a group of people getting together to plan, write, and revise writing projects as a team. In team writing, all members of the team openly state that they are working as a team and thus receive combined credit for composing a document. However, unattributed team writing (such as you and a friend co-writing a paper that just your friend submits and claims sole credit for) is considered plagiarism.

This text was derived from

McMurrey, David, "Strategies for Peer Reviewing and Team Writing," in Reardon, Tiffani, Tamara Powell, Jonathan Arnett, Monique Logan, and Cassandra Race, with contributors David McMurrey, Steve Miller, Cherie Miller, Megan Gibbs, Jennifer Nguyen, James Monroe, and Lance Linimon. *Open Technical Communication.* 4th Edition. Athens, GA: Affordable Learning Georgia, n.d. https://alg.manifoldapp.org/projects/open-tc.

McMurrey, David. *Online Technical Writing.* n.d. https://www.prismnet.com/~hcexres/textbook/.

11 - RESEARCH

Research Terminology

Suzan Last and Nicole Hagstrom-Schmidt

Research is 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. What this process looks like depends on the questions you want to answer and what techniques or strategies you use to find that information. These techniques of collecting, sorting, and analyzing data (or bits of information) are called **research methods**. 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.

The typical kinds of research sources you will use can be grouped into three broad categories.

> **Primary Sources.** Data from research you conducted yourself in lab experiments and product testing, or through surveys, observations, measurements, interviews, site visits, prototype testing, or beta testing. Primary sources can also be published statistical data, historical records, legal documents, firsthand historical accounts, and original creative works.
>
> **Secondary Sources.** Sources that discuss, analyze, and interpret primary sources, such as published research and studies, reviews of these studies, meta-analyses, and formal critiques.
>
> **Tertiary Sources.** Reference sources such as dictionaries, encyclopedias, and handbooks that provide a consolidation of primary and secondary information. These are useful to gain a general understanding of your topic and major concepts, lines of inquiry, or schools of thought in a field or discipline.

Categories of Data

From your sources, you will acquire primary and secondary data that you will use in your research-driven writing. Table 11.1 distinguishes between two types of data: primary and secondary.
"}" data-sheets-userformat="{"2":513,"3":{"1":0},"12":0}">

Table 11.1. Primary and secondary data.

Primary Data	Secondary 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: witnessing with your own senses or with instruments (camera, microscope)

Interrogation: conducting interviews, focus groups, surveys, polls, or questionnaires
Participation: doing or seeing something (visiting the site, touring the facility, manipulating models or simulations, Beta testing, 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 the "Human Research Ethics" section below.
Data gathered 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**: peer-reviewed 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
- **Multimedia material**: TV, radio, film, such as documentaries, news, podcasts, etc.
- **Professional documents**: annual reports, production records, committee reports, survey results, etc.

Two other common categories of data are **quantitative** and **qualitative** data. In general terms, quantitative data is numerically based whereas qualitative data is word based. Different fields privilege different kinds of data and use them in different ways.

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. Lab-based fields (such as many STEM fields) tend to emphasize quantitative data.

In contrast, qualitative data uses words to record and describe the data collected. This data often describes people's feelings, judgments, emotions, customs, and beliefs that can only be expressed in descriptive words not in numbers. This data type includes "anecdotal data" or personal experiences. Text-based fields (such as many humanities fields) tend to prefer qualitative data.

Remember, this distinction is general—there are plenty of excellent counterexamples of STEM fields effectively using qualitative data and humanities fields using quantitative data. Some fields, especially in the social sciences, even use both data types.

RESEARCH METHODS AND METHODOLOGIES

Suzan Last; Nicole Hagstrom-Schmidt; and Matt McKinney

Data alone, regardless of its type, does not mean anything until you interpret it. The processes that you use to collect, analyze, and organize your data are your **research methods**. Research methods are often categorized as **quantitative**, **qualitative** or **mixed method**. Some projects, such as lab experiments, require the use of the scientific method of inquiry, observation, quantitative data collection, analysis, and conclusions to test a hypothesis. Other kinds of projects take a more deductive approach and gather both quantitative and qualitative evidence to support a position or recommendation. The research methods you choose will be determined by the goals and scope of your project, and by your intended audience's expectations.

Data Collection

In terms of data collection, there are a variety of qualitative and quantitative methods available. A list of several common primary data collection methods is provided below. Note that each method follows a specific protocol both to ensure the validity of the data and to protect any human or animal subjects involved. For more on research that uses human participants, see the "Human Research Ethics" section later in this chapter.

Interviews. Interviews are 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.

Surveys/Questionnaires. Surveys are a form of questioning that is less flexible than interviews, as the questions are set ahead of time and cannot be changed. Surveys can be in print format or delivered electronically. This method can reach much larger groups of people than interviews, but it results in less detailed responses.

On-site research. These observations involve taking organized notes about occurrences at a determined research site. Research sites may be physical locations, such as a local gym or building site, or they may be virtual, such as an online forum or event. Observations allow you to gain objective information without the potentially biased viewpoint of an interview or survey.

Experiments. Whether in the lab or in the field, experiments are designed to test hypotheses and verify previous results. Experiments are prepared by using standard protocols and careful testing in order to protect the researchers and their subjects, as well as to isolate specific variables.

Simulations. Typically designed and run using computer programs, simulations are a type of experiment that tests hypotheses and solutions in a virtual setting that approximates the real world. Simulations are usually an option for when in-person experiments are not feasible.

Primary source documents. More common in text-based fields, original written, visual, and/or audio sources can be used to locate specific data for further analysis and interpretation. In this method, the data collected could be words, images, sounds, or movements.

Effective Primary Research Design

In a technical and professional writing class you will likely use a few common primary research methods involving human subjects: surveys, interviews, and on-site research (field, lab, or simulation). While you are not expected to be an expert in any of these methods, you should approach them ethically and thoughtfully so as to protect any participants and to generate reliable, generalizable data.

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 all 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 descriptors 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 as to what you are looking for and will likely skew your data.

Be neutral. Present your survey questions without leading, inflammatory, or judgmental language. Common leading survey questions that you want to avoid include phrasing like "Do you agree that our enemies are a threat to our way of life?" You will also want to avoid using language that is sexist, racist, or ableist. See Chapter 4: Persuasion for more information about loaded language.

Be organized logically. Questions should be presented in a way that makes sense to the participant. For example, if you introduce a concept in Question 1, you do not want to 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. In general, you will want to 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 your university's IRB (Internal Review Board). They may need you to fill out special documentation that accounts for how you will protect your participants.

After designing the questions, you will also need to consider how your participants can answer them. Depending, 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 pre-set 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 for a write-in response.
>
> **Likert scale (Quantitative).** One of the most common answer types, 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 you will have "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).** Especially when you want detailed, individualized data, you may choose for participants to provide written answers to your questions. 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 testing. This preliminary testing is crucial. When seeking feedback, have your reviewers note any confusion or ambiguity in question wording, lack of clarity in question order, typographical errors, technical difficulties, and how long the survey took for them 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.

Writing Engaging Research Interview Questions

Preparing good interview questions takes time, practice, and testing. Many novice interviewers go into interviews with the assumption that they do not need to prepare and are merely having a conversation. While this approach can generate information, these interviewers often find that several important questions were not addressed. When designing interview questions, you will want not only to consider the content of the question but also where the question appears in your list.

When preparing for an interview, first contact your potential interviewee as soon as possible. Individuals, especially those who work outside academia, may operate on timelines that may feel odd to college and university students. You will also want to prepare any equipment (such as a recorder or smart phone, but request permission first before recording!), questions, and IRB approval, if applicable.

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.[1]

If you choose to have a face-to-face interview or interview over Zoom or Skype, show up on time and dress according to the level of the interviewee. Honoring the interviewee's time by being punctual, having prepared questions, and not extending past an established time limit is crucial to both collecting good information and maintaining a positive relationship with the interviewee. For more information on designing effective interviews, see Appendix: Qualitative Interview Design.

Field Research

When conducting field research, or research that takes you outside of a lab or simulation, you will need to consider the following:

> **Gain appropriate permissions for researching the site.** Your "site" is the location where you are conducting research. 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 be specifically focusing 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 if 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.

Data Interpretation

Methods also include ways of interpreting and organizing data, either once it has been collected or simultaneously with data collection. More specific methodologies, such as ways to structure the analysis of your data, include the following:

Coding. Reviews transcripts of interview data and assigns specific labels and categories to the data. A common social science method.

Cost/benefit analysis. Determines how much something will cost versus what measurable benefits it will create.

Life-cycle analysis. Determines overall sustainability of a product or process, from manufacturing, through lifetime use, to disposal. You can also perform comparative life-cycle analyses or specific life cycle stage analysis.

Comparative analysis. Compares two or more options to determine which is the "best" solution given specific problem criteria such as goals, objectives, and constraints.

Process analysis. Studies each aspect of a process to determine if all parts and steps work efficiently together to create the desired outcome.

Sustainability analysis. Uses concepts such as the "triple bottom line" or "three pillars of sustainability" to analyze whether a product or process is environmentally, economically, and socially sustainable.

In all cases, the way you collect, analyze, and use data must be ethical and consistent with professional standards of honesty and integrity. Lapses in integrity may lead to poor quality reports not only in an academic context (poor grades and academic dishonesty penalties) but also in the workplace. These lapses can lead to lawsuits, job loss, and even criminal charges. Some examples of these lapses include

- Fabricating your own data (making it up to suit your purpose)
- Ignoring data that disproves or contradicts your ideas
- Misrepresenting someone else's data or ideas
- Using data or ideas from another source without acknowledgment or citation of the source.

Note

Writing Tip: Failing to cite quoted, paraphrased, or summarized sources properly is one of the most common lapses in academic integrity, which is why your previous academic writing classes spent considerable time and effort to give you a sophisticated understanding of how and why to avoid plagiarizing, as well as the consequences of doing so.

Notes

1. Carter McNamara, "General Guidelines for Conducting Interviews," Free Management Library, 2009. https://managementhelp.org/businessresearch/interviews.htm

HUMAN RESEARCH ETHICS

Suzan Last; Sarah LeMire; and Nicole Hagstrom-Schmidt

As defined in the beginning of this chapter, **primary research** is any research that you do yourself in which you collect raw data directly 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 may be engaging in **human subjects research**. When conducting research with human participants, you must be aware of and follow strict ethical guidelines required by your academic institution. Doing this is part of your responsibility to maintain academic integrity and protect your research subjects.

In the United States, human subjects research is guided by three core principles outlined in the Belmont Report: respect for persons, beneficence, and justice.[1] The first principle, respect for persons, means that researchers must respect the autonomy of research participants and provide protections against coercion, particularly for vulnerable populations. The second principle, beneficence, means that researchers have an obligation to enact the following rules: "(1) do not harm and (2) maximize possible benefits and minimize possible harms."[2] The third principle, justice, means that research participation should be distributed, rather than concentrated heavily on one population. For example, the Belmont Report references the infamous Tuskegee Syphilis Study, in which researchers "used disadvantaged, rural black men to study the untreated course of a disease that is by no means confined to that population,"[3] along with a number of other serious ethical violations.[4] Respect for persons, beneficence, and justice guide researchers in ethical research practices.

In addition to the Belmont Report, there are a number of federal agencies that have guidelines and requirements governing human subjects research.[5] For example, the Office for Human Rights Protections (OHRP), the Food and Drug Administration (FDA), and the National Institutes of Health (NIH) all provide oversight of human subjects research. Colleges and universities like Texas A&M University have institutional review boards, or IRBs, that review research plans to ensure compliance with government regulations and ethical guidelines.[6] Researchers, including professors and students, are required to seek and receive approval from their campus IRB before conducting human subjects research projects.

The Office for Human Rights Protections (OHRP) defines research as "a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge."[7] The type of research conducted in a college class for the purposes of developing research skills does not always meet the formal definition of research, because it may not be systematic or generalizable. Students should check with their course instructors to determine whether Internal Review Board (or IRB) approval is required for a course research assignment.

Regardless of whether a specific study meets the specific criteria for human subjects research, researchers at every stage of their career should adhere to the core principles of ethical behavior. Even when completing assignments and studies that do not meet the formal definition of human subjects research, researchers and students should abide by the principles of respect for persons, beneficence, and justice.

Below are three common research methods that use human subjects, along with specific ways that can help you conduct such studies ethically.

Interviews. Provide participants with information about the interview experience and have them sign an informed consent form before you begin. If you plan to record interviews, either with audio or video, ask for specific consent for the recording. Be sure to inform participants that they may skip questions that they are uncomfortable with or end the interview at any time.

Surveys/Questionnaires. At the beginning of the survey/questionnaire, provide an informed consent section that includes a description of the research project, risks and benefits, and researcher contact information. Participants must consent to participate in order to be included in the study.

Naturalistic observation in non-public venues (or field observations). In naturalistic observations, 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 workplace, classroom, or other non-public place, you must first seek permission from the manager of that place and let participants know the nature of the observation. Observations in public places may not require informed consent, though researchers should seek IRB approval. Photographs or videos require specific informed voluntary consent and permission.

These are the most common methods used in undergraduate courses. There are many other methods, including engaging with people and their information via social media, organizing focus groups, engaging in beta-testing or prototype trials, etc. For the purposes of your writing course, however, these other methods are generally not recommended because they involve additional ethical considerations for you and your instructor. At Texas A&M University, questions about research ethics or whether IRB approval is required for a study should be directed to the Human Research Protection Program.[8]

This text was derived from

Notes

1. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research Department of Health, Education, and Welfare. *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects Research*, U.S. Department of Health, Education, and Welfare (18 April 1979), https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html
2. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research Department of Health, Education, and Welfare. *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects Research*, U.S. Department of Health, Education, and Welfare (18 April 1979), https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html
3. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research Department of Health, Education, and Welfare. *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects Research*, U.S. Department of Health, Education, and Welfare (18 April 1979), https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html.
4. Elizabeth Nix, "Tuskegee Experiment: The Infamous Syphilis Study," *History*, 16 May 2017, updated 29 July 2019, https://www.history.com/news/the-infamous-40-year-tuskegee-study.

5. "Resources," Texas A&M University Division of Research, accessed February 4, 2022, https://rcb.tamu.edu/humansubjects/resources.
6. "Human Research Protection Program," Texas A&M University Division of Research, accessed February 4, 2022, https://vpr.tamu.edu/human-research-protection-program/.
7. 45 C.F.R. § 46.102(l), *Electronic Code of Federal Regulations: E-CFR Data*, (19 January 2017), https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=83cd09e1c0f5c6937cd9d7513160fc3f&pitd=20180719&n=pt45.1.46&r=PART&ty=HTML#se45.1.46_1101.
8. "Human Research Protection Program," Texas A&M University Division of Research, accessed February 4, 2022, https://vpr.tamu.edu/human-research-protection-program/.

FINDING AND EVALUATING RESEARCH SOURCES

Suzan Last; Kalani Pattison; and Nicole Hagstrom-Schmidt

In this “information age,” so much information is readily available on the Internet. With so much at our fingertips, it is crucial to be able to critically search and sort this information in order to select credible sources that can provide reliable and useful data to support your ideas and convince your audience.

Popular Sources vs Academic Sources

From your previous academic writing courses, you are likely familiar with academic journals and how they differ from popular sources, as in magazines shown in Figure 11.1. Academic journals contain peer-reviewed articles written by scholars for other scholars, often presenting their original research, reviewing the original research of others, or performing a “meta-analysis” (an analysis of multiple studies that analyze a given topic). Peer reviewing is a lengthy vetting process where each article is evaluated by other experts in the field.

Popular sources, in contrast, are written for a more general audience or following. While these pieces may be well researched, they are usually only vetted by an editor or if the writer seeks out additional review. Popular sources tend to be more accessible to wider audiences. They also tend to showcase more visible biases based on their intended readership or viewership. If you would like to refresh your memory on this topic, consult your library or writing center for resources.[1] Figure 11. 1 [2] below illustrates a newsstand with a number of popular sources.

Figure 11.1: Magazines at a newsstand

In contrast to these covers of popular sources, Figure 11.2 [3] illustrates the front page of a scholarly journal article. The differences in layout, design, and information included demonstrate some of the differences in the priorities of these two types of sources.

Laakso and Björk *BMC Medicine* 2012, **10**:124
http://www.biomedcentral.com/1741-7015/10/124

BMC Medicine

RESEARCH ARTICLE **Open Access**

Anatomy of open access publishing: a study of longitudinal development and internal structure

Mikael Laakso* and Bo-Christer Björk

Abstract

Background: Open access (OA) is a revolutionary way of providing access to the scholarly journal literature made possible by the Internet. The primary aim of this study was to measure the volume of scientific articles published in full immediate OA journals from 2000 to 2011, while observing longitudinal internal shifts in the structure of OA publishing concerning revenue models, publisher types and relative distribution among scientific disciplines. The secondary aim was to measure the share of OA articles of all journal articles, including articles made OA by publishers with a delay and individual author-paid OA articles in subscription journals (hybrid OA), as these subsets of OA publishing have mostly been ignored in previous studies.

Methods: Stratified random sampling of journals in the Directory of Open Access Journals (n = 787) was performed. The annual publication volumes spanning 2000 to 2011 were retrieved from major publication indexes and through manual data collection.

Results: An estimated 340,000 articles were published by 6,713 full immediate OA journals during 2011. OA journals requiring article-processing charges have become increasingly common, publishing 166,700 articles in 2011 (49% of all OA articles). This growth is related to the growth of commercial publishers, who, despite only a marginal presence a decade ago, have grown to become key actors on the OA scene, responsible for 120,000 of the articles published in 2011. Publication volume has grown within all major scientific disciplines, however, biomedicine has seen a particularly rapid 16-fold growth between 2000 (7,400 articles) and 2011 (120,900 articles). Over the past decade, OA journal publishing has steadily increased its relative share of all scholarly journal articles by about 1% annually. Approximately 17% of the 1.66 million articles published during 2011 and indexed in the most comprehensive article-level index of scholarly articles (Scopus) are available OA through journal publishers, most articles immediately (12%) but some within 12 months of publication (5%).

Conclusions: OA journal publishing is disrupting the dominant subscription-based model of scientific publishing, having rapidly grown in relative annual share of published journal articles during the last decade.

Keywords: Open access, scientific publishing

Background

Open access (OA) has expanded the possibilities for disseminating one's own research and accessing that of others [1,2]. OA, in the context of scholarly publishing, is a term widely used to refer to unrestricted online access to articles published in scholarly journals. There are two distinct ways for scholarly articles to become available OA, either directly provided by the journal publisher (gold OA), or indirectly by being uploaded and made freely available somewhere else on the Web (green OA). Both options increase the potential readership of any article to over a billion individuals with Internet access and indirectly speed up the spread of new research ideas. While the majority of OA journals do not charge authors anything for the services provided, a growing minority of professionally operating journals charge authors fees ranging from 20 to 3800 USD, with an estimated average of 900 USD [3].

OA is closely related to developments in other media content delivery businesses, and its ethos is well aligned with the fundamental openness principle of science itself as well as the ideologies behind Wikipedia and open

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Figure 11.2: Example of a Scholarly Article

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. Furthermore, many projects require a **literature review**, which collects, summarizes, and sometimes evaluates the work of researchers in the field whose work has been recognized as a valuable contribution to that field. Scholarly sources such as journal articles are usually cited as the major contributors, though other scholarly documents including books, conference proceedings, and major reports may also be incorporated into a literature review based on the discipline the writer is in.

Journal articles 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 11.2 lists several types of sources you may find useful in researching your projects.

Table 11.2. 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. For general information, use accepted reference materials in your field. For dictionary definitions, use either a definition provided in a scholarly source or the *Oxford English Dictionary* (OED).
Books, Chapters in Books	Books written by specialists in a given field and containing a References section can be very helpful in providing in-depth context for your ideas. When selecting books, look at the publisher. Publishers affiliated with a university tend to be more credible than popular presses. 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. Choose well-known, reputable newspapers such as *The New York Times* and *The Washington Post*.
Industry Websites (.com)	Commercial websites are generally intended to "sell," so you have to select information carefully. Nevertheless, 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, but not always, **public service** sites and are designed to share information with the public. Remember, organizations can also have clear biases and missions, so keep that context in mind when reviewing them.
Government Publications and Public Sector Websites (.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. Statistics Canada,[1] for example, publishes a wide range of data. University web sites also offer a wide array of non-academic information, such as strategic plans, facilities information, etc.

Source Type	Description
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 as TED talks.
Other	Some other examples include radio programs, podcasts, social media, Patreon, etc.

Searching for scholarly and credible sources available to you through an academic library is not quite as simple as conducting a search on a popular internet search engine. See Appendix: Search Strategies to learn more about keywords, different ways of narrowing or broadening a search, and other information that will help you use your library's resources to their fullest potential.

Evaluating Sources

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 critical evaluation skills is crucial to finding valid, credible evidence to support and develop your ideas. Even clear classifications of types of sources are no guarantee of objectivity or credibility. Some books may be published by presses with specific political agendas, and some journals, which look academic/scholarly at first glance, actually don't use a robust peer-review method and instead focus on profit. Don't blindly trust sources without carefully considering the whole context, and don't dismiss a valuable source because it is popular, crowdsourced, or from a non-profit blog.

Note

Research Tip: One of the best ways to make sure you establish the credibility of your information is to triangulate your research—that is, try to find similar conclusions based on various data and from multiple sources. Find several secondary source studies that draw the same overall conclusion from different data, and see if the general principles can be supported by your own observations or primary research. For instance, when you are trying to examine how a course is taught, you want to make sure that you speak with the students and the professor, not just one or the other. Getting the most important data from a number of different sources and different types of sources can both boost the credibility of your findings and help your ethos overall.

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 11.3. When evaluating sources for use in a document, consider how the source will affect your own credibility or ethos.

1. 2
2. [4]

Table 11.3. Evaluating authority, content, and purpose of information.

Evaluating Authority, Content, and Purpose of Information	
Authority Researchers Authors 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 you 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	**Methods** • What are the methods used in study? How has evidence been collected? • Is the methodology (the system or collection of methods) sound? Can you find obvious flaws? • What is the source's scope? Does it apply to your project? How? • How recent and relevant is the source? 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 the data statistically relevant or significant? • 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? • What biases does the author have? Remember, "bias" is not necessarily negative. One scientist may have a preference for a specific research method. • Who is the intended audience? How has the audience affected how the document is presented?

When evaluating sources, you will also want to consider how you plan to use the source and why. There are several reasons for why you would use a particular source. Perhaps it is a scientific study that supports your claim that emissions from certain types of vehicles are higher than those of others. Or maybe the writer uses particularly effective phrasing or an example that your readers will respond to. Or perhaps it is a graph that effectively shows trends from the past ten years. Source use, like any choice you make when producing a document, should be purposeful.

Part of using sources purposefully is interrogating your own reasons for using a source. Specifically, be aware of **cherry picking** and **confirmation bias**. Cherry picking is the use of inadequate or unrepresentative data that only supports your position and ignores substantial amounts of data that contradicts it. Comprehensive research addresses contradictory evidence from credible sources and uses all data to inform its conclusions. Confirmation bias refers to when you (unintentionally or otherwise) only consult sources that you know will support your idea. Given the pie chart in Figure 11.3,[4] if you only consulted articles that rejected global warming in a project related to that topic, you would be guilty of cherry picking and confirmation bias. (While we caution in Chapter 8: Graphics not to use pie charts with only two sections, the extreme contrast in this pie chart creates a valuable rhetorical effect.)

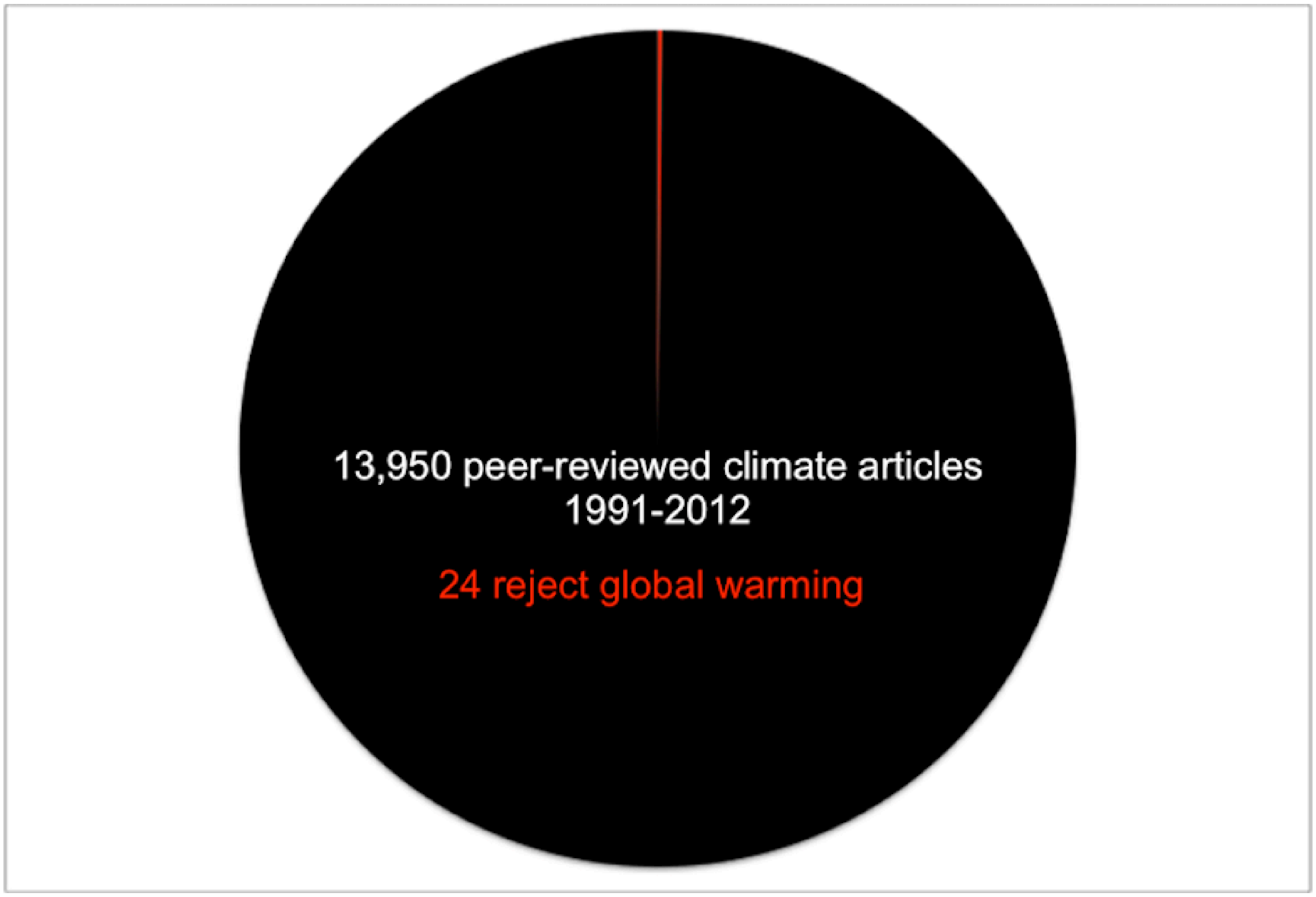

Figure 11.3: Example of a Pie Chart that Breaks the Rules for Effect

Finally, you will also want to consider if you are representing the collected data accurately. As a researcher, you are responsible for treating your sources ethically. Being ethical in this context means both attributing data to its sources and providing accurate context for that data. Occasionally, you may find a specific quotation or data point that seems to support one interpretation; however, once you read the source, you realize that the writer was describing an outlier or critiquing an incorrect point. Another common representation error is claiming that an author says something that they never actually say. In your text, you need to be clear regarding where your information is coming from and where your ideas diverge from those of the source. See Chapter 3 for more detailed discussion on bias.

Notes

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12 - AVOIDING PLAGIARISM AND CITING SOURCES PROPERLY

Plagiarism

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Plagiarism is when you use words, thoughts, or ideas that belong to someone else without giving them credit. In both the classroom and in the professional world of publishing, documenting your information sources is the only way you can convey to others how thorough and careful you have been in researching your topic. Moreover, if you do not tell readers where your information came from, they may think (and many do) that you either made up the information or "stole" it.

When to Cite

Documenting your sources entails providing information on the author of the referenced materials and the publication in which they appear. This practice is also known as **citing a source**. The specific requirements for citing a source vary across different citation styles. In certain styles, such as APA, you must include the date of publication somewhere in the body text. In MLA, by contrast, you are not required to include a date in the in-text citation.

Regardless of the citation style you use, the major question is this: when exactly should you provide documentation for something? As a rule, cite whenever you use something (text, data, idea, or image) in whole or in part from another source. Specifically, you must cite your source when you do the following:

- Copy a sentence or paragraph verbatim (literally, word-for-word) from a book, article, website, blog posting, or anywhere online or in print.
- Use an exact phrase or choice words from a sentence or paragraph, even if you are not copying the whole sentence or paragraph.
- Use original information that you have obtained from an interview or conversation with someone.
- Paraphrase or reword a sentence or phrase from an outside source, or use the ideas inherent in the exact sentence or phrase.
- Reprint images, maps, diagrams, charts, or tables.
- Embed video files or audio files into your work.

When Not to Cite

You do not need to provide citations for commonly known dates and facts. One guideline is that if a fact appears in more than five sources, then it is commonly known. However, if it was not common knowledge to you, and you use a source, then document where you located the information.

You do not need to provide citations for common turns of phrase or idioms, such as "A bird in the hand is worth two in the bush."

When in doubt, it is better to "over"-cite than "under"-cite. Unnecessary citations can be easily removed, and their presence has little overall impact; however, information that lacks proper documentation is much harder to correct and leads to more dire consequences.

Note

ENGL 210-Specific Concerns for Academic Integrity

When it comes to academic integrity, word-for-word plagiarism is not the only concern. There are a few situations specific to this course that you will want to be aware of that are less clear-cut when it comes to what is acceptable.

For all course assignments, you must consult with your instructor and obtain their permission before using work that you created for and/or submitted in a **different** class. Failure to do so constitutes self-plagiarism and counts as academic dishonesty. For example, while you may have a cover letter and résumé readily at hand, you must construct original documents to submit for the Job Application Packet in English 210.

In your **Job Application Packet**, if you use a template for your résumé, make sure that all of the content in your résumé is originally created by you. Some templates provide helpful examples of content—use these examples to inspire your writing rather than directly copy them. This also goes for your cover letter. Using specific, detailed language taken from another source for your cover letter constitutes plagiarism.

For your **210 Portfolio** (containing a **proposal**, **progress report**, **recommendation report**, and any group documentation), you may use the text you wrote for one part of your portfolio in a later part of your portfolio. For example, you will probably want to use parts of your Progress Report in your final Recommendation Report. This does not count as plagiarism because the work has been produced within the same class, and each assignment in the portfolio builds in some way upon the previous assignment.

Four Tips for Avoiding Plagiarism

In order to avoid plagiarism, remember to do the following:

1. **Consider your need for information.** If you are contemplating intentionally plagiarizing something, ask yourself what information you need to finish your assignment, and then consider alternate means for finding it. Your professor, your campus writing or academic success center, and your campus libraries are great places to get more information.
2. **Give yourself time.** Make sure that you leave enough time to complete your assignment. If you budget your time carefully, you will be able to ask for help when necessary and will not feel the pressure to "copy and paste" in sections of writing.
3. **Take notes.** When you are researching, always drop in the last name of the author, or even just a note saying "CITE," in your writing. Take down as much bibliographic data as you can at the moment. This way you can keep track of your ideas and where they came from. You can format your citations later in the revision process.
4. **Ask for help.** You may feel like you don't understand the assignment or the text and think that the

only way to complete your work is to plagiarize. If this is the case, contact the professor (through email or by going to their office hours) to talk about the assignment and your sources. Your professor is there to help you, and one-on-one meetings are available if you feel like you don't want to ask questions in class. If you don't want to talk to your professor, contact your librarian or writing center, or consult with a friend, family member, or classmate. Talking about your writing is a great way to start coming up with ideas.

Note

Specific Resources for Texas A&M Students

If you are unsure about what you need to cite and what you don't, ask your professor, a librarian, or a University Writing Center (UWC) consultant. The Texas A&M University Libraries' website provides contact information so you can get help from a librarian by phone, chat, text, or email.[1] You can also make an appointment to speak with a consultant on the UWC'S website.[2]

Ethical Principles for Choosing and Using Sources

Students are often concerned with the details of correct citation—when to include an author's name in parentheses, how to format a References section, how to indicate a quotation within a quotation—and while these are all important and helpful to know, it is more important to understand the larger ethical principles that guide choosing and using sources. Here are a few of these larger ideas to keep in mind as you select and synthesize your sources:

You must represent the topic or discipline you are writing about fairly. If nine out of ten sources agree that evidence shows the middle class in the United States is shrinking, it is unethical to use only the tenth source that argues it is growing without also acknowledging the minority status of that source.

You must represent the individual source fairly. If a source acknowledges that a small segment of the middle class in the United States is growing but most of the middle class is shrinking, it is unethical to suggest that the former is the writer's main point.

You must acknowledge bias in your sources. While they may be credible, it is unethical to represent sources that offer extreme political views as if these views are mainstream.

You must cite all sources, even informal ones like Wikipedia or a dictionary. Using a dictionary definition, encyclopedia article, or Wikipedia entry is still using a source: if you use exact words, you need quotation marks. If you paraphrase, you still need a citation. Using common/popular sources does not mean the information is "common knowledge."

You must summarize and paraphrase in your own words. In order to be truly yours, a summary or paraphrase must be completely in your own words and sentence structure. Be sure to give credit where credit is due: clearly distinguish what work and words belong to another and what work and words are yours.

This text was derived from

Deborah Bernnard, Greg Bobish, Jenna Hecker, Irina Holden, Allison Hosier, Trudi Jacobson, Tor Loney, and Daryl Bullis. *The Information Literacy User's Guide: An Open, Online Textbook*, edited by Greg Bobish and Trudi Jacobson. Geneseo, NY: Open SUNY Textbooks, Milne Library, 2014). http://textbooks.opensuny.org/the-information-literacy-users-guide-an-open-online-textbook/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

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Notes

1. Texas A&M University Library, https://library.tamu.edu/.
2. Texas A&M University Writing Center, http://writingcenter.tamu.edu/.

USING SOURCES IN YOUR DOCUMENT

Kathryn Crowther; Lauren Curtright; Nancy Gilbert; Barbara Hall; Tracienne Ravita; Kirk Swenson; Robin Jeffrey; Amanda Lloyd; John Lanning; Melanie Gagich; Matt McKinney; Nicole Hagstrom-Schmidt; Kalani Pattison; and Claire Carly-Miles

As stated in Chapter 1, technical writers are often faced with the challenge of communicating and relaying information or concepts on which they may not have direct expertise. Additionally, if they are investigating an ongoing problem or gap in understanding on a research topic, technical writers also have to demonstrate that they are well versed in the current discourse and arguments surrounding the topic.

In both cases, one of the most effective strategies technical writers can employ is to integrate and cite sources into their documents and presentations. Beyond avoiding plagiarism, using sources effectively allows you to draw on the expertise of others to support your points. Using sources effectively also helps the reader understand how you are situating different findings, ideas, and arguments in conversation with one another, as well as how you yourself are participating in that conversation.

To help you master these skills, this section will review the different kinds of sources and citation forms that you are likely to encounter in technical and professional writing.

Primary Sources and Secondary Sources

Primary sources are direct, firsthand sources of information or data. These are sources that are fixed in a point in time and typically do not contain analysis or discussion. For example, if you were writing a report about the First Amendment right to freedom of speech, the text of the First Amendment in the Bill of Rights would be a primary source. Other types of primary sources include the following:

- Data sets (your own or from a published source)
- Surveys
- Interviews
- Photographs
- Social media posts
- Visuals such as schematics or plans
- Historical and some government documents
- Art & literature, including but not limited to novels, paintings, musical recordings, movies, and video games

Secondary sources discuss, interpret, analyze, consolidate, or otherwise rework information from primary sources. In researching a report about freedom of speech, you might read articles about legal cases that involved First Amendment rights, or editorials expressing commentary on the First Amendment. These sources would be considered secondary sources because they are one step removed from the primary source of information. Other examples of secondary sources include the following:

- Biographies
- Histories and historical analysis
- Journal articles

- News articles and commentaries
- Blogs
- Video essays

Your topic, audience, and purpose determine whether you must use both primary and secondary sources in your document. Ask yourself which sources are most likely to provide the information that will answer your research questions. If you are writing a research report about reality television shows, you will need to use some reality shows as a primary source, but secondary sources, such as a reviewer's critique, are also important. If you are writing about the health effects of nicotine, you will probably want to read the published results of scientific studies, but secondary sources, such as magazine articles discussing the outcome of a recent study, may also be helpful.

Tertiary sources are defined and discussed in Chapter 11: Research. For the purposes of citation and integration, they should be treated the same as secondary sources.

Note

Classifying Primary and Secondary Sources

Whether a text (document or otherwise) is primary or secondary depends a lot on content and context. For example, you could conduct an interview with an individual about their life, and that would be a primary source. If you interviewed that person about their area of expertise, that might be considered more of a secondary source. Similarly, a journal article reporting the results of an original research study may be a primary source, while a journal article comparing and analyzing the results of several research studies may be a secondary source.

Citing Personal Primary Research

In many circumstances, you may be presenting primary research that you have conducted. In this case, the primary research can take the form of experimental data gained from lab experiments, results from surveys, or material from interviews or on-site evaluations. In all these scenarios, the research is not yet published prior to its inclusion in your report, paper, or article. Therefore, you do not cite it in the same way you would a published source using parenthetical citations or an entry in a Works Cited or References page.

For data acquired through an experiment, survey, or on-site research, indicate in your text where the information comes from. When specifically referencing data such as a measurement or results from a survey, you may use signal phrases like you would for a quotation, summary, or paraphrase. This signaling should be within the same sentence and in close proximity to the information itself. For example, when referencing the results of an online survey, you might say one of the following:

- 75% of responders to **our online survey** reported that they were dissatisfied with the lab's spectrometer.
- **Our online survey** revealed that 75% of our respondents were dissatisfied with the lab's spectrometer.

Notice in the example above that while the writers use a signal phrase ("our online survey"), they do not provide any citation information in parentheses. This is because non-published primary research conducted by the authors usually does not appear in a bibliography. One major exception to this rule is an interview or interpersonal communication, depending on your citation style. In MLA style, personal communication, whether in-person, over the phone or Zoom, or via an email exchange, is included both in the Works Cited list and parenthetically in the document. In APA, however, personal communication is only cited parenthetically in the document. To see how to cite personal communication in both styles, see APA Format Quick Reference and MLA Format Quick Reference later in this chapter.

The Methods section of a report or technical document serves as another major place where you discuss your primary research. In a Methods (or Method or Methodology) section, you discuss the design of your research project. This section will include a description of how you collected any information, including what tools (if any) you used, your research protocol, and any deviations from a standard protocol. See Chapter 20: Recommendation Reports for additional information.

Depending on the type of primary research you are conducting, you may want to include an appendix offering supplementary information on your research design. The two most common types of appendices you will see in recommendation reports in this class include a list of survey or interview questions (especially if they do not appear in list form in the report itself) and large tables of data from an extended period of data collection. When their data serves a supplementary purpose, these materials are placed in an appendix rather than integrated into the report itself. If the information is interesting but not necessarily relevant to the purpose and audience of the report, then that information is kept separate.

Quoting

Direct quotations are portions of a text taken word-for-word and placed inside of another document. Readers know when an author is using a direct quote because it is denoted by the use of quotation marks and an in-text citation. In this section, you will learn when to use direct quotes and the rules for direct quotation.

When Should I Use Direct Quotes?

Generally speaking, direct quotes should be used sparingly because you want to rely on your own understanding of material and avoid over-relying on another's words. Over-quoting does not reinforce your credibility as an author; however, according to the Purdue Online Writing Lab (OWL) you should use direct quotes when "the author you are quoting has coined a term unique to her or his research and relevant within your own paper."[1] In other words, quoting is particularly important when you're defining and contextualizing key terms and concepts in your text.

The Basics of Direct Quotation

For each direct quotation you use, be sure to observe the following steps:

1. Enclose the quoted material in quotation marks to set it off from the rest of the text. The exception to this rule is block (or long) quotes, which require different formatting.
2. Provide a word-for-word reproduction from the author's original text. If you need to alter wording or spelling, use an ellipsis or brackets.
3. Precede each quotation with a clear signal phrase/attribution tag. If the signal phrase is a complete

sentence, you should use a colon as the punctuation between the signal phrase and the quotation. Otherwise, a comma is usually best.
4. Follow each quotation with a parenthetical citation.
5. Clearly interpret or integrate the text into your own argument so that your readers know how to understand the quotation within the context of your work. Quotations can't be left to speak for themselves (see "Integrating Quotes into Your Writing" later in this chapter).

MLA Example

In his seminal work, David Bartholomae argues, "Every time a student sits down to write for us, he has to invent the university for the occasion" (4). Bartholomae uses this strong image to emphasize how important it is to instructors to understand students' perceptions of their audiences.

APA Example

In his seminal work, David Bartholomae (1986) argues, "Every time a student sits down to write for us, he has to invent the university for the occasion" (p. 4). Bartholomae uses this strong image to emphasize how important it is to instructors to understand students' perceptions of their audiences.

Note that in both examples the author encloses the entire quotation with quotation marks, provides a signal phrase, and offers a page number for the quoted material. With this information, a reader can consult the document's Works Cited (MLA) or References page (APA) to locate Bartholomae's original article.[2] Furthermore, the second sentence in each example connects the quotation to the argument by emphasizing the aspect of the quotation most relevant to the author's argument. In subsequent sentences, the writer may respond to Bartholomae, perhaps using his argument to further the writer's own, offering a counter argument, or even using a combination of these two approaches.

Block Quotations

Longer quoted passages are formatted using the block quote format. In MLA, you will use this format if the typed quotation is more than three lines long. In APA, quotations longer than 40 words use this format. In both citation styles, the quoted section is indented one half inch and is not enclosed by quotation marks. A longer signal phrase (usually a full sentence) precedes the long quotation. Parenthetical citation is placed at the very end of the quotation, after any final punctuation.

Whether you are using MLA or APA style, you want to maintain the same line-spacing for block quotes and the rest of your document. For example, most technical documents are single-spaced with a blank line between paragraphs, so your block quotes will be single-spaced as well. By contrast, in the traditional academic formatting you're likely familiar with from most of your college essays, block quotes and the rest of the document are double-spaced. Below is an example of a long quotation from Bartholomae's article in the block format in both MLA and APA styles, which maintains single-spacing in the writer's words and the block quotes.[3]

MLA Example

In his seminal work, David Bartholomae illustrates the thought process that college students must go through when they write for professors:

> Every time a student sits down to write for us, he has to invent the university for the occasion–invent the university, that is, or a branch of it, like History or Anthropology or Economics or English. He has to learn to speak our language, to speak as we do, to try on the peculiar ways of knowing, selecting, evaluating, reporting, concluding, and arguing that define the discourse of our community. (4)

Bartholomae uses the strong language of inventing to emphasize the importance of understanding how students may find it difficult to join in with unfamiliar academic discourses.

APA Example

In his seminal work, David Bartholomae (1986) illustrates the thought process that college students must go through when they write for professors:

> Every time a student sits down to write for us, he has to invent the university for the occasion–invent the university, that is, or a branch of it, like History or Anthropology or Economics or English. He has to learn to speak our language, to speak as we do, to try on the peculiar ways of knowing, selecting, evaluating, reporting, concluding, and arguing that define the discourse of our community. (p. 4)

Bartholomae uses the strong language of inventing to emphasize the importance of understanding how students may find it difficult to join in with unfamiliar academic discourses.

Modifying Direct Quotations

Sometimes, in order to smoothly integrate quoted material into your paper, you may need to remove a word or add a word to make the quote make sense. If you make any change to quoted material, it must be formatted correctly using an **ellipsis** (…) or **brackets** ([ ]). Be sure not to use these alterations to change the meaning of the quotation. In the following, a portion of Hamlet's "To Be, or Not To Be" soliloquy[4] is used as the exemplar:

Original quote: "To be, or not to be, that is the question."

- Use an ellipsis (…) to indicate omissions in the middle of a quote:

    As Hamlet states, "To be, or not to be…is the question."

- Use brackets ([]) to change or add a word to the quote:

    As Hamlet states, "To be, or not to be, that is the [essential] question."

Paraphrasing, Summarizing, and Referencing

While quoting may be the first thing that many people think of when they think about integrating sources, paraphrasing, summarizing, and referencing data are also ways to incorporate information from outside materials into your essays or projects.

Paraphrasing

Paraphrases allow you to describe specific information from a source (ideas from a paragraph or several consecutive paragraphs) in your own words. Paraphrases of the text should be expressed in your own words, with your own sentence structure, in your own way. You should not simply "word swap" or replace a few words from the original text with synonyms. If you use a few of the author's words within your paraphrase, place quotation marks around them.

Paraphrases are more common in number-driven fields such as sciences and social sciences than in text-based fields such as the humanities or sciences focusing on human subjects. However, while there is a difference between quoting and paraphrasing, how quotes and paraphrases are cited is really not that different at all. As with a quote, you need to explain to your reader why the paraphrased material is significant to the point you are making in your paper. You might also include signal phrases (also known as attributive tags) to let your readers know where the paraphrased material begins. Finally, as with quotations, paraphrased material should be followed by a parenthetical citation. Though APA only needs page numbers with quoted material, MLA requires page numbers for paraphrases as well (if the original source is paginated).

Summarizing

Summaries allow you to describe general ideas from a source. You do not express detailed information as you would with a paraphrase. If you are unsure whether you are summarizing or paraphrasing, compare your writing to the original. Can you identify a specific sentence, paragraph, or page number that discusses that information? If you are able to locate a specific point in the original text, then you are constructing a paraphrase and should include the appropriate page number or other marker. If your writing is dealing with a larger idea or argument that your source discusses throughout, then you have a summary. Therefore, there is no need to cite a specific page number, although you will, of course, attribute the summary to the source from which you are drawing it.

Like paraphrases, any summaries of the text should not include direct wording from the original source. All text should be in your own words, though the ideas are those of the original author. You should indicate the original source by using a signal phrase that identifies the author of the original text, or the title of the text if no author is available.

Referencing

A less commonly discussed but still ubiquitous method of using sources (especially in the sciences and social sciences) is called **referencing**. When you provide a reference in the main body of a document, you are signaling to the reader that the citation is an example of something you have just said without taking the time to analyze the content of the source. When a source is alluded to in this manner, the author signals that while this source is important in the chain of research, its particular findings or methods are not as relevant to the current document's purpose and audience.

Most often, you will see referencing early on as part of a literature review or introduction to the document. References are less common in analytical sections of reports and articles, but they may still appear if the author needs to make a quick point.

To employ a reference, observe the following guidelines:

1. Identify what the source or sources are doing as a whole.
2. Provide in-text parenthetical citations that support the claim made in part 1. These should go at the end of the claim.
3. Provide full citations in a Works Cited or References page at the end of the document.

Example

Several studies on stress and engineering students focus specifically on intersectionality (Armani et al., 2003; Blackistone & Paige, 2010; Kim, 2015).

In the above example the writer offers a claim regarding the three sources provided in the in-text citation. The claim is that those three studies "focus specifically on intersectionality." Notice that the claim alludes to the general content of the cited articles and does not offer any additional analysis or page numbers. However, the combined claim and citations allow readers who are interested in this topic to more easily locate the three recommended sources. For the writer, referencing can show credibility and content expertise.

Integrating Information from Sources

Incorporating information from sources involves more than simply inserting quotations, paraphrase, or summary and including a bibliographic entry in your document. Introducing context for the information and integrating the information into your own sentences also forms a critical aspect of using sources successfully.

Signal Phrases

Academic writing requires the use of **signal phrases** (or attributive tags) to properly document quoted, paraphrased, and summarized material. Signal phrases require the use of the author's name and a strong verb. These phrases may also emphasize different types of information related to the source, such as the source's title or publisher, in order to further contextualize and guide your reader's response to the cited material.

When using MLA style, it is a good idea to provide a signal phrase as well as the author's first and last name when the author is first mentioned. Any future signal phrase should refer to the author by last name only, or with a pronoun when it is clear to whom the pronoun refers. For example, look at the three consecutive sentences below:

> Ellen J. Langer observes, "For us to pay attention to something for any amount of time, the image must be varied."[5]

> Langer continues, "Thus, for students who have trouble paying attention the problem may be that they are following the wrong instructions."[6]
>
> She then states, "To pay constant, fixed attention to a thought or an image may be a kind of oxymoron."[7]

Notice also how each signal phrase verb is followed by a comma, which is then followed by one space before the opening quotation mark.

In contrast, APA style guidelines require no reference to a first name at any point in a document and few, if any, gender-specific pronouns. In most instances, a signal phrase should contain only the last name of the author or authors of the source text (as opposed to the author's first and last name).

Using Strong Verbs in Signal Phrases

To avoid repetition, you will want to vary your verbs. Rather than simply using "states" throughout your entire document, offer a more specific verb that signals to the reader just how you are using the source. See Table 12.1 below for examples of strong signal-phrase verbs.

Table 12.1. Strong signal-phrase verbs.

Strong Signal-Phrase Verbs		
Acknowledges	Counters	Notes
Admits	Declares	Observes
Agrees	Denies	Points out
Argues	Disputes	Reasons
Asserts	Emphasizes	Refutes
Believes	Finds	Rejects
Claims	Illustrates	Reports
Compares	Implies	Responds
Confirms	Insists	Suggests
Comments	Maintains	Thinks
Contends	Mentions	Writes

Signal phrases provide the audience with valuable insight into how you, the writer, intend the quoted material to be understood. In addition to setting up how you use the source and its reliability, signal phrases can also be used as meaningful transitions moving your readers between your ideas and those of your support.

While providing the author's credentials is the most common type of signal phrase, there are others you should be aware of. Table 12.2 below offers examples of common types of signal phrases and why you might use them in a document.

Table 12.2. Common signal phrases.

Type of Signal Phrase	Purpose	Example
Author's credentials are indicated.	Builds credibility for the passage you are about to present.	Grace Chapmen, Curator of Human Health & Evolutionary Medicine at the Springfield Natural History Museum, explains…
Author's lack of credentials is indicated.	Illustrates a lack of source's authority on the subject matter and persuades the audience not to adopt the author's ideas. Pointing to an author's lack of credentials can be beneficial when developing your response to counter-arguments.	Matthew Smythe, whose background is in marriage counseling and not foreign policy, claims…
Author's social or political stance, if necessary to the content, is explained.	Helps a reader to understand why that author expresses a particular view. This understanding can positively or negatively influence an audience. **Note**: Be careful to avoid engaging in logical fallacies such as loaded language and ad hominems. See Chapter 4 for more information.	Employing nonviolent civil disobedience, Roland Hayes, prominent civil rights activist, preaches… Richard Spencer, who takes credit for the term "alt-right," denies…
Publisher of the source is identified.	Reinforces the credibility of the information presented by utilizing the reputation and credibility of the publisher of the source material. **Note**: When only referencing the publisher, make sure to include a parenthetical in-text citation identifying the author (or title, if no author is available) at the end of the cited material.	According to a recent Gallup poll…
Title of the source is included.	Informs the reader where the cited passage is being pulled from. This is especially useful if the author has multiple publications or if the publication is particularly well-known.	In "Understanding Human Behavior," Riley argues…
Information that establishes context is presented.	Clarifies the author's purpose. Offers more information on the original circumstances for the quotation.	In a speech presented during the Boston Free Speech Rally, Elaine Wallace encourages…

Integrating Quotations, Paraphrase, and Summary into Your Writing

As the author of your document, you should explain the significance of information you cite to your reader. This practice goes beyond simply including a signal phrase. Explaining the significance means indicating how the quoted, paraphrased, or summarized material supports the point you are making in that paragraph. Remember, just because you add a source does not mean that you have made your point. Raw data, whether in numbers or words, never speak for themselves. When referring to outside material, ask yourself how and why does that information make the point you think it does. Below are some helpful phrases for explaining referenced materials ("X" represents the author's last name):

- **Signal phrase + content (quoted/paraphrased/summarized material).** X demonstrates that __.
- **Signal phrase + content.** Here, X is not simply stating ____; she is also demonstrating _____.
- **Signal phrase + content.** This [point/concept/idea] is an example of ____because _______.
- **Signal phrase + content.** This [statement/example] clearly shows _____because _______.

Allow your voice—not a quote from a source—to begin each paragraph, precede each quote, follow each quote, and end each paragraph. In other words, never start a sentence or end a paragraph in someone else's words. Quotes that are integrated well into a document allow you to control the content. That is what a reader wants to see: your ideas and the way that you engage sources to shape and discuss your ideas.

Notes

1. "How to Use Quotation Marks," Purdue Online Writing Lab, accessed May 8, 2020, https://owl.purdue.edu/owl/general_writing/punctuation/quotation_marks/index.html.
2. David Bartholomae, "Inventing the University," *Journal of Basic Writing* 5, no. 3 (1986): 4.
3. David Bartholomae, "Inventing the University," *Journal of Basic Writing* 5, no. 3 (1986): 4.
4. William Shakespeare, Hamlet, in *The Norton Shakespeare, Vol II: Later Plays and Poems*, 3rd ed., eds. Stephen Greenblatt, Walter Cohen, Suzanne Gossett, Jean E. Howard, Katharine Eisaman Maus, and Gordon McMullan (New York and London: Norton, 2016), 3.1.55.
5. Ellen J. Langer, *The Power of Mindful Learning* (Boston: Da Capo Press, 1997), 39.
6. Ellen J. Langer, *The Power of Mindful Learning* (Boston: Da Capo Press, 1997), 39.
7. Ellen J. Langer, *The Power of Mindful Learning* (Boston: Da Capo Press, 1997), 39.

CITATIONS

Deborah Bernnard; Greg Bobish; Jenna Hecker; Irina Holden; Allison Hosier; Trudi Jacobson; Tor Loney; Daryl Bullis; Sarah LeMire; Matt McKinney; Nicole Hagstrom-Schmidt; and Kalani Pattison

Citations can be confusing. There are many different citation styles and not many concrete rules about when to use a particular style. Your professor may indicate which citation style you should use. Generally, certain citation styles correspond with certain fields of study, though sometimes specific areas within a discipline or field will choose differently—linguistics, commonly grouped with English departments, for instance, will often use APA, despite most English literature and rhetoric journals using MLA or Chicago styles. Table 12.3 provides some general guidelines for correlation between citation styles and disciplines.

Table 12.3. Citation styles commonly used in disciplines.

Citation Style	Associated Disciplines
American Medical Association (AMA)	Biomedical sciences
American Psychological Association (APA)	Social sciences and education
Chicago	Humanities and arts
Council of Science Editors (CSE)	Science
Institute of Electrical and Electronics Engineers (IEEE)	Engineering
Modern Language Association (MLA)	Humanities and arts

The formatting of these citation styles is not arbitrary; each format reflects the values and priorities of their corresponding fields. For example, the year of publication is emphasized much more heavily in APA because that indicates how current the research is. For instance, research on treating cancer from the 1970s may not hold up today. MLA, by contrast, does not emphasize the year, because this is not as important a concern as the text's title for fields like literature. The final arbiter of the citation style to use is the target audience: check with your professor or your intended publisher.

Note

Citation Tip: You can find detailed information about how to format a citation in these styles by consulting the latest Publication Manual of the American Psychological Association, for APA citations, the most recent copy of the MLA Handbook for Writers of Research Papers, or the current Chicago Manual of Style. You should be able to find copies of these publications in the reference section of your library. You can also obtain guidance on formatting citations from the Texas A&M University Libraries' "Citing and Writing" guides.[1]

However, just knowing what citation style is used doesn't always clear up the confusion. Each different form of information is cited differently. The most common forms that you will encounter are books, chapters in books, journal articles, and websites.

Take a look at the citations on the following pages. You can see that there are differences between citation styles. You can also see that each information format contains different elements. When you try to determine whether a citation is for a book, book chapter, or journal, think about the elements inherent in each of these formats. For example, a journal article appears in a journal that is published in a volume and issue. If you see volume and issue numbers in the citation, you can assume that the citation is for a journal article. A book chapter in a volume of collected essays is usually written by a different author from the editors of the whole book. Finally, a single-authored book is often the easiest citation to decipher because it contains the fewest elements.

Notes

1. "Citing and Writing," Texas A&M University Libraries: Research Guides, https://tamu.libguides.com/citingandwriting?b=g&d=a&group_id=12426.

APA FORMAT QUICK REFERENCE

Sarah LeMire; Nicole Hagstrom-Schmidt; Kalani Pattison; Matt McKinney; Deborah Bernnard; Greg Bobish; Jenna Hecker; Irina Holden; Allison Hosier; Trudi Jacobson; Tor Loney; and Daryl Bullis

Properly formatted APA citations include two main elements: the reference list entry and the in-text citation. Below you will find sample citations for a variety of commonly-used reference types. For additional questions, consult the Publication Manual of the American Psychological Association (7th ed.)[1]

Reference List

The reference list is found at the end of your document, and it includes all of the sources used when developing your paper or project. References are listed in alphabetical order by the author's last name, and each reference will have a hanging indent to make it easier to visually distinguish between each reference.

No Author

> If there is no author, the title moves into the place of the author. The reference should then be alphabetized by the first word in the title within the reference list. If the first word is an article ("a," "an," or "the"), alphabetize according to the second word. If the first word is a number, alphabetize according to the spelling of the number. (For example, if the first word is "665," you would alphabetize it as if it were "six-hundred and sixty-five."

Example

Down the Line. (1895). In *The Olio: An Annual* (pp. 54-58). The Corps of Cadets of the Agricultural and Mechanical College of Texas.

Single Author

> In APA style, when there is a single author, you should list them with the last name first, followed by the first and (if available) middle initial.

Example

Clark, D. T. (2009). Lending Kindle e-book readers: First results from the Texas A&M University project. *Collection Building*, *28*(4), 146-149. https://doi.org/10.1108/01604950910999774

Two Authors

When there are two authors, list both and connect them with an ampersand (&). Be sure to keep the authors in the order in which they appear on the source.

Example

Rutledge, L., & LeMire, S. (2016). Beyond disciplines: Providing outreach to underserved groups by demographic. *Public Services Quarterly*, *12*(2), 113–124. https://doi.org/10.1080/15228959.2016.1157565

Three to Twenty Authors

When there are between three and twenty authors, list each one and use an ampersand (&) before the final author. Be sure to keep the authors in the order in which they appear on the source.

Example

LeMire, S., Graves, S. J., Hawkins, M., & Kailani, S. (2018). Libr-AR-y Tours: Increasing engagement and scalability of library tours using augmented reality. *College & Undergraduate Libraries*, *25*(3), 261–279. https://doi.org/10.1080/10691316.2018.1480445

Twenty-One or More Authors

When there are more than twenty authors, list the first nineteen authors, then add an ellipsis (…) and the last author's name. The ellipsis (…) will take the place of author names between author number nineteen and the final author. Be sure to keep the authors in the order in which they appear on the source.

Example

Agnese, R., Anderson, A. J., Asai, M., Balakishiyeva, D., Thakur, R. B., Bauer, D. A., Beaty, J., Billard, J., Borgland, A, Bowles, M.A., Brandt, D., Brink, P.L., Bunker, R., Cabrera, B., Caldwell, D.O., Cerdeno, D.G., Chagani, H., Chen, Y., Cherry, M., … Zhang, J. (2014). Search for low-mass weakly interacting massive particles with SuperCDMS. *Physical Review Letters*, *112*(24), 241–302. https://doi.org/10.1103/PhysRevLett.112.241302

Institutional Author

Sometimes the author isn't a person—instead, the source is authored by an organization. In this case, you'll list the organization as the author.

Example

Texas A&M University. (2019). *Aggie traditions*. https://www.tamu.edu/traditions/index.html

Book

Books list the author, followed by the year, and then the title in italics. The title is in **sentence case**, which means that you only capitalize the first word, any proper nouns or adjectives, and the first word after a colon or period. APA also includes the publisher name. If the book is accessed electronically, also include the **digital object identifier (doi)**. Figure 12.1[2] illustrates the components of a book citation in APA format.

Example

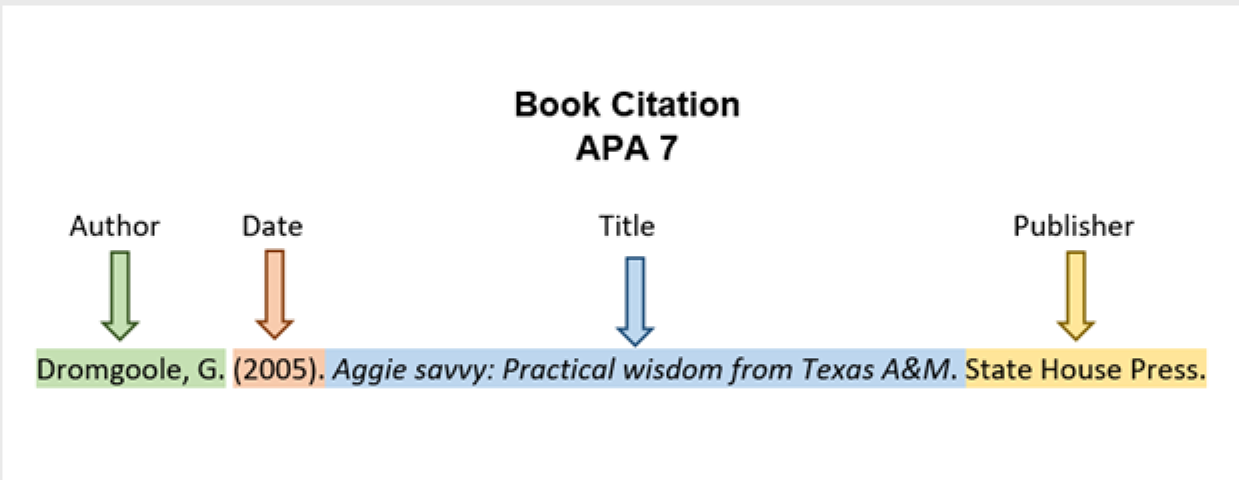

Figure 12.1: Book Citation in APA 7 Style

Article from a Database

Articles from online databases like Google Scholar or EBSCO include the author names, year of publication, and article title in sentence case. For the journal title, follow the capitalization provided by the journal itself. The journal title and the volume number are in italics. The issue is in parentheses, followed by the page range.

To help the reader access the article, always include the doi (permanent url) if one is available. It is generally listed near the top of the article. It may appear as doi: or https://dx.doi.org/ followed by a sequence of numbers and/or letters. The doi number typically starts with the number 10, as in the example below. If there is a doi available, include it in your citation using the format https://doi.org/[insert doi number]. Figure 12.2[3] illustrates the components of a journal article citation in APA format.

Example

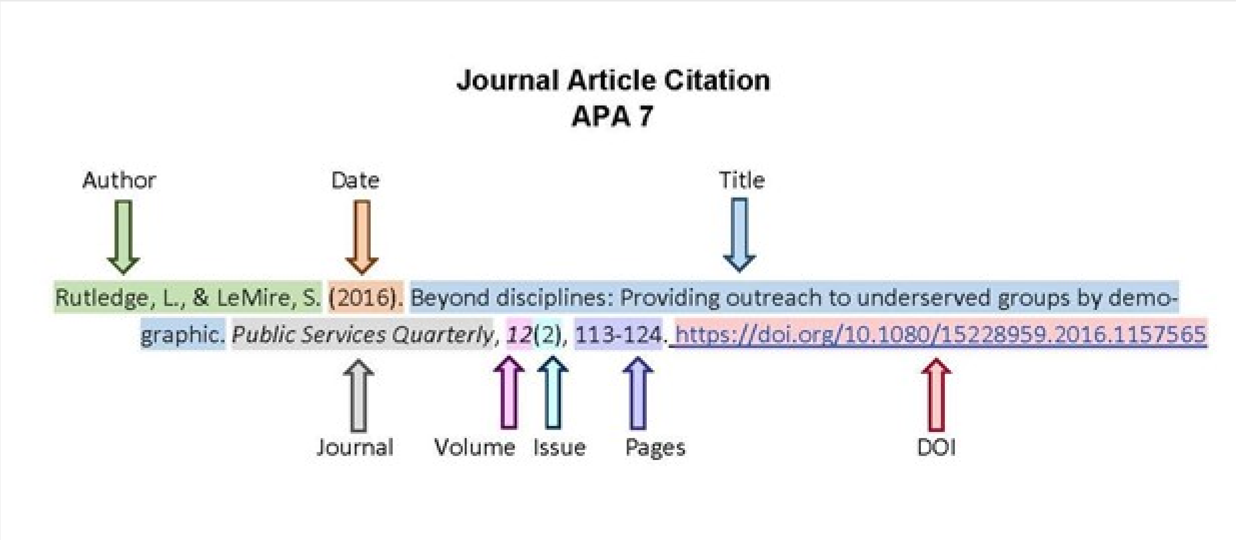

Figure 12.2: Journal Article Citation in APA 7 Style

Newspaper Article

If a newspaper article is found in a database such as *Newspaper Source* or *Access World News*, do not include the database name or URL. If the article is found through the open web, include the URL.

If an article is from an online newspaper (for example, *Washington Post*, *New York Times*, *Wall Street Journal*), italicize the name of the newspaper. If the article is from an online news website (e.g. BBC News, CNN, Reuters), italicize the name of the article and not the site.

Example from an online newspaper

Boren, C. (2018, November 25). It took seven overtimes for Texas A&M to beat LSU in the craziest college football game of the year. *Washington Post*. https://www.washingtonpost.com/sports/ 2018/ 11/25/it-took-seven-overtimes-texas-am-beat-lsu-craziest-college-football-game-year/

Example from an online news website

Holcombe, M. (2019, July 18). *Texas A&M's new program opens the door to college education for students with disabilities.* CNN. https://www.cnn.com/2019/07/18/us/texas-am-program- disabilities/ index.html

Website

Example

Texas A&M University Division of Student Affairs. (2019). *Residence life*. https://reslife.tamu.edu/

YouTube Video

Example

Texas A&M University. (2019, September 8). *Fearless on every front* [Video]. YouTube. https://www.youtube.com/watch?v=YIRup0e8kTk

Interview

In APA format, an unpublished interview is not included in the reference list. This is because the interview is not available for the reader to view. Instead, interviews are cited only in-text.

Lecture

In APA format, if you are citing your professor's lecture slides or content, you should point the reader to a digital copy of that content if possible. If housed in a course management system, direct the reader to the login page for that system.

Example

Pantuso, T. (2019, September 10). *Visual rhetoric* [PowerPoint slides]. eCampus. https://ecampus.tamu.edu/

In-Text Citations

APA in-text citations use the last name(s) of the author(s), followed by a comma and the year of publication. If using a direct quotation, also include the page number where that quotation can be found. The abbreviation "p." precedes any page numbers. These items are all separated by commas.

In APA format, you can also embed the in-text quotation directly into your sentence (for example, Smith (2001) found that…), which then obviates the need for a parenthetical at the end of the sentence, except in the case of a direct quotation.

No Author

As with the reference list, the in-text citation will use the title if there is no author available. Use the first few words of the title if it is long, and place it in quotation marks.

Example

("Down the Line," 1895).

Single Author

If the work has a single author, use the author's last name, followed by a comma and the year of publication.

Example (no direct quotation)

(Clark, 2009)

Example (direct quotation)

(Clark, 2009, p. 42)

Two Authors

When there are two authors, list the last names of both connected by an ampersand (&). Be sure to keep the authors in the order in which they appear on the source.

Example

(Rutledge & LeMire, 2016).

Three or More Authors

When there are three or more authors, list the first author's last name, followed by et al. This is a Latin phrase meaning "and others" and used in some citation formats as a way to abbreviate a list of names. Notice that the switch to "et al." occurs after three authors when using in-text citations. In your References list, you will include up to twenty authors.

Example

(Tribble et al., 2002).

Institutional Author

As with the reference list, you'll list the organization as the author in the in-text citation.

Example

(Texas A&M University, 2019).

Notes

1. American Psychological Association, "The Official Guide to APA Style," *Publication Manual of the American Psychological Association*, 7th ed. (Washington DC: American Psychological Association, 2019).
2. Adapted by Sarah LeMire from Deborah Bernnard, Greg Bobish, Jenna Hecker, Irina Holden, Allison Hosier, Trudi Jacobson, Tor Loney, and Daryl Bullis, *The Information Literacy User's Guide: An Open, Online Textbook*, edited by Greg Bobish and Trudi Jacobson (Geneseo, NY: Open SUNY Textbooks, Milne Library, 2014), 56, http://textbooks.opensuny.org/the-information-literacy-users-guide-an-open-online-textbook/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
3. Adapted by Sarah LeMire from Deborah Bernnard, Greg Bobish, Jenna Hecker, Irina Holden, Allison Hosier, Trudi Jacobson, Tor Loney, and Daryl Bullis, *The Information Literacy User's Guide: An Open, Online Textbook*, edited by Greg Bobish and Trudi Jacobson (Geneseo, NY: Open SUNY Textbooks, Milne Library, 2014), 57, http://textbooks.opensuny.org/the-information-literacy-users-guide-an-open-online-textbook/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

MLA FORMAT QUICK REFERENCE

Sarah LeMire; Nicole Hagstrom-Schmidt; Kalani Pattison; Matt McKinney; Deborah Bernnard; Greg Bobish; Jenna Hecker; Irina Holden; Allison Hosier; Trudi Jacobson; Tor Loney; and Daryl Bullis

Just like APA format, properly formatted MLA citations include two main elements: the works cited entry and the in-text citation. Below you will find sample citations for a variety of commonly-used reference types. For additional questions, consult the MLA Handbook (9th ed).

Works Cited

The Works Cited page operates just like the Reference list in APA format. It is found at the end of your paper or project, and it includes all of the sources used when developing your paper or project. References are listed in alphabetical order by the author's last name, and each reference will have a hanging indent to make it easier to visually distinguish between each reference.

No Author

If there is no author, the title moves into the place of the author. The reference should then be alphabetized by the first word in the title within the reference list.

Example

"Down the Line." *The Olio: An Annual*, The Corps of Cadets of the Agricultural and Mechanical College of Texas, 1895, pp. 54–58.

Single Author

In MLA style, when there is a single author, you should list them with the last name first, followed by the full first and (if available) middle name or initial.

Example

Lyke, Austin. "Institutional Effects of Higher Education Acquisitions: The Case of Texas A&M School of Law." *AERA Open*, vol. 4, no. 4, 2018, pp. 1–11. *Sage Journals*, https://doi.org/10.1177/2332858418816092.

Two Authors

When there are two authors, the first author with their last name first, followed by their first name and (if available) middle name or initial. The name order is reversed with the second author, and the word and is used to connect the two. Be sure to keep the authors in the order in which they appear on the source.

Example

James, Adrian, and Lori Moore. “Understanding the Supplemental Instruction Leader.” *Learning Assistance Review*, vol. 23, no. 1, 2018, pp. 9–29. *ERIC*, eric.ed.gov/?id=EJ1170156.

Three or More Authors

When there are more than three authors, list the first author’s last name, followed by et al. This is a Latin phrase meaning “and others” and is used in some citation formats as a way to abbreviate a list of names.

Example

LeMire, Sarah, et al. “Taking a Fresh Look: Reviewing and Classifying Reference Statistics for Data-Driven Decision Making.” *Reference & User Services Quarterly*, vol. 55, no. 3, 2018, pp. 230–234. *JSTOR*, www.jstor.org/stable/refuseserq.55.3.230.

Institutional Author

Sometimes the author isn’t a person—instead, it’s authored by an organization. In this case, you’ll list the organization as the author. If the organization and the publisher are the same, only list the organization as the publisher and use the title as the author.

Example

Stats in Brief: What High Schoolers and Their Parents Know about Public 4-year Tuition. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, Nov. 2018.

Book

In MLA format, books list the author, followed by the title in italics. MLA, unlike APA, does not typically include the place of publication. If the book is accessed electronically, note that it is an e-book (usually after the title). Figure 12.3[1] illustrates the components of a book citation in MLA format.

Example

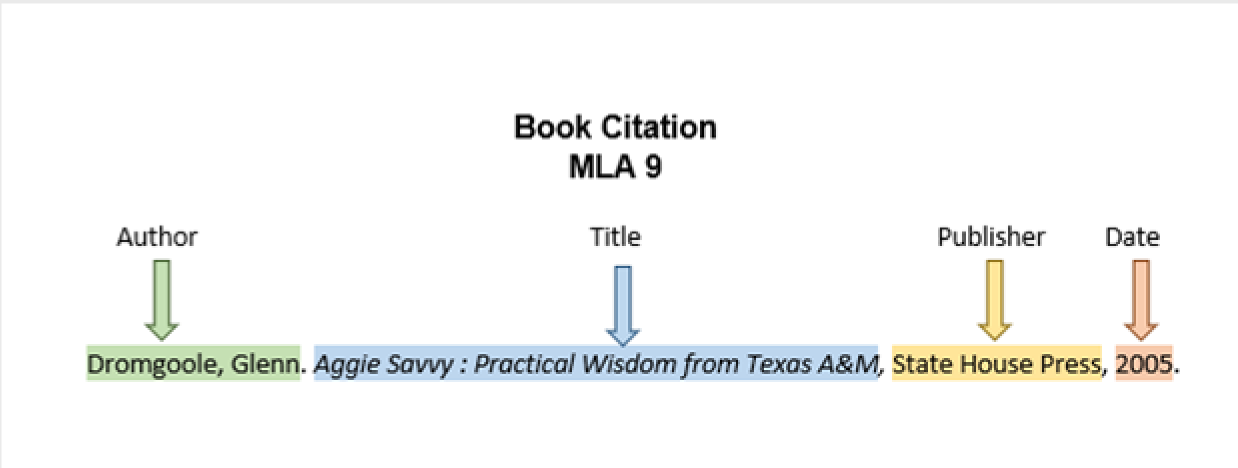

Figure 12.3. Book citation in MLA, 9th edition.

Article from Database

You will commonly access articles from online databases like JSTOR or Project Muse databases, as opposed to finding them directly via a journal or in print. In this case, MLA format requires that you include the name of the article, name of the journal, and the name of the database in your citation.

To help the reader access the article, always include the doi (permanent url) if there is one available. It is generally listed near the top of the article. It may appear as doi: or https://dx.doi.org/ followed by a sequence of numbers and/or letters. The doi number typically starts with the number 10, as in the example below. If there is a doi available, include it in your citation using the format https://doi.org/[insert doi number]. If a permalink is available instead of a doi, it can be used instead. Figure 12.4[2] illustrates the components of a journal article citation in MLA format.

Example

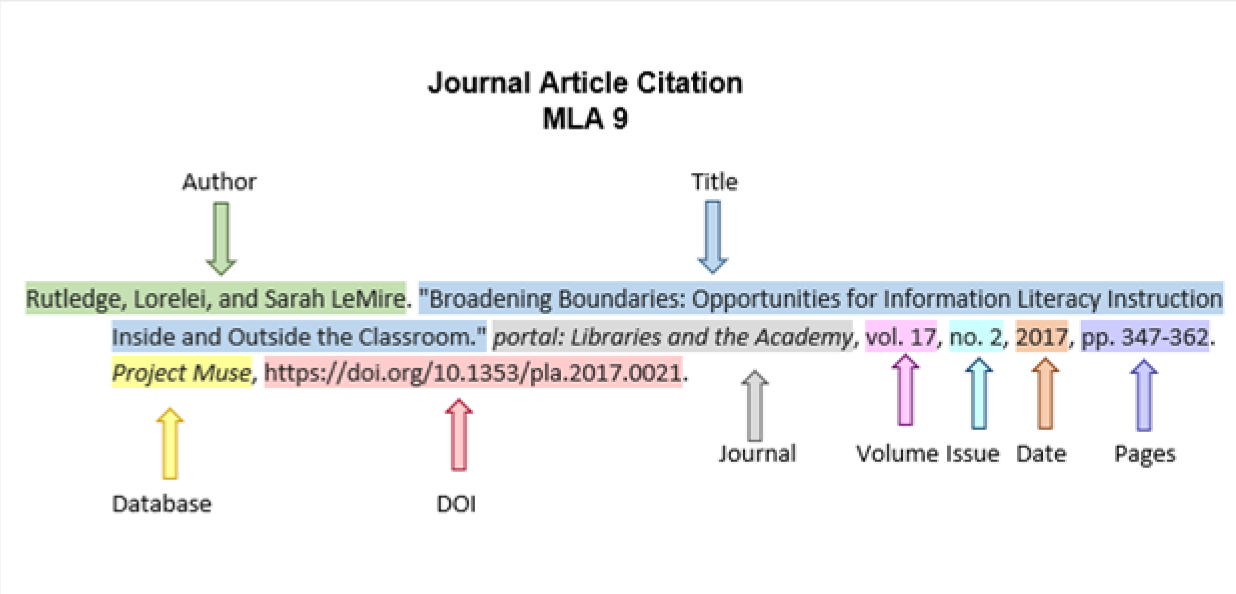

Figure 12.4. Journal article citation in MLA 9.

Newspaper article

Examples
Boren, Cindy. "It Took Seven Overtimes for Texas A&M to Beat LSU in the Craziest College Football Game of the Year," *Washington Post*, 15 Nov. 2018, www.washingtonpost.com/sports/2018/11/25/it-took-seven-overtimes-texas-am-beat-lsu-craziest-college-football-game-year/ Accessed 6 Jul. 2019.

Website

Example
"About us." *Aggie Shields*, 2019, www.aggieshields.org/about-us/

YouTube Video

Example

"Fearless on Every Front." *YouTube*, uploaded by Texas A&M University, 8 Sept. 2016, www.youtube.com/watch?v=YIRup0e8kTk

Interview

Unlike APA style, MLA *does* include unpublished interviews in the Works Cited. Key details to include are the name of the person interviewed and the date of the interview.

Example

Anders, Kathy. Personal interview. 14 Jul. 2019.

Lecture

MLA format also includes lectures and lecture slides in the Works Cited.

Example

Pantuso, Terri. Lecture. Rhetoric and Composition, 10 Sept. 2019, Texas A&M University.

In-Text Citations

MLA in-text citations use the last name(s) of the author followed by a space and the page number for the source material, when available. Only use the page number if the source is paginated (e.g., a book chapter or article that has a page number in the corner). Do not include a page number for web sources that are not paginated. You do not need to include a comma between items in the citation.

In MLA format, you can also embed the author name directly into your sentence (for example., Smith found that…), in which case the parenthetical at the end of the sentence should include only the page number.

No Author

As with the Works Cited entry, the in-text citation will use the title if there is no author available. Use the first few words of the title if it is long, and place it in quotation marks.

Example

("Down the Line" 56).

Single Author

When attributing material to a single author, use the author's last name.

Example
(Lyke 4)

Two Authors

When there are two authors, list the last names of both connected by an ampersand. Be sure to keep the authors in the order in which they appear on the source.

Example
(James and Moore 19).

Three or More Authors

When there are more than three authors, list the first author's last name, followed by et al. This is a Latin phrase meaning "and others" and is used in some citation formats as a way to abbreviate a list of names.

Example
(LeMire et al. 261).

Institutional Author

As with the reference list, you'll list the organization as the author in the in-text citation.

Example (document is paginated)
(Texas A&M University 14).

Example (document is not paginated)
(Texas A&M University).

This text was derived from

Deborah Bernnard, Greg Bobish, Jenna Hecker, Irina Holden, Allison Hosier, Trudi Jacobson, Tor Loney, and Daryl Bullis. *The Information Literacy User's Guide: An Open, Online Textbook*, edited by Greg

Notes

1. Adapted by Sarah LeMire from Deborah Bernnard, Greg Bobish, Jenna Hecker, Irina Holden, Allison Hosier, Trudi Jacobson, Tor Loney, and Daryl Bullis, The *Information Literacy User's Guide: An Open, Online Textbook*, edited by Greg Bobish and Trudi Jacobson (Geneseo, NY: Open SUNY Textbooks, Milne Library, 2014), 56, http://textbooks.opensuny.org/the-information-literacy-users-guide-an-open-online-textbook/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
2. Adapted by Sarah LeMire from Deborah Bernnard, Greg Bobish, Jenna Hecker, Irina Holden, Allison Hosier, Trudi Jacobson, Tor Loney, and Daryl Bullis, *The Information Literacy User's Guide: An Open, Online Textbook*, edited by Greg Bobish and Trudi Jacobson (Geneseo, NY: Open SUNY Textbooks, Milne Library, 2014), 57, http://textbooks.opensuny.org/the-information-literacy-users-guide-an-open-online-textbook/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.

13 - COLLABORATIVE WRITING

Team Project Management Tools and Strategies

Suzan Last, Candice Neveu, Kalani Pattison, and Nicole Hagstrom-Schmidt

Teamwork is a key component of almost any workplace, but it is essential in engineering and software development 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).

It is widely accepted that team synergy and team intelligence lead to greater efficiency and better results in most situations. Why, then, are some people reluctant to engage in teamwork? Perhaps this reluctance stems from ineffective or dysfunctional teamwork experiences in the past. Often the culprit in these situations is not a "poor team player" or an "inability to get along with others." More likely it was caused by one of two things: misaligned goals or confusion over roles. 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. defines a **team** as "a group of people who come together to work in an interrelated manner towards a common goal."[1] In other words, team members see themselves as part of a collective working towards a common goal rather than as individuals working on separate tasks that may lead to an end product. In order to work effectively, team members need to communicate clearly and constructively, and learn how to deal with crises and conflicts that will inevitably arise.

Some common benefits of working in teams include increased productivity, increased innovation, and increased efficiency. Excellent teams have synergy that makes them more than simply the sum of their parts. The term **team intelligence** refers to how collectively teams have more knowledge and skill than the single individuals working separately.

Notes

1. Susan McCahan, Phil Anderson, Mark Kortschot, Peter E. Weiss, Kimberly A. Woodhouse, "Introduction to Teamwork," in *Designing Engineers: An Introductory Text*, (Hoboken, NJ: Wiley, 2015), 220.

STRATEGIES FOR HANDLING/PREVENTING CONFLICT AND CHALLENGES

Suzan Last; Candice Neveu; and Kalani Pattison

As any one who has worked on a group project can attest, challenges can arise when working in a team. Conflicts within a team often they begin as a result of poor communication and weak focus. Some ways to handle these challenges include the following:

Designate a project manager. The project manager will act as the hub for communication and tasks. This person helps provide direction and guidance for the team. A project manager should be someone who has earned the team's respect and who can be persuasive and tactful. Project management is actually its own discipline and an area of expertise. A project manager may be assigned by a supervisor, elected by team members, or rotated among team members.

Ensure the goal is clear. A team is governed by a specific goal or goals that everyone works to achieve. It is important that each goal is clearly understood and agreed upon by each team member.

Establish team expectations. As a team, determine the rules by which the team will operate. These rules should include expectations around time commitments, meetings, attendance, communication, decision making, contributions, and mechanisms to warn and/or fire a team member, or to quit a team. These expectations should also take into account cooperation and communication with **stakeholders**: people who are invested in the business/project/team and have an interest in the outcome. Investment is not limited to money and can include other forms of support, such as time, or affiliations such as personal or professional relationships and partnerships.

Assign responsibilities. As part of the breakdown of tasks, members should be assigned responsibility for certain tasks, which means that they are the primary leads in preventing and addressing issues that come up in that area.

Set agendas for meetings and keep minutes. To ensure that team meeting time is useful and achieves its purpose, plan an agenda for each meeting to help keep everyone on task. In addition, have someone take **minutes** to record decisions that are made. This record helps prevent repetition and ensures that work actually gets done.

Determine the timing for tasks. Task timing involves two aspects: the duration for completing the task and the timing of the task in relation to the other tasks. Typically, tasks take longer than you think they will, so it is often better to add 25% to your duration estimate. The timing of each task is important to figure out because some tasks can be completed concurrently, but others may have to be sequenced. Professionals often use **Gantt Charts** to outline these tasks and the time they will take within the overall project scale.[1] See Chapter 18 for more information.

Manage communications. If a problem arises with someone on the team, the project manager should speak privately to the person and clearly indicate what needs to change and why. The focus should be on the behavior, not on the person's character. Issues should be dealt with quickly rather than left to deteriorate further. If this does not solve the problem, then try other approaches. See McCahan et al. "Management Strategies" for more information on communications management.[2]

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/.

Notes

1. Leslie C. Perelman, Edward Barrett, and James Paradis, "Timetables: Gantt Charts," *The Mayfield Handbook of Technical & Scientific Writing* (Mountain View, CA: Mayfield Publishing Company, 1997), accessed August 11, 2020, http://web.mit.edu/course/21/21.guide/grf-ttab.htm.
2. Susan McCahan, Phil Anderson, Mark Kortschot, Peter E. Weiss, Kimberly A. Woodhouse, "Management Strategies," in *Designing Engineers: An Introductory Text* (Hoboken, NJ: Wiley, 2015), 247-252.

DOCUMENTS AND TOOLS TO IMPROVE TEAM EFFECTIVENESS

Suzan Last; Candice Neveu; Anonymous; Matt McKinney; Kalani Pattison; and Nicole Hagstrom-Schmidt

There are several tools and strategies that teams can use to improve their functioning and productivity. Some examples include using the following documents:

- **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.** Record decisions and relevant discussion points for a meeting.
- **Work Log.** Records the tasks and time spent for each team member.
- **Status Report or Status Update.** Records the completed tasks and work left to complete (see Chapter 19).
- **Gantt Chart or Task Schedule.** Breaks down tasks and their estimated duration over the work period.

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 when everyone is level-headed and before anyone has disappointed their teammates.
>
> **Procedures for conflict resolution and amending the charter.** These procedures could include protocol for addressing disagreements and "firing" a member.

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 in action around a defined agenda, at a set time, for an established duration. Meetings can be effective, ineffective, or a complete waste of time. If time is money and effectiveness and efficiency are your goals, then whether you arrange a meeting, lead a meeting, or participate in one, you want it to be worth your time.[1]

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.

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.[2] 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 13.1: Meeting agenda elements.

Table 13.1. 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.
Good of the Order	This is the time for people to offer any news that relates to the topic of the meeting that has not otherwise been shared or discussed.
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 to the agenda 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. Have you ever attended a group meeting only for it to take half an hour for anything productive to be done? Have you ever attended a meeting that began with no one being able to tell/decide what needs to be addressed? Agendas help prevent these scenarios, determine whether a synchronous meeting is necessary at all, and make sure that nothing is forgotten during the meeting. See Figure 13.1[3] for a sample meeting 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

Figure 13.1. Sample agenda.

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. Figure 13.2[4] contains an example of meeting minutes.

ENGL 210 Team Meeting Minutes

Thursday Feb. 15, 2016

Cle A035, 3:30-4:45

Present: 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

Figure 13.2. Sample minutes.

Strategies for Effective Meetings

You want an efficient and effective meeting, but you should recognize that group communication by definition can be chaotic and unpredictable. To stay on track, consider the following strategies in Table 13.2 and 13.3 below.

Table 13.2. Effective pre-meeting strategies.

Pre-Meeting Strategies
Schedule the meeting in Google Calendar or a similar program so everyone receives a reminder.
Send out the last meeting's minutes again, shortly before the next meeting.
Send out the agenda for the current meeting in advance. How far in advance should be determined by the frequency of the meetings and the timeline of the project.
Send out reminders for the meeting the day before and the day of the meeting.
Make sure the participants know their role and requirements prior to the meeting.

Table 13.3. Effective meeting strategies.

Strategies for Running a Meeting
Start and end your meetings on time.
Make sure all participants know one another before discussion starts.
Refer to the meeting agenda to reinforce timeframes and tasks.
Assign someone to take notes that can be converted into minutes for distribution after the meeting.
Keep the discussion on track, and if you are the chair, or leader of a meeting, don't hesitate to restate a point to interject and redirect the attention back to the next agenda point.
If you are the chair, draw a clear distinction between on-topic discussions and those that are more personal, individual, or off-topic.
Communicate your respect and appreciation for everyone's time and effort.
Clearly communicate the time, date, and location or means of contact 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.[5] 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 Figure 13.3[6] for an example of a work log.

Date	Task Description	Assigned to	Status / Date Completed	Total Time Spent

Team signatures:

Name: ________________________

Name: ________________________

Name: ________________________

Name: ________________________

Figure 13.3. Sample work log.

Status Report or Status Update

Depending on the duration of a project, teams or individuals need to let stakeholders know about a project's progress, status, and resource use. Stakeholders also need to know if and how any plans have changed. Sometimes these progress reports can be pretty formal documents, such as those discussed in more detail in the chapter on Informational Reports. Other times, a status report or status update can be completed via a short memo, a relatively informal email, or a brief presentation in a meeting. See Chapter 19: Informational Reports for further details regarding what status reports or status updates might include, or what their format might be.

Gantt Chart or Task Schedule

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 also 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. Gantt charts are discussed in further detail in Chapter 18: Proposals, in the section labeled "Gantt Charts and Timelines."

However, when working collaboratively, another option besides a Gantt chart is a **task schedule**, which also 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 of levels of contribution of various individuals. This schedule should include all research and writing tasks for a project and might have overlapping due dates for subtasks belonging to various main tasks.

For instance, take a look at Table 13.4, which provides a sample of a task schedule section. 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. Like the team charter, 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 13.4. An example of a task schedule demonstrating how conducting a survey might be broken down into subtasks.

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	

Note

Group Project Tip: One of the most common differences between school-based teams and work-based teams is that school-based teams approach teamwork assuming that the most fair option is for each team member to contribute equally to the overall project. School-based teams are concerned about making the contribution weights for team members add up to about equal. On the other hand, work-based teams rarely concern themselves with trying to make the work “equal.” Team members in the workplace often have varying responsibilities outside of the team and varying areas of expertise. They contribute to the team project as they have time and as the project needs their knowledge and experience. We aren’t pointing out this distinction to say it is a bad thing to expect school teams to distribute the work equally but to help you have clearer expectations when you move into working with teams in the workplace.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.

University of Minnesota. *Business Communication for Success*. Minneapolis: University of Minnesota Libraries Publishing, 2015. https://open.lib.umn.edu/businesscommunication/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Notes

1. See Roger K. Mosvick and Robert B. Nelson, *We've Got to Start Meeting Like This: A Guide to Successful Meeting Management* (New York, NY: Park Avenue Productions, 1996).
2. Terrence Deal and Allan Kennedy, *Corporate Cultures: The Rites and Rituals of Corporate Life* (Reading, MA: Addison-Wesley Publishing Company, 1982).
3. "Sample Agenda," derived by Kalani Pattison from Susan Last with contributors Candice Neveu and Monika Smith, *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields* (Victoria, BC: University of Victoria, 2019), https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.
4. "Sample Minutes," derived by Kalani Pattison from Susan Last with contributors Candice Neveu and Monika Smith, Technical Writing Essentials: Introduction to Professional Communications in Technical Fields (Victoria, BC: University of Victoria, 2019), https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.
5. Henry M. Robert and Sarah Corbin Robert, *Robert's Rules of Order Newly Revised*, 11th ed., ed. Sarah Corbin Robert et al. (New York: Da Capo Press, 2011).
6. "Sample Minutes," derived by Kalani Pattison from Susan Last with contributors Candice Neveu and Monika Smith, Technical Writing Essentials: Introduction to Professional Communications in Technical Fields (Victoria, BC: University of Victoria, 2019), https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.

COLLABORATIVE WRITING PROCESSES

Suzan Last; Candice Neveu; Kalani Pattison; Nicole Hagstrom-Schmidt; and Matt McKinney

Collaborative projects are common in many fields and disciplines, as individuals with various realms of expertise work together to accomplish goals and create projects. Writing is a key part of communication that enables these projects to happen, but it also is often the **deliverable**—the final product that a team can pass on to another team, to executives and administrators, to consumers, or to the public. 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.

The following section examines in more depth how writing in general, and collaborative writing specifically, is crucial to engineering. Engineering is a field that is often perceived as entailing a relatively small amount of writing. However, as you will see in this following section, such perceptions are often misinformed. The same misperceptions may also take place regarding other fields, so you should think about how this engineering-specific information might apply more widely to your discipline.

The engineering design process, at least in part, entails working collaboratively to gather, organize, manage, and distribute information.[1] This information is often carefully analyzed and used to make important decisions, so it is critical that team members collaborate effectively in managing these communications tasks.

Engineers report spending a considerable amount of their time writing, and they frequently engage in collaborative writing. A recent survey asked various professionals what portion of their work week was devoted to writing, collaborative writing, and international communications.[2] The results shown in Table 13.5 indicate that collaborative writing makes up a significant portion of overall writing tasks.

Table 13.5. Percentage of total work week that engineers and programmers report spending on communications tasks.

Activity	% of Work Week for Engineers	% of Work Week for Programmers
Time spent writing	35	25
Time spent planning and writing documents collaboratively	19	12
Time spent communicating internationally (across national borders)	14	18

Research has also shown that "writing in general and [collaborative writing] in particular have been recognized to be fundamental to most professional and academic practices in engineering."[3] Figure 13.4[4] shows that engineers rate writing skills as extremely important to career advancement.[5]

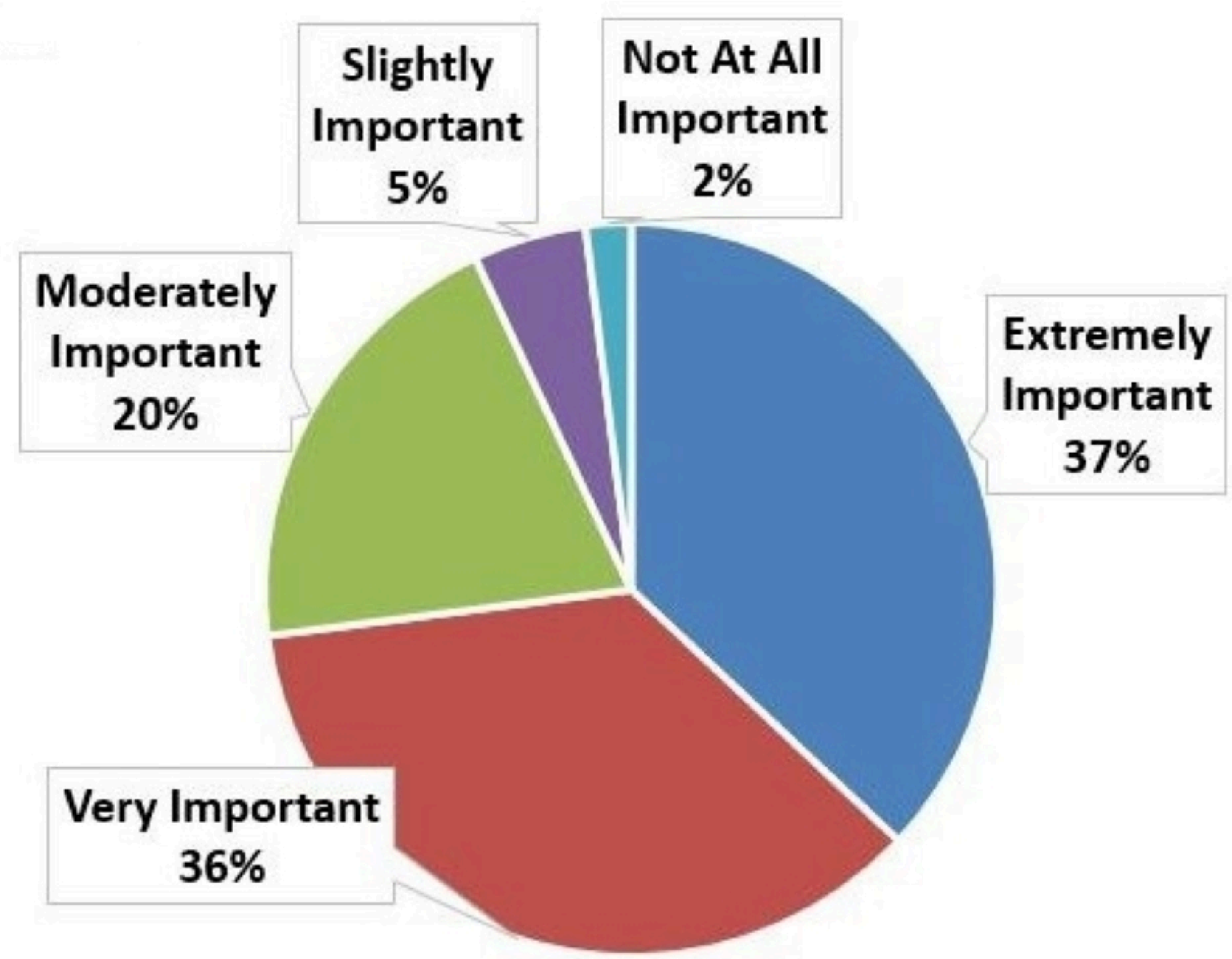

Figure 13.4. The importance of writing for career advancement for surveyed engineers.

Like any kind of teamwork, collaborative writing requires the entire team to be focused on a common objective. According to Lowry et al., an effective team "negotiates, coordinates, and communicates during the creation of a common document."[6] The collaborative writing process is iterative and social, meaning the team works together and moves back and forth throughout the process.

Collaborative Writing Stages and Strategies

Successful collaborative writing is made easier when you understand the collaborative writing strategies you can apply, the best ways to manage a document undergoing revisions, and the different roles people can assume. Figure 13.5[7] outlines the various activities involved at various stages of the collaborative writing process.

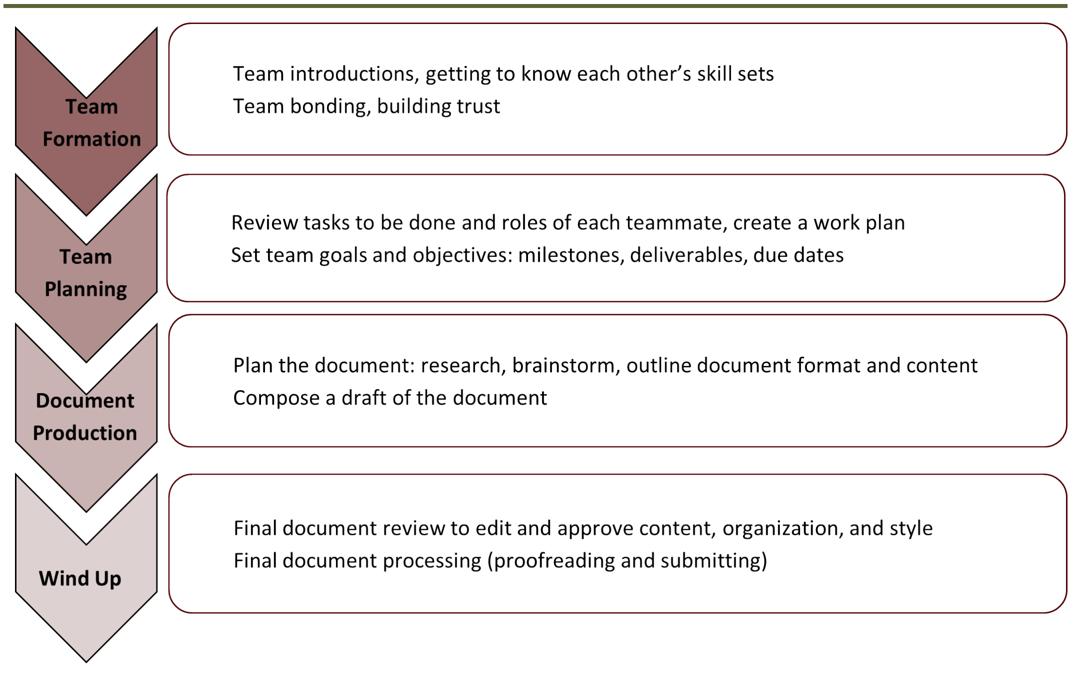

Figure 13.5. Four stages of collaborative writing

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 working on longer term projects 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 13.6[8] for a detailed breakdown of these strategies, their advantages, and disadvantages. Can you think of any other benefits or limitations?

Table 13.6. 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 write 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; writers can be blind to each other's work; 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; writers can be blind to each other's work; 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 13.7, along with their pros and cons. Can you think of any more, based on your experience?

Table 13.7. Document control modes.

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 13.8 describes several roles within a collaborative writing team. Members of small teams must fill multiple roles when prewriting, drafting, and revising a document collaboratively. Which role(s) have you had in a group project? Are there ones you always seem to do? Ones that you prefer, dislike, or would like to try?

Table 13.8. Collaborative writing 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

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields.* Victoria, BC: University of Victoria,

Notes

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2. Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.
3. Julio Gimenez and Juliet Thondhlana, "Collaborative Writing in Engineering: Perspectives from Research and Implications for Undergraduate Education," *European Journal of Engineering Education* 37, no. 5 (2012): 471-487, http://dx.doi.org/10.1080/03043797.2012.714356
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6. Paul Benjamin Lowry, Aaron M. Curtis, and Michelle René Lowry, "Building a Taxonomy and Nomenclature of Collaborative Writing to Improve Interdisciplinary Research and Practice," *Journal of Business Communication* 41, no. 1 (2004): 66-97, https://doi.org/10.1177/0021943603259363.
7. Adapted from Suzan Last and Candice Neveu, "Collaborative Writing Stages," in "Collaborative Writing," *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.
8. Adapted from Suzan Last and Candice Neveu, "Collaborative Writing Strategies," in "Collaborative Writing," *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License. The original authors note that this table is adapted from Paul Benjamin Lowry, Aaron Curtis, and Michelle René Lowry, "Building a Taxonomy and Nomenclature of Collaborative Writing to Improve Interdisciplinary Research and Practice," *Journal of Business Communication* 41, no.1 (2004): 66-97, https://doi.org/10.1177/0021943603259363.

14 - ORAL COMMUNICATION

Oral Communication and Presentations

Nicole Hagstrom-Schmidt, Matt McKinney, and Kimberly Clough

While this textbook primarily discusses technical communication skills in terms of written texts, genres, and discourses, it is also important to master these skills in oral communication. Professionals in all fields are often called upon to present information, such as giving reports to management or leadership in an organization, composing videos, teaching or training other professionals or more general audiences, or even giving presentations at professional events and conferences.

Many of the same qualities that characterize effective written technical communication, such as clarity, concision, and consideration for one's audience, are also present in effective oral communication. Some of these qualities become even more important or manifest in different forms, such as clear transitions and repetition. This chapter will explore these concepts further in an in-depth analysis of oral communication contexts.

Public Speaking Anxiety

For many of us, speaking in front of a group is terrifying. In a written document, we have the opportunity to revise and edit until we are ready for readers. In a speech or presentation, however, we only have one chance to impress, and we do not have control over the situation. We may also feel embarrassed about things we cannot help, such as a stutter, an accent, or involuntary movements. We may have to switch from how we speak with our families and friends. We may be BIPOC (Black, Indigenous, and People of Color) facing a room of people who are not of our race or heritage. All of these factors and more lead to anxiety over public speaking.

Note

Texas A&M University Resources

There are several useful strategies for overcoming nervousness as a speaker. Texas A&M's University Writing Center offers an excellent handout with practical tips to address common concerns of preparation, control, and conveying authority.[1] If you need or would like further support for anxiety, we recommend contacting Texas A&M's Counseling & Psychological Services[2] and Disability Resources.[3]

While there are many helpful practices for those dealing with the nervousness that accompanies public speaking, some of us may have deeper anxieties. In these cases, it may be worthwhile to seek out counseling and other support resources. These services, along with family, friends, and instructors, can help us identify and implement coping strategies, supports, and accommodations for living with anxiety, thus putting us on an even playing field with our peers.

Notes

1. "Overcoming Stage Fright," Texas A&M University Writing Center: Writing and Speaking Guides, accessed August 16, 2020, https://writingcenter.tamu.edu/Students/Writing-Speaking-Guides/Alphabetical-List-of-Guides/Presentations/Overcoming-Stage-Fright.
2. Texas A&M University: Counseling & Psychological Services, Division of Student Affairs, https://caps.tamu.edu/.
3. Texas A&M University: Disability Resources, Division of Student Affairs, https://disability.tamu.edu/.

RHETORICAL DEVICES FOR IMPROVING CLARITY IN ORAL COMMUNICATION

David McMurrey; Anonymous; Matt McKinney; Kalani Pattison; Nicole Hagstrom-Schmidt; and Gia Alexander

Just as you consider the different elements of the rhetorical situation when writing and reading texts, these same elements also apply to preparing for oral communication. This section discusses rhetorical devices as they specifically apply to these forms of technical and professional communication. Refer to Chapter 2: The Rhetorical Situation for a more general overview of these concepts.

Consider Your Audience

In addition to precise words and clear definitions, contextual clues are important to guide your audience as they listen. Spoken contextual clues are words or short phrases that clarify complex ideas or unfamiliar words, as well as indicate where the speaker is in their talk.

For example, if you are speaking to a general audience and choose to use a professional jargon term that may be understood by many—but not all—of the people in your audience, follow it by a common word or short explanation that clearly conveys its essential meaning. With this positive strategy, you will be able to forge relationships with audience members from diverse backgrounds.

Another useful spoken guide for your reader is the **summary**. Summaries can be placed not only at the beginning of a presentation, thus signaling what information is to come, but also at the end of a presentation to remind the audience what they have heard. Internal summaries, which occur within the presentation, combine these uses by telling listeners what they have heard and forecasting what is to come. It's not just the words, but also how and when people hear them that counts.

One of the best ways to display respect for your audience is to keep to the expected time in a presentation or length in a document. Also note that if you say the magic words "in conclusion," you set in motion a set of expectations that you are about to wrap up. If, however, you then introduce a new point and continue to speak, the audience will perceive an expectancy violation and hold you accountable. You said, "in conclusion," but did not honor the implied promise these words made. Your careful attention to contextual clues will demonstrate that you are clearly considering your audience.

Check for Understanding

When speaking to someone face-to-face, you have the advantage of seeking and receiving immediate feedback. Many listeners will offer visual cues signaling when they are excited, upset, or perplexed. If your listeners are confused, you can ask questions and clarify right away. That gives oral communication, particularly live interaction, a distinct advantage. Use this immediacy to gain beneficial feedback. When preparing for a presentation, allow time to specifically practice and collect feedback from multiple people who share characteristics of your anticipated audience.

If you were presenting to a group who you knew, in advance, was of a certain age, gender, or professional background, it would only make sense to connect with someone from that group prior to your actual performance to check and see if what you have created and what they expect are similar. In oral communication, feedback is a core component of the communication model; we can often see it and hear it, and it also requires less effort to assess.

Using Signposts in a Presentation

Plan carefully for the **spoken headings** you will use in your presentation. These verbal signposts indicate you are moving from one subtopic to the next, or they announce a new subtopic. They help your listeners understand how your presentation is organized. Spoken headings may also be turned into written headings on a slide or handout.

Signposts are keywords that alert the audience to transitions that occur in a document. These transitions can vary in form, including a change in topic, a tangential explanation, an example, or a conclusion. Especially in longer sections of documents and speeches, readers and listeners can sometimes forget what point is being made or lose track of where the speaker or writer is. You can help your audience avoid losing their place by signaling to them when a change is coming.

Verbal signposts serve the same function as headings in printed documents. Common signposts include "on the one hand," "on the other hand," "the solution to this problem is," "the reason for this is," "for example," "to illustrate," and "in conclusion" or "in summary." Signposts can also use strategic repetition to achieve the same effect as traditional transitions or organizational words. Some speakers, for example, use a series of questions to indicate new subtopics. Take a look at Table 14.1[1] to review the verbal headings and signposts from an oral report.

Table 14.1. Examples of spoken headings and signposts in an oral presentation. Verbal headings are indicated in bold; transitional signposts are italicized.

Excerpts from the Oral Report	Suggested Verbal Headings
"*As you can see from the preceding information*, our fairly average-size city produces a surprisingly large **amount** of solid waste. What is the **cost** of getting rid of it? I can tell you from the start that it is not cheap..."	The first sentence refers to the topic ("**amount**")—what the speaker has just finished talking about. The next sentence indicates that the speaker is moving on to a new topic ("**cost**").
"Not only are the **costs** of getting rid of our garbage high, *as I have shown*, but it's getting harder and harder for city officials to find disposal sites. The **geographical problems in disposal**..."	At the beginning of the next section, the first half of the first sentence refers to the previous topic—this time, it's "**costs**." The second half of the same sentence indicates that we are moving on to another new topic—"**geographical problems in disposal**."

Internal Summaries and Foreshadowing

Like signposts, internal summaries and foreshadowing help the audience to keep track of where they are in the presentation. These strategies work by reviewing what has been covered and by highlighting what is coming next.

As a simple example, suppose you are presenting information on how to assemble a home emergency preparedness kit. If you begin by stating that there are four main items needed for the kit, you are foreshadowing your message and helping your audience to watch or listen for four items. An internal summary, by contrast, refers back to content that has been addressed. For example, as you cover each of the items, you can say, "Now we've got X and Y in our kit; what else do we need?," and so forth. This internal summary helps your audience keep track of progress as your message continues.

With this strategy, you reinforce relationships between points, examples, and ideas in your message. This can be an effective strategy to encourage selective retention of your content.

Repetition

Saying the same word over and over may not seem like an effective strategy, but when used artfully, **repetition** can be an effective way to reinforce your message and help your audience remember it. Many of history's greatest speakers have used repetition in speeches that have stood the test of time. For example, Sojourner Truth, an abolitionist and early Black feminist, gave a famous speech in 1851 remembered as "Ain't I a Woman?" because she repeated this question four times to anchor her points and engage her audience.[2] Similarly, in his famous "I Have a Dream" speech, Martin Luther King Jr. repeated the phrases "I have a dream" and "let freedom ring." Not only did the repetition cement these phrases in the minds of his listeners, it reflected the value Dr. King placed on them, contributing to this speech's historical and rhetorical legacy. [3]

Another form of repetition is *indirect repetition*, or finding alternative ways of saying the same point or idea. Suppose your main point was "climate change is raising ocean levels." You might offer several examples, citing the level in each of the major oceans and seas while showing them on a map. You might use photographs or video to illustrate the fact that beaches and entire islands are being submerged. Indirect repetition can underscore and support your points, thus helping them stand out in your audience's memory.

Notes

1. David McMurrey, "Example of Spoken Headings in an Oral Presentation," Oral Presentations: Stand Up and Tell 'Em How It Is!" Accessed July 15, 2020. https://www.prismnet.com/~hcexres/textbook/oral.html. Licensed under a Creative Commons Attribution 4.0 International License.
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NONVERBAL COMMUNICATION

David McMurrey; Anonymous; Kalani Pattison; and Nicole Hagstrom-Schmidt

Have you ever been in class and found it hard to listen, not because the professor was not well informed or the topic was not important to you, but because the style of presentation didn't engage you? You want to avoid making the same mistakes when you give a presentation. It is not always what you say, but how you say it that makes a difference. We sometimes call this **nonverbal communication**, and it is a key aspect of effective technical and professional communication.

Nonverbal communication is the process of conveying a message without the use of words. It can include gestures and facial expressions, tone of voice, timing, posture, and where you stand as you communicate. As with spoken words, nonverbal communication can vary widely across different cultures. Eye contact, for example, shows authority and trust in certain European and North American cultures, whereas the same form in many Middle Eastern cultures comes across as rude. Cultures will also often dictate the tone of voice, which emotions are displayed, and the interactions between older and younger members of that group.

Moreover, nonverbal communication is often learned through inference and individual trial and error rather than being something that is explicitly taught. Autistic and neurodivergent individuals may also find picking up on and using nonverbal cues difficult if not impossible; other disabilities can impact facial and body movements as well as the tone and volume of your voice. If you fall into any of these categories, you are in great company. Do not engage in practices that make you feel uncomfortable or that you cannot physically or mentally perform. For instance, instead of making eye contact with individual audience members, gaze at places in the back of the room, your presentation slides (if you have them), or a prop or speaking aid that you are holding.

When reviewing the following nonverbal strategies, remember that you may need to modify the advice to better suit your situation, strengths, audience, and message.

Nonverbal Communication is Fluid
Nonverbal communication involves the entire body, the space it occupies and dominates, the time it interacts, and not only what is not said, but how it is not said. Let's consider eye contact. What does it mean by itself without context, chin position, or eyebrows to flag interest or signal a threat? Nonverbal action flows almost seamlessly from one to the next, making it a challenge to interpret one element, or even a series of elements.

Nonverbal Communication is Fast
Nonverbal communication gives our thoughts and feelings away before we are even aware of what we are thinking or how we feel. People may see and hear more than you ever anticipated. Your nonverbal communication includes both intentional and unintentional messages, but since it all happens so fast, the unintentional ones can contradict what you know you are supposed to say or how you are supposed to react.

Nonverbal Communication Can Add to or Replace Verbal Communication
People tend to pay more attention to how you say something than what you actually say. In presenting a speech, this is particularly true. We communicate nonverbally more than we engage in verbal communication, and we often use nonverbal expressions to add to, or even replace,

words we might otherwise say. See Table 14.2 for examples of specific types of non-verbal communication and what each type of action does or accomplishes.

Table 14.2. Some nonverbal expressions.

Term	Definition
Adaptors	Help us feel comfortable or indicate emotions or moods
Affect Displays	Express emotions or feelings
Complementing	Reinforcing verbal communication
Contradicting	Contradicting verbal communication
Emblems	Nonverbal gestures that carry a specific meaning and can replace or reinforce words
Illustrators	Reinforce a verbal message
Masking	Substituting more appropriate displays for less appropriate displays
Object-Adaptors	Using an object for a purpose other than its intended design
Regulators	Control, encourage or discourage interaction
Repeating	Repeating verbal communication
Replacing	Replacing verbal communication
Self-Adaptors	Adapting something about yourself in a way for which it was not designed or for no apparent purpose

Nonverbal Communication Is Confusing and Contextual
Nonverbal communication can be confusing. We need contextual clues to help us understand, or begin to understand, what a movement, gesture, or lack of display means. Then we have to figure it all out based on our prior knowledge (or lack thereof) of the person and hope to get it right.

Nonverbal Communication Can Be Intentional or Unintentional
We often assign intentional motives to nonverbal communication when in fact their display is unintentional, and often hard to interpret. Making conscious choices about your nonverbal communication during a presentation can help to eliminate some of the confusion and resulting misunderstandings.

Nonverbal Messages Communicate Feelings and Attitudes
Albert Mehrabian asserts that we rarely communicate emotional messages through the spoken word. According to Mehrabian, 93 percent of the time we communicate our emotions nonverbally, with at least 55 percent associated with facial gestures. Vocal cues, body position and movement, and normative space between speaker and receiver can also be clues to feelings and attitudes.[1]

People Believe Nonverbal Communication More than Verbal (For Good Reason)
According to William Seiler and Melissa Beall, most people tend to believe the nonverbal message over the verbal message. People will often answer that “actions speak louder than words” and place a disproportionate emphasis on the nonverbal response.[2] We place more confidence in nonverbal communication, particularly when it comes to lying behaviors. According to Miron Zuckerman, Bella DePaulo, and Robert Rosenthal, there are several behaviors people often display when they are being deceptive:[3]

- Reduction in eye contact while engaged in a conversation
- Awkward pauses in conversation
- Higher pitch in voice
- Deliberate pronunciation and articulation of words
- Increased delay in response time to a question
- Increased body movements like changes in posture
- Decreased smiling
- Decreased rate of speech

If you notice one or more of these behaviors, you may want to take a closer look. Note that this experiment also focuses on a specific population and culture. It also was conducted during a time where neurodivergence was substantially paid less attention to meaning that these noverbal cues should not always be read as deceptive. With that said, it is worthwhile to be aware how you are appearing to your audience.

Nonverbal Communication Is Key in the Speaker/Audience Relationship
When a speaker and audience first meet, nonverbal communication in terms of space, dress, and even personal characteristics can contribute to assumed expectations. The expectations might not be accurate or even fair, but it is important to recognize that they will be present. Your attention to aspects you can control, both verbal and nonverbal, will help contribute to the first step of forming a relationship with your audience. Your eye contact with audience members, use of space, and degree of formality will continue to contribute to that relationship.

As a speaker, your nonverbal communication is part of the message and can contribute to, or detract from, your overall goals. By being conscious of them, and practicing with a live audience, you can learn to be more self-aware and in control.

Delivery Checklist

When you give an oral report, focus on common critical areas such as these:

Audience awareness. To reiterate, different audiences have different expectations for presentations. Often, these expectations are understood as opposed to explicitly taught. Even if you are a member of the culture you are presenting to, conduct preliminary research on what your audience expects a typical presentation to look and sound like.

Timing. Make sure you keep within the expected time limit. Anything substantially under-time is also a problem.

Volume. Speak loud enough so that all of your audience can hear you. If you can, try practicing in the same (or similar) space your talk will be with a friend listening from different parts of the room. If a microphone is available, use it even if you don't feel you need the additional volume.

Pacing and speed. Sometimes, nervous oral presenters talk too quickly. That makes it hard for the audience to follow. In general, listeners understand you better if you speak more slowly and deliberately than you do in normal conversation. Slow down and pause between phrases.

Gestures. Some speakers "speak with their hands" and make exaggerated gestures. This too can be distracting—and a bit comical. At the same time, not moving at all can make an otherwise interesting talk boring. Practice your gestures so that they are deliberate and appropriate to what you are saying. When not gesturing, identify a "resting" stance or object to hold such as a podium, notecard, or other prop.

Posture. Certain stances convey authority. In American culture, stand or sit with a straight back, with shoulders rolled back if you are physically able. If you are standing, try to stand with your feet apart and in line with your shoulders. While an occasional lean in to the audience may be effective, avoid slouching at the podium or leaning against the wall.

Filler words. When we speak naturally, we often use filler phrases such as "um" and "you know." These normal utterances are ways for us to find the right word or to check for understanding. In a speech, you will want to limit these filler words. Prior to your oral presentation, practice cutting your common filler words. The silence that replaces them is not a bad thing—it gives listeners time to process what you are saying.

Notes

1. Albert Mehrabian, *Nonverbal Communication* (Chicago, IL: Aldine Atherton, 1972).
2. William Seiler and Melissa Beall, *Communication: Making Connections*, 4th edition (Boston, MA: Allyn & Bacon, 2000).
3. Miron Zuckerman, Bella M. DePaulo, and Robert Rosenthal, "Verbal and Nonverbal Communication of Deception," *Advances in Experimental Social Psychology* 14 (1981): 1–59, https://doi.org/10.1016/S0065-2601(08)60369-X.

VISUAL AIDS

David McMurrey; Anonymous; Nicole Hagstrom-Schmidt; Kalani Pattison; and Matt McKinney

Have you ever asked for driving directions and not understood someone's response? Did the person say something like, "Turn right at Sam's Grocery Store, the new one" or "I think you will turn at the second light, but it might be the third one?" Chances are that unless you know the town well or have a map handy, the visual cue of a grocery store or a traffic light might be insufficient to let you know where to turn. Similarly, your audience experiences the same frustration when absent or insufficient visual cues result in their getting lost during your speech.

Almost all presentations can be enhanced by the effective use of visual aids. These can include handouts, drawings on the whiteboard, PowerPoint slides, and many other types of props. Visual aids are an important nonverbal aspect of your speech that you can control.

Purpose of Visual Aids

Your audience naturally will want to know why you are presenting the visual aid. The purpose for each visual aid should be obvious.

Visual aids accomplish several goals; they

- Communicate complex information in a short period of time
- Help the audience understand and retain the information
- Reinforce your verbal message
- Enhance your credibility as a speaker
- Make your speech more interesting

If you cannot quickly identify the purpose of a visual aid in a speech, you must consider whether it should be used at all. To determine whether a visual aid should be used, try to assume the audience's perspective and consider what is helpful for retaining information when listening to a speech, as opposed to reading a document.

One of the inherent disadvantages of (unrecorded) oral communication is its impermanence. The speaker must find a way to reiterate their key points effectively, since the audience cannot simply backtrack on their own, as is possible with a text. Visual aids can supplement this weakness in oral communication by conveying key points as the speaker elaborates.

For example, imagine that you want to highlight a trend between two related issues, such as socioeconomic status and educational attainment. A line graph on a slide or handout might effectively show how as socioeconomic status rises, educational attainment also rises. This use of a visual aid can provide emphasis, effectively highlighting keywords, ideas, or relationships for the audience.

Visual aids can also provide necessary support for your position. Returning to the example above, let's say your audience members question your assertion of the relationship between socioeconomic status and educational attainment. To support your argument, you might specify the origin of your evidence using phrases on a slide ("According to the U.S. Department of Education Study no. 12345"); images (a screenshot of the Department of Education webpage); or tables or infographics synthesizing several sources (a table including specific findings from five different studies supporting your point).

Clarity is key in the use of visual aids. One way to improve clarity is to limit the number of words on a slide. Aim for ten or fewer words per slide, with a font large enough to be read at the back of the room or auditorium. Key images that have a clear relationship to the verbal message can also improve clarity. You may also choose to illustrate the same data successively in two distinct formats, such as a line graph followed by two pie graphs. Your central goal is to ensure that your visual aid is clear.

Media and Materials

A visual aid can take several different forms—both digital and physical. Here are some ideas for the form or "medium" to use for your visuals:

Presentation software slides. Projecting images ("slides") using software such as PowerPoint, Google Slides, or Keynote has become the standard. Using slides is common across several types of presentations in business, the sciences, and the humanities.

White board or chalkboard. In this method, you write or draw key information on a large board in a presentation space. This medium is most commonly used in educational contexts or when showcasing equations. There are also multiple digital equivalents.

Posters. Another possibility is to use a poster to convey the key sections of your presentation, as well as how these sections are connected and arranged. Posters are common visual aids used in conference presentations, whether scientific, academic, or industry-based.

Handouts. Handouts are usually page-length documents that contain key quotations or visuals. In the past, ideally, each audience member would receive a handout; however, now handouts are often full-page infographics, and links to them are distributed so that audience members can retrieve them on their own devices or save them for later. Hard copies are rarer now, as they cost more and aren't as environmentally friendly as digital options. However, hard copies are also an effective "backup" visual in cases where technology is not available or working properly. Handouts are most effective when the speaker draws verbal attention to the handout and has the audience engage with it as part of the presentation. Otherwise, the handout is likely to be a distraction rather than a supplement in getting the audience's attention.

Objects. If you need to demonstrate certain procedures, you may need to bring in actual physical objects. Rehearse what you are going to do with these objects; sometimes they can take up a lot more time than you expect.

Types of Presentation Visuals

As with reports and other written documents, presentations use visuals to illustrate data, add emphasis, and clarify complex concepts (see Chapter 8: Graphics for additional information on implementing visuals in written documents). Below are some common visuals and how you might incorporate them in a presentation.

Drawing or diagram of key objects. If you describe or refer to any objects during your talk, try to get visuals of them so that you can point to different components or features.

Tables, charts, graphs. If you discuss statistical data, present it in some form of table, chart, or graph. Many members of your audience may prefer seeing such data as opposed to "hearing" it.

Timelines. If you want to show a progression of events, you might use a chart or diagram to show a timeline of events to date, from the first meeting about the proposed product to the results from the latest focus group.

Video clips. If you are looking to add credibility or show visuals that cannot be replicated as part of an in-person presentation, brief video clips from YouTube or recorded video from other sources can be great supplements to a presentation. Introduce the clip and state out loud what will happen, point out a key aspect of it to the audience while it plays (overlap), and then make a clear transitional statement as you turn it off. In addition, condensing a longer video into a shorter clip for inclusion in a presentation is becoming a more common practice. In all cases, don't expect the video to "speak for itself"; instead, integrate it into your own words and presentation structure.

Outline of your talk, report, or both. If your presentation is complex, you might introduce an outline near the beginning of the presentation and refer back to it—visually and verbally—throughout.

Key terms and definitions. Providing a definition, especially for a field-specific or complex term, is a great option for improving the clarity of your presentation. Another variation is a two-column list of key terms you use during your presentation with their definitions in the second column.

Key concepts or points. Similarly, you can list your key points and show them on a slide or in key locations on a poster.

Preparing and Presenting Visual Aids

Once you have chosen an appropriate medium and drafted your visual aids, you will need to test them for visibility and clarity. If you can, rehearse in the same room in which your presentation will take place. If that particular room is unavailable, find a space similar to it. Ask a friend to stand at the back of the room and read or interpret your visual aid. If you are using computer-generated slides, try them out in a practice setting, not just on your computer screen. The slides will look different when projected. Allow time for revision based on what you learn.

Your visual aids should meet the following criteria:

- **Big.** They should be legible for everyone, from all sides of the room.
- **Clear.** Your audience should understand the purpose and message of the visual the first time they see it.
- **Simple.** They should serve to simplify the concepts they illustrate.
- **Consistent.** They should reinforce continuity by using the same visual style.

Becoming proficient at using visual aids takes time and practice, and the more you practice before your speech, the more comfortable you will be with your visual aids and the role they serve in illustrating your points.

Note

Presentation Tips: Here are three general guidelines to follow when using visual aids:

- Do make a clear connection between your words and the visual aid for the audience.
- Do not distract the audience with your visual aid, blocking their view of you or adjusting the visual aid repeatedly while trying to speak.
- Do speak to your audience—not to the whiteboard, the video, or other visual aids.

Using PowerPoint as a Visual Aid

PowerPoint and Google Slides are slideware programs that, no doubt, you have seen used in class or work. You have likely used these yourself. PowerPoint and similar slideware programs provide templates for creating electronic slides to present visual information to the audience, thus reinforcing the verbal message. In PowerPoint, you can import words, images, or video clips to create slides to represent your ideas. You can even incorporate Web links. When using any software program, it is always a good idea to experiment with it long before you intend to use it, explore its many options and functions, and see how it can be an effective tool for you.

Designing Effective Slides

The first point to consider is what is the most important visual aid? The answer is you, the speaker. You will facilitate the discussion, give life to the information, and help the audience correlate the content to your goal or purpose. You don't want to be in a position where the PowerPoint presentation is the main focus and you are on the side of the stage, simply helping the audience follow along. It should support you in your presentation, rather than the other way around. Do not use PowerPoints as a read-aloud script for your speech. Slides should amplify and illustrate your main points, not reproduce everything you are going to say.

Your pictures and graphics are the second area of emphasis you should consider. Slides will allow you to show graphs and charts that illustrate relationships that words may only approach in terms of communication, but your verbal support of the visual images will make all the difference. Dense pictures or complicated graphics will confuse more than clarify. Choose clear images that have an immediate connection to both your content and the audience, tailored to their specific needs.

After images, consider only key words that can be easily read to accompany your pictures. After all, most audiences do not would not want to read a page of text—as you might see in a book—on the big screen. They are more likely to glance at the screen and assess the information you present in relation to your discussion. Therefore, it is key to consider one main idea, relationship, or point per slide. The fewer words, the better: try to keep each slide to a total word count of less than ten words. Do not use full sentences; instead, use keywords. These can serve as signposts or signal words related to key ideas and will provide support for your verbal discussion, guiding you as well as your audience.

In many companies and organizations, corporate branding will provide templates, color schemes, and other materials which you may be expected to use. Such provided materials can make design decisions a lot easier, but you still need to keep legibility, accessibility, color association, and attractiveness in mind—it is possible to use a template or provided designs ineffectively.

Using Color Effectively on Slides

When considering your choice of colors to use, legibility must be your priority. To reduce visual noise, try not to use more than two or three additional colors. Contrast between background color and text color can help the audience read your key terms more easily. Also, focus on the background color and its relation to the images you plan to incorporate to ensure they complement each other. Consider repetition of color, from your graphics to your text, to help unify each slide.

Be aware that many people are blue-green color blind, and that red-green color blindness is also fairly common. With this in mind, choose colors that most audience members will be able to differentiate. If you are using a pie chart, for example, avoid putting a blue segment next to a green one. Use labeling so that even if someone is totally color blind they will be able to tell the relative sizes of the pie segments and what they signify.

Color is also a matter of culture. Some colors may be perceived as formal or informal, or masculine or feminine. Recognize that red is usually associated with danger in the USA (while it is associated with happiness and good fortune in China), while green signals "go." Make sure the color associated with the word is reflected in your choice. If you have a keyword about nature, but the color is metallic, the contrast may not contribute to the rhetorical situation and instead may confuse the audience.

Seeking a balance between professionalism and attractiveness may seem to be a challenge, but experiment and test your drafts with friends to see what works for you. Also consider examining other examples, commonly available on the Internet, but retain the viewpoint that not everything online is effective, nor should it be imitated. PowerPoint also has some predetermined color schemes that you can rely on for your presentation.

Slide Font and Typeface

Remember to keep in mind these aspects of PowerPoint/slide design when it comes to font/typeface size and selection. PowerPoint will have default settings for headlines and text, but you will need to consider what is most appropriate for your rhetorical situation.

- The title size should be at least forty points, and the body text (used sparingly) should be at least thirty-two points.
- Sans serif fonts such as Arial work better than serif fonts like Times New Roman for images projected onto a screen.[1] The thin lines and extra aspects of serif font may not portray themselves well on a large screen or contribute to clarity.
- Use grouping strategies to improve the communication of information.[2] Bullets, the use of space, similarity, and proximity all relate to the process of perception, which differs from one person to another.

Helpful Hints for Visual Aids

As we've discussed, visual aids can be a powerful tool when used effectively, but they can also run the risk of dominating your presentation. As a speaker, you will need to consider your audience and how the portrayal of images, text, graphics, animated sequences, or sound files will contribute or detract from your presentation. Here is a brief list of considerations to keep in mind as you prepare your presentation.

- Keep visual aids simple.
- Use one key idea per slide.
- Avoid clutter, noise, and overwhelming slides.
- Use large, bold fonts that the audience can read from at least twenty feet from the screen.
- Use contrasting colors to create a dynamic effect.
- Use analogous colors to unify your presentation.
- Use clip art with permission and only sparingly.
- Edit and proofread each slide with care and caution.
- Have copies of your visuals available as handouts after your presentation.
- Check the presentation room beforehand.
- With a PowerPoint presentation, or any presentation involving technology, have a backup plan, such as your visuals printed on transparencies, should unexpected equipment or interface compatibility problems arise.

Becoming proficient at using visual aids takes time and practice. The more you practice before your speech, the more comfortable you will be with your visual aids and the role they serve in illustrating your message. Giving thought to the placement of visual aids before you speak will help, but when the time comes to actually give your speech, make sure you reassess your plans and ensure that they work for the audience as they should.

Notes

1. Charles Kostelnick and David D. Roberts, *Designing Visual Language: Strategies for Professional Communicators* (Needham Heights, MA: Allyn & Bacon, 1998). See also Center for Teaching, "Multimedia Presentations, Vanderbilt University, 2009, https://cdn.vanderbilt.edu/vu-cft/resources/teaching_resources/technology/presentations.htm.
2. Charles Kostelnick and David D. Roberts, *Designing Visual Language: Strategies for Professional Communicators* (Needham Heights, MA: Allyn & Bacon, 1998).

PRESENTATION STRUCTURES

David McMurrey; Anonymous; Matt McKinney; Gia Alexander; and Nicole Hagstrom-Schmidt

To get your presentation off to a good start, plan on doing the following:

1. Introduce yourself and say a bit about yourself.
2. Indicate the topic and purpose of your presentation.
3. Find some brief way to indicate the importance of your topic—spark some interest.
4. Provide a brief in-sentence list of what your presentation will cover (i.e., a roadmap).

Take a look at how these elements are handled in the example in Table 14.3.[1]

Table 14.3. Introductory remarks in an oral presentation.

Oral Presentation: Enhancement of the Current Recycling Program	
Purpose of section	Script Example
Establishes who they are and what they represent.	Valerie and I represent the Austin Coalition for Recycling, a group that was founded in the late 1960s, partly in response to rising utility bills and partly out of a concern for the environment and its resources.
Builds interest and identification with the audience.	High utility bills not only hurt each of us in our pocketbooks but also hurt the quality of life of our city as a whole. We are all particularly proud of what a fine city we live in and what wonderful citizen involvement there is here in a whole range of civic activities. These things make our city special and ought to be the force that enables us to make a recycling program an integral part of the city's waste management program.
Identifies the "thesis" or major point of the presentation while still appealing to the audience.	Backed by the city, a new powerful recycling program will contribute enormously to keeping Austin the wonderful place it is.
Explains the purpose of the presentation and provides an overview of the topics to be covered in one sentence.	Valerie and I want to talk to you about how recycling works currently, how it will work once integrated with the city's waste management program, how this integration will benefit our city, and what you can do to support this plan.

While your organizational structure will vary from speech to speech, there are nonetheless five main parts of any speech:

1. Attention statement
2. Introduction
3. Body
4. Conclusion
5. Residual message.

These are basic elements of the rhetorical process, and you will see, time and time again and regardless of audience or culture, these same elements in some form used to communicate in public. They will serve to guide you and possibly even save you should you get a last minute request to do a speech or presentation.

Think of the five-pointed star in the Texas state seal. Associate each point of that star with these five elements. Each point on the star is independently quite weak, just a dot, but linked together they make a powerful symbol. The top point of the star is its focal point. It's a lot like your attention statement. If you don't gain the audience's attention, the rest of the speech will be ineffective.

Each successive point on the Texas star can represent the remaining four parts of any speech. One day you will be asked to speak with little or no time for preparation. By focusing on this organizational model and thinking about the Texas star, you can quickly and accurately prepare your speech. With the luxury of time for preparation, each step can be even further developed. Remember this model, as summarized in Table 14.4 "Five-Point Model of Public Speaking," and you will always stand out as a more effective speaker.

Table 14.4. Five-point model of public speaking.

Point	Description
Attention Statement	The attention statement is the way you focus the audience's attention on you and your speech.
Introduction	Your introduction introduces you and your topic; it should establish a relationship with your audience and state your topic clearly.
Body	In the body, or main content area of your speech, you will naturally turn to one of the organizational patterns (see the section "Organizing Principles for Your Speech" later in this chapter).
Conclusion	Your conclusion should provide the audience with a sense of closure by summarizing the main points and relating the points to the overall topic.
Residual Message	The residual message is an idea or thought that stays with your audience well after the speech.

Sample Speech Outlines

Chances are you have learned the basic principles of outlining in English writing courses. An outline is a framework that organizes main ideas and subordinate ideas in a hierarchical series of Roman numerals and alphabetical letters. The center column of Table 14.5 "Speech outline A" presents a generic outline in a classical style. In the left column, the five main structural elements of a speech are tied to the outline. Your task is to fill in the center column outline with the actual ideas and points you are making in your speech. Feel free to adapt this and tailor it to your needs, depending on the specifics of your speech. Next, fill in the right column with the verbal and visual delivery features of your speech.

Table 14.5. Speech outline A.

Attention Statement	Structure	Verbal and Visual Delivery
Introduction	• Main idea	

Common ground

"These issues have a significant impact on the company, and we need to investigate possible answers."

(**Visual**: PowerPoint title slide with key terms from the main idea in large font)

"Even though these issues affect some of us more than others, we all want ____."

(**Visual**: Creative commons image of individuals at work site shaking hands or making other agreeable gestures).
Body

- I. Main idea: Point 1
  - A.1 specific information 1
  - A.2 specific information 2
- II. Main idea: Point 2
  - B.1 specific information 1
  - B.2 specific information 2
- III. Main idea: Point 3
  - C.1 specific information 1
  - C.2 specific information 2

I. "First and foremost, these issues have reduced ___ over time."

(**Visual**: Line graph showing a negative trend)

"Our competitors report similarly that…"

II. "In addition, research shows that this change decreases ____."

"One study by Smith et al. examined…"

(**Visual**: Slide that shows the Results table from a peer-reviewed study)

III. "Finally, we need to examine these issues because the majority of our employees are concerned about them."

"According to our employee survey..."

(**Visual**: A bar graph that shows the results of an employee survey).
Conclusion Summary, main points 1–3 "To recap, there are several indicators that these issues are serious and need to be addressed. They are___, ___, and ___."

(**Visual**: A slide that lists 3 points in key terms)
Residual Message Main idea "Ultimately, taking these issues seriously and investigating them will benefit everyone in the company. Please share your feedback if you have any, and thank you for your time."

(**Visual**: A slide with your contact information)

There is no law that says a speech outline has to follow a classical outline format, however. Table 14.6 "Speech outline B" is an alternate outline form you may want to use to develop your speech. As you can see, this outline is similar to the one above in that it begins with the five basic structural elements of a speech. In this case, those elements are tied to the speech's device, thesis, main points, summary, and recap of the thesis. In the right column, this outline allows you to fill in the cognate strategies you will use to get your points across to your audience. You may use this format as a model or modify it as needed.

Table 14.6. Speech outline B.

Attention Statement	Structure	Verbal and Visual Delivery
Introduction	• General purpose statement or thesis statement • Common ground	"In order to address these issues in our company, I propose that ____." (**Visual**: PowerPoint title slide of your thesis) "As I review my proposed solution in detail, keep in mind that we all want ____."
Body	• Point 1 • Point 2 • Point 3	Point 1: "First and foremost, companies that have adopted this solution show an increase in _____." (**Visual**: Line graph showing a positive trend) Point 2: "In addition, research shows that this change increases ____." (**Visual**: Slide that shows the Results table from a peer-reviewed study) Point 3: "Finally, the majority of our employees feel strongly that we should adopt this solution." (**Visual**: A bar graph that shows the results of an employee survey)
Conclusion	Summarize main points and reinforce common ground	"To conclude, my findings reflect that (Points 1-3). These points illustrate that this solution is not only a viable approach to the problem, but fulfills everyone's expectation that ____." (**Visual**: A slide that lists 3 points in key terms)
Residual Message	Reiterate thesis	"As we decide whether or not to adopt this solution, it's important that we do ___ and remember ___." (**Visual**: PowerPoint slide with a bulleted list of actionable items)

Organizing Principles for Your Presentation

There are many different ways to organize a presentation, and none is "better" or "more correct" than the others. The choice of an organizing principle, or a core assumption around which everything else is arranged, depends on the subject matter, the rhetorical situation, and many other factors, including your preference as speaker.

The left column of Table 14.7 “Sample organizing principles for a speech” presents seventeen different organizing principles to consider. The center column explains how the principle works, and the right column provides an applied example based on a sample speech about the rise of Netflix and its global market share among streaming service providers. For example, using a chronological organizing principle, you might start with Marc Randolph and Reed Hastings’s founding of Netflix in 1997, its introduction of streaming media in 2007, its expansion into international markets in 2010, and the debut of its original content with *House of Cards* in 2013. As another example, using a problem-solution organizing principle, you might start with the challenges Netflix faces with an increasing number of competitors and then go into potential responses to those challenges.

As you read each organizational structure, consider how the main points and subheadings might change or be adapted to meet each pattern.

Table 6.1. Organizing Principles

Organizing Principle	Explanation	Applied Example
1. Time (Chronological)	Structuring your speech by time shows a series of events or steps in a process, which typically has a beginning, middle, and end. "Once upon a time stories" follow a chronological pattern.	Before Netflix, people primarily consumed media at home through VHS and DVD players, and rented titles from corporations like Blockbuster and Hollywood Video. Netflix initially started as a rent-by-mail company in 1997, then switched to its subscription model shortly after. Blockbuster had the chance to purchase Netflix for $50 million in 2000, but declined.
2. Comparison	Structuring your speech by comparison focuses on the similarities and/or differences between points or concepts.	A comparison of Netflix and its competitors such as Hulu and Amazon Prime, focusing on available original content and platform design.
3. Contrast	Structuring your speech by using contrasting points highlights the differences between items and concepts.	A contrast between Netflix's share of the streaming services market 5 and 10 years ago versus today.
4. Cause and Effect	Structuring your speech by cause and effect establishes a relationship between two events or situations, making the connection clear.	Netflix changed the way people consume and purchase media. Rather than renting or purchasing individual titles, people now purchase a monthly subscription to a library of content that changes regularly. Advertising shifted from commercials to product placement and viral marketing. Netflix also gave rise to "binge-watching" habits of media consumption.
5. Problem and Solution	Structuring your speech by problem and solution means that you state the problem and detail how it was solved. This approach is effective for persuasive speeches.	Netflix enjoyed a head-start in the streaming service market, but major companies like Amazon, Disney, and Apple have started to offer increasing competition. Netflix can stay ahead of the competition by rebooting franchises popular with its primarily millennial and Gen Z audience, continuing to produce creative original content, etc.
6. Classification (Categorical)	Structuring your speech by classification establishes categories.	Netflix features competitive original content in several categories: television shows, film, stand-up comedy specials, and documentaries. A focus on these categories allows us to see which type of content has the most potential for increasing market share.
7. Biographical	Structuring your speech by biography means examining specific people as they relate to the central topic.	Marc Randolph and Reed Hastings founded the company in 1997. Randolph served on the board of the company until his retirement in 2004. In 2019, Netflix negotiated a massive content deal with Benioff and Weiss, the showrunners for *Game of Thrones*.
8. Space (Spatial)	Structuring your speech by space involves the parts of something and how they fit to form the whole.	A description of the layout of Netflix's website and platform.

Organizing Principle	Explanation	Applied Example
9. Ascending and Descending	Structuring your speech by ascending or descending order involves focusing on quantity and quality. One good story (quality) leads to the larger picture, or the reverse.	The browsing habits of a streaming service consumer. Major technological advancements and shifts in marketing strategy over time expressed through visuals such as graphs and charts.
10. Psychological	Also called "Monroe's Motivated Sequence."[2] Structuring your speech on the psychological aspects of the audience involves focusing on their inherent needs and wants.[3] The speaker calls attention to a need, then focuses on the satisfaction of the need, visualizes the solution, and ends with a proposed or historical action. This is useful for a persuasive speech.	The millennial and Gen Z generations craved media that reflected their own experiences and circumstances, which cable television was not providing. These experiences and circumstances include an increasing emphasis on intersectionality and diversity, exploring topics previously too controversial for television, etc.
11. Elimination	Structuring your speech using the process of elimination involves outlining all the possibilities.	Netflix pioneered the streaming service model that now dictates how content is created and purchased. Tracing the company's evolution from DVDs-by-mail to streaming content, as well as the progression of its competitors from Blockbuster to Amazon, reveals the outsized influence this corporation has had. By reviewing this progression, we can come to see which factors are most important to consider in implementing fresh changes to our business model.
12. Ceremonial: Events, Ceremonies, or Celebrations	Structure your speech by focusing on the following: 1. Thank dignitaries and representatives. 2. Mention the importance of the event. 3. Mention the relationship of the event to the audience. 4. Thank the audience for their participation in the event, ceremony, or celebration.	Many thanks to all of the marketing strategists, content creators, and software engineers for maintaining the quality and integrity of Netflix as a platform. Without your contributions, this company would not be as successful as it is today.

Organizing Principle	Explanation	Applied Example
13. Awards	Structure your speech by focusing on the following: 1. Thank everyone for coming together. 2. Discuss the history and importance of the award. 3. Give a brief biography of the person who will receive the award (often nonspecific to keep people guessing and to build suspense). 4. Announce the name of the award recipient. 5. Present the award (present award with left hand, shake with right). 6. Award recipient may give a speech. 7. Transition to the next item or thank everyone for participating.	Thank you all for gathering here today. The Emmys are the most prestigious award in television, and Netflix has secured an unprecedented number of wins this year. The content creators and specialists who earned them need no introduction, and we are excited to hear some of them say a few words on this historic occasion.
14. Toast: Weddings or Similar Gatherings	Structure your speech by focusing on the following: 1. Thank everyone for coming together. 2. Discuss the importance of the event (wedding). 3. Mention the relationship of the couple to the audience or the speaker to the person being celebrated. 4. Add one short sentence. 5. Optional: Conclude, thanking the audience for participation in the event, ceremony, or celebration.	Thank you everyone who came here today. I've known Reed for over two decades, since we were mailing DVDs to ourselves to see if our new venture could work. In all that time, and even with the success of our company, I've never seen him happier than with (X).
15. Speaker Introductions	Structure your speech by focusing on the following: 1. Thank everyone for coming together. 2. Provide a brief biography of the person who will speak or establish their credibility. 3. Discuss the speaker and their topic. 4. Announce the name of the speaker; once their speech has concluded, possibly mention it again. 5. Transition to the next item or thank everyone for participating.	Thank you, everyone, for coming here today. Our first speaker is one of the two founders of the world's most successful streaming service: Netflix. Today, he will address the lessons he learned from his successes and failures, and what new entrepreneurs should know as they explore their ideas. Please help me welcome Reed Hastings. (Optional after speech: Thank you, everyone. Next we have…)

Organizing Principle	Explanation	Applied Example
16. After-Dinner Speech	Structure your speech by focusing on the following: 1. Thank everyone for coming together. 2. Provide a fun or humorous attention statement. 3. Discuss the topic in a light-hearted manner with connected stories, anecdotes, or even a joke or two. 4. Connect the humor to the topic of importance. 5. Thank everyone for participating.	Thank you for coming together to celebrate the international debut of Netflix. There have been many challenging moments along the way that I would like to share tonight (stories, anecdotes, or even a joke). While it's been a long journey, we've made it. Thank you for coming tonight.
17. Oral Interpretation	Structure your speech by focusing on the following: 1. Draw attention to the piece of literature. 2. Explain its significance, context, and background. 3. Interpret the manuscript for the audience. 4. Conclude with key points from the reading. 5. Reiterate the main point of the piece of literature.	Today I would like to share with you the letter Blockbuster sent us when they rejected our offer to buy Netflix decades ago. (Interpret the letter, using your voice to bring the written word alive.) Had Blockbuster known then what we know now, things would have turned out very differently.

Notes

1. David McMurrey, "Example of Spoken Headings in an Oral Presentation," Oral Presentations: Stand Up and Tell 'Em How It Is!," accessed July 15, 2020, https://www.prismnet.com/~hcexres/textbook/oral.html. Licensed under a Creative Commons Attribution 4.0 International License.
2. Tracy Micciche, Burt Pryor, and Jeff Butler, "A Test of Monroe's Motivated Sequence for Its Effects on Ratings of Message Organization and Attitude Change," *Psychological Reports* 86, no. 3 part 2 (June 2000): 1135-1138, https://doi.org/10.1177/003329410008600311.2.
3. For more information on interpersonal psychology, and human needs and wants, see Abraham Maslow, *Motivation and Personality*, 2nd ed. (New York, NY: Harper & Row, 1970); and William Shutz, *The Interpersonal Underworld* (Palo Alto, CA: Science and Behavior Books, 1966).

MODES OF ORAL COMMUNICATION

David McMurrey; Anonymous; James Francis, Jr.; Matt McKinney; and Kalani Pattison

Pick the method of preparing for the talk that best suits your comfort level with public speaking, with your topic, with your discipline, and with the presentation context. Regardless of your method, plan to practice or rehearse beforehand. Some people assume that they can ad lib for the expected time frame and be relaxed or informal. It doesn't often work that way—drawing a mental blank is the more common experience.

Here are some possibilities for preparation and delivery:

- Write a script and practice it; keep it around for quick reference during your talk.
- Set up an outline of your talk; practice with it and bring it for reference.
- Create cue cards, practice with them, and use them during your talk.
- Write a script and read from it (preferably not verbatim; instead, occasionally glance at it).
- Practice your presentation in front of a casual, supportive audience (e.g. a friend, mentor, or partner) and get feedback from them.

While most professionals are familiar with these oral presentation prep strategies, it's still possible to draw a blank in the preliminary/brainstorming portion of composing your talk. To address this, technical and professional communication specialists can provide their organizations with a formal but adaptable template based on the rhetorical situation. Ideally, the organization can provide a training space, such as a workshop or seminar, where these specialists can walk through and coach others in their professional communities.

Table 14.8 offers suggestions on using the rhetorical situation to craft a presentation.

14.8. Using the rhetorical situation to create a talk.

Question	Examples
Who is your audience?	Administrative group; city council; investors; elementary school children; protesters
What is your purpose or message?	Propose a solution; Inform audience about a new product; Instruct audience on how to do something; Request permission or favor; Call to action
How much time is allotted for your presentation?	30-minute meeting; 5 minutes at the start of class; 1-2 minutes in a line of speakers
How does your ethos (or credibility) relate to the topic?	Relevant credentials; Personal experience; Prior relationship with members of the audience
What is the audience's attitude toward your topic?	Receptive, neutral, hostile; Deeply invested, somewhat invested, disinterested; Familiar or unfamiliar
Where will the presentation occur?	Enclosed space like a board room or conference room; Open space such as playground or parking lot; Online video conferencing application, such as Zoom, Skype, Google Hangouts
What resources are available to supplement your presentation?	Electronic technology such as stable computer or laptop, projector, microphone or megaphone; Non-electronic materials such as cue cards, white board or chalk board, print handouts

Each of these questions factor into making a decision about how to deliver your message, depending on the type of communication: formal speech, extemporaneous vs. scripted talk, project discussion, skills training, or other.

Aspects of Context to Take Into Consideration

No matter the situation, there are universal elements to take into consideration.

Language and Communication

What are the spoken languages at the event? Speaking to your audience means ensuring all people understand your message. Never assume all people in attendance speak the same language as you. If your first language is French, some members of the audience may speak Portuguese or communicate with American Sign Language (ASL). Learn as much as you can about your audience's language systems and what jargon is appropriate to communicate effectively.

What are your audience's expectations and needs regarding access to presentations? More specifically, what is the expected balance of visual information, written words, and spoken words in a presentation for your topic and audience? Certain audiences expect a person reading a script and using a slide deck to emphasize key points, while others expect more a walkthrough of major charts or visuals, while still others anticipate a more interactive presentation where the audience must participate. Knowing this information helps you decide how to present your material to best communicate with people in attendance. If you plan to use visual aids, textual components, or other materials, you must consider that audience members have a diverse means of accessibility to comprehend the information from your speech.

Delivery

Though it seems obvious that an in-person speech is different from one given via digital platform like Zoom, the two share qualities to help the presenter reach their audience. The following tips address both in-person and digital speech delivery.

Dress the part. Appearances are important to match the content of the speech and the makeup of the audience. Never judge a book by its cover; however, the way you appear for a speech allows an audience to welcome or reject you. If you show up to a formal board meeting in a T-shirt and jeans to present a financial analysis report, your appearance informs the board members that you do not consider the presentation important or a serious matter. On the other hand, if you arrive to a high school classroom in formal dress attire to discuss future career opportunities in culinary arts, the audience may feel that your appearance is disconnected from the speech subject matter (though when we put both examples side by side, it is generally better to be overdressed than underdressed). When delivering a speech digitally in front of a camera, the same guidelines apply to considerations of clothing, hairstyling, and more. The way you deliver the speech and interact with the audience is influenced by how you physically prepare yourself.

Speak clearly. Depending on the venue, you may need to project so that everyone can comprehend your words. If using a microphone (in-person vs. digital), consider the distance from the device to maintain audible levels that are neither too low nor too high. A great way to connect with the audience is to ask them about the volume levels when you start the speech and to provide them a way to offer feedback during the talk if the volume changes (i.e., having someone point a finger up or down to indicate a need to talk louder or softer).

Modes

A scripted or formal speech. This mode may allow (or require) the chance to utilize notecards, a teleprompter, and/or memorization skills. Although resources are available, avoid simply reading information, since this hinders the important connection you make with your audience. Eye contact is necessary to engage with those in attendance. Pacing depends on time provided and using it wisely. An advantage for a prepared speech is practicing/rehearsing the material. Outline the various points of the talk to estimate how much time to spend on each segment, and factor in the possibility for audience questions and technical difficulties to develop a presentation that is not rushed to confuse the audience, nor presented at a snail's pace to bore the audience.

An extemporaneous or impromptu speech. Occasionally, you may need to offer a quick presentation or update to a supervisor, client, or coworker. Perhaps you have encountered a potential client at a conference, or maybe your boss or peer has a looming deadline for a report they must write. You might even be asked to respond to an emergency or sudden development that affects your project. In these situations, you will not have the time to create a full script or even an outline. Without the aid of material resources such as slides or visuals, your focus must be directed toward presenting relevant and related content in a smooth manner to avoid straying from the purpose of the communication. Think of keywords that highlight your message in order to maintain consistency in the delivery of information as you navigate from one point to the next.

A guided discussion. In this mode, you are responsible for maintaining a relevant thread of content while people in attendance pose questions, provide information, and analyze the subject matter being covered. This is a facilitator role in which what you say is equally important to listening to foster a consistent discussion. Prior knowledge of the topic at hand and inquiries that may arise during the discussion help create a positive experience for the audience. Preparation for this mode includes brainstorming and preparing engaging questions and researching answers to audience queries that are likely to arise. Guided discussions may be enhanced by the use of visuals, such as questions, directions, or being projected on a screen.

No matter what mode of communication, preparation is the key to a successful delivery of information, as well as audience engagement and satisfaction. The presenter must make a series of decisions based on the rhetorical situation in order to craft a viable speech.

CREATING VIDEO PRESENTATIONS

James Francis, Jr.; Kalani Pattison; and Gia Alexander

Preparing Video Presentations

When creating a short video presentation, it is best to plan for both audio and visual elements. Starting with a script—or at least a detailed outline for a script—can help the presenter make sure that they cover all of the information they want.

After the script is planned (though it may be revised later, of course), the next step is to collect and establish the visual elements that will be included.

In its simplest form, visual elements can use PowerPoint or another type of presentation software (Google Slides, Prezi, Canva) to create slides, embed clips, include informational graphics at an appropriate size/readability, and help readers focus on the key points of the audio script.

Recording Video Presentations

To record a video, you may simply use the recording or presentation feature present in many of the options and export the final result as a video file, (or download the presentation with the embedded recordings as a Powerpoint file and then export as a video file). You can also use a recording video-conferencing program (such as Zoom) to record the presentation.

When recording audio, keep the following techniques in mind:

1. While the narrator of the presentation needs to speak clearly, the pace for a recorded presentation is generally expected to be quicker than the pace for a live presentation.
2. The narrator's words should follow the cues of the visuals but provide more details, information, and examples than the visuals discuss.
3. Most current phones and many computers currently have sufficient recording quality for the audio, but the location of the audio recording and background activity may affect the quality of the recording.

In addition to the speech pace being a little quicker, if you use a presentation as the main visual, plan to either spend less time per slide or include transitions between points on a slide in order to keep the visuals from being too static and leading the audience to lose interest.

When creating a video using presentation software with a voice over, keep the following things in mind:

1. Do not simply read the text you have on the slides. The text on the slides should be short, key words, not full sentences or paragraphs.
2. Make sure you save the file as a presentation before saving or exporting it as a video, as this will allow you to go back and make corrections or adjustments much more easily.
3. Choose a smaller resolution for a smaller file size—high definition is not usually a requirement for this type of content.

Editing Video Presentations

Though it is possible to make a complete and well-recorded video on the first take, planning for some video editing and post production can take pressure off of the presenter. Cropping speech blunders, awkward pauses, and messy beginnings and endings, for instance, can clean up a presentation to make it appear more professional. Adding other content, such as subtle transitions between clips, an appropriate light-music background, title slides, credits, and captions can also be essential for professionalism.

In addition to cleaning up and adding a few more sophisticated touches, video editing can be used to combine various types of visuals. There are conflicting opinions and studies regarding whether or not including video of the narrator is beneficial or not. (Creating a video with such an embedded video is relatively easy, using Zoom and the recording features.) At least one study indicates that the presence of the narrator speaking in a picture-in-picture format may decrease viewers' sustained attention, but may increase learning performance.[1] Based on current understanding, the following techniques may lead to the most effective videos:

1. Switching between presentation slides, full screen video of the narrator, and picture-in-picture.
2. Using the different modes of video for different forms of emphasis, topic changes, and types of information.
3. As with audio, most current phones and many computers currently have sufficient video recording abilities for the quality of video needed for these types of presentations. And, as with audio, the location and background of such recordings have more impact than the actual quality of the hardware.

Free Tools for Creating and Editing Video and Audio Files

There are a number of free software video-editing programs available online. The following list of programs includes links which will lead to descriptions and discussions regarding the various program types. There are also free audio recording and editing programs as well as screen-recording programs.

Free Online Video-Editing Programs

- Lightworks
- VideoPad
- HitFilm Express
- DaVinci Resolve
- VSDC Free Video Editor
- OpenShot
- Shotcut
- Blender
- Movie Maker 10
- iMovie
- Magisto
- WeVideo

Free Online Audio Recording Software

- Adobe Audition
- FL Studio
- Avid Pro Tools First
- Ocenaudio
- Audacity
- Audio Highjack

Tools for Obtaining Film Clips

- OBS Studio
- FlashBack Express
- Apowersoft Free Online Screen Recorder
- ShareX
- YouTube: Deturl

Depending on your computer and phone, you may have some of these programs or their mobile equivalents already installed on your devices. As with any software you download, read about its capabilities before downloading. Make sure it's something that's going to do what you want to do and don't download something that's just going to take up space that you're going to delete later. In addition, make sure to check for user feedback and commentary. Pay attention to people's reviews on price, limits, and reliability. In addition, review your device's virus and malware protection.

Remember, just because you found something available online (such as music for a background track, a meme, stock photos to enliven your presentation, or even templates for presentation layouts), that doesn't mean you can use it without violating copyright law, especially for presentations produced for use in the workplace. See the section on Copyright, Creative Commons, and Public Domain at the end of Chapter 8 for details on how to find and use materials legally and ethically.

Ensuring Video Accessibility

Last, but certainly not least, you want to make sure your video is accessible to as many members of your audience as possible. Here are some things you can do to make that happen:

- Add **closed captions**. People who have hearing impairments may not be able to access what you are saying during your video. Make sure that your closed captions are accurate! If you use auto-captioning, such as those provided by ZOOM or YouTube, you will note that it often doesn't understand you in places. Go back and **edit** your captions so that they convey the correct message.
- Provide an accurate written **transcript**. If you have scripted your video as suggested above, you need only then store the transcript in an easily accessible place such as your Google Drive. Be sure to set the **Share** settings so that anyone with the link can access your transcript. Then, you can link to the transcript in your video description.
- If you are demonstrating anything in your video, be sure to **describe** in detail what you are doing. Think of this as the video version of adding alt text to an image. If you speak in detail, audience members who have difficulty seeing will be able to understand more of your video.

WebAIM.org is a great place to find more information and links to additional resources and tools that can help you make your videos and internet-based technical communication more accessible.

Notes

1. Chih-Ming Chen and Chung-Hsin Wu, "Effects of Different Video Lecture Types on Sustained Attention, Emotion, Cognitive Load, and Learning Performance," *Computers & Education* 80 (2015): 108–121, https://doi.org/10.1016/j.compedu.2014.08.015.

15 - CORRESPONDENCE

Introduction

Matt McKinney

Arguably, the most common and ubiquitous form of technical and professional communication is engaging in correspondence. A simple definition of correspondence is the exchange of messages between two or more people.

The mediums in which correspondence takes place vary widely, including emails, letters, memos, social media posts, and even text messages. However, professional correspondence has some common traits across all mediums of communication:

- It typically focuses on lower-stakes exchanges of information than reports or presentations, such as making requests, asking specific questions, providing updates on project progress or completion, or responding to a client.
- It typically consists of shorter messages (a message that is paragraphs long makes for a tedious email and an excruciating text message).
- The communicative distance between sender and receiver is short (i.e., the person initiating the correspondence usually expects a prompt and specific response).
- Although more typical of letters and memos, the writer must consider any approval processes in place (review by legal departments, supervisor approval, etc.) that may factor into the distribution hierarchy and/or timeline for delivery regarding internal and/or external correspondence. This also applies to the classroom setting in which the writing process (rough draft, peer review, final draft) depends upon a delivery chain. For instance, your professor will likely want to approve your project idea and data collection design before you conduct your research.
- Finally, professionals in most fields engage in correspondence virtually every day. Since correspondence will likely be the most prolific form of technical writing you practice in your career, this makes it an important skill to master.

The following sections of this chapter will explore some of the more common forms of professional correspondence in depth. As you read through them, reflect on your own communicative practices. Which principles do you already follow, and which do you need to cultivate more?

EMAIL

Annemarie Hamlin; Chris Rubio; Michele DeSilva; James Francis, Jr.; Matt McKinney; and Kalani Pattison

Email is familiar to most students and workers. It may be used like text or synchronous chat, and it can be delivered to a cell phone. In business, email has largely replaced print hard copy letters for external (outside the company) correspondence, and in many cases, it has taken the place of memos for internal (within the company) communication.[1] Email can be very useful for messages that have slightly more content than a text message, but it is still best used for fairly brief messages. Many businesses use automated emails to acknowledge communications from the public, or to remind associates that periodic reports or payments are due. You may also be assigned to "populate" a form email in which standard paragraphs are used, but you choose from a menu of sentences to make the wording suitable for a particular transaction.

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

Tips for Effective Business Emails

As with all writing, professional communications require attention to the specific writing context, and it may surprise you that even elements of form can indicate a writer's strong understanding of audience and purpose. The principles explained here apply to the educational context as well; use them when communicating with your instructors and classroom peers.

> **Open with a proper salutation.** Proper salutations demonstrate respect and avoid mix-ups in case a message is accidentally sent to the wrong recipient. For example, use a salutation like "Dear Mary Smith" (external) or "Hi Barry" (internal). Especially for internal communications, a polite greeting frames your message as a request rather than a demand.
>
> If you do not know the recipient personally, never use titles such as Mrs., Ms., or Mr. as you cannot assume gender, marital status, or profession, such as "Dr." "The Honorable" or "Rabbi" as name prefixes. If you do know the recipient, use their preferred form of address for your context and relationship. (For instance, if your professor has their doctorate and signs their emails Dr. Smith, then that is likely how they wish to be addressed). If the gender of a person and/or their personal pronoun use are not known, use their entire name like this: "Dear Sam Jones."
>
> Traditionally, salutations end with either a comma, colon, or exclamation point, depending on the formality and content of the message. All have their uses, but the most common in technical and professional communication will be the comma or the colon. The colon is typically reserved for more formal and external scenarios whereas the comma is used for everyday internal communications.

Include a clear, brief, and specific subject line. This helps the recipient understand the essence of the message. For example, "Proposal attached" or "Your question from 10/25." Including an opening phrase such as "Action Item:" may be appropriate if there is a request with a specific deadline and you are in a position to give instructions to the recipient. Use the CC (carbon copy) and BCC (blind carbon copy) entries appropriately, depending on who needs to be included in the communication and/or copied to have access to the information.

Close with a signature. Identify yourself by creating a signature block that automatically contains your name and business contact information and aligns with your organization's branding guidelines if applicable. Depending on your audience, consider including your gender identifying pronouns (particularly if you are cisgender) to normalize gender inclusivity in technical and professional communication and to help ensure you are addressed properly. However, if you are transgender or nonbinary, you are not obligated to do so if you find this transparency uncomfortable or risky.

Avoid text/internet slang. An email is not a text message, and the audience may not find your wit cause to ROFL.

Be brief. Omit unnecessary words.

Use clear formatting cues. Divide your message into brief paragraphs for ease of reading. A good email should get to the point and conclude in three small paragraphs or less.

Reread, revise, and review. Catch and correct spelling and grammar mistakes before you press "send." It will take more time and effort to undo the problems caused by a hasty, poorly written email than to get it right the first time.

Reply promptly. Watch out for an emotional response—never reply in anger—but make a habit of replying to all emails within one business day, even if only to say that you will provide the requested information in 48 or 72 hours.

Use "Reply All" sparingly. Do not send your reply to everyone who received the initial email unless your message absolutely needs to be read by the entire group. Consider using the BCC option if writing to a group, as this will prevent "Reply All" from being accidentally used.

Avoid using all caps. Capital letters are used on the Internet to communicate emphatic emotion or yelling, and they are considered rude in professional settings.

Test links. If you include a link, test it to make sure it is working. In addition, if you are sending a link to a document saved on the cloud (such as OneDrive or Google Drive), make sure the permissions are set correctly.

Give feedback or follow up. If you don't receive a response in two-to-three business days, email or call the original receiver. Spam filters may have intercepted your message, so your recipient may never have received it.

Figure 15.1[2] shows a sample email that demonstrates the principles listed above.

Send	Attach	Discard
To	BHaus327@bhaus.com	
Cc	StantonAM@bhaus.com	
Bcc		
Subject	Uniform Requirement Change	

Dear Burrito Haus Employees:

Per CDC guidelines related to Covid-19 exposure, all restaurant workers must now wear protective face masks/shields during shifts while on property.

We at The Burrito Haus recognize the financial and time hardships this may present to you. In an effort to maintain a unified presence of our teams at our various locations nationwide, corporate is providing all affiliate locations with custom masks for employees to wear while on shift. The masks will arrive at the end of this week, and they will be distributed via express mail to your home addresses listed on file.

If you have any questions or concerns about the use of face masks before we reopen to the public in two weeks, please contact your supervisor.

Thank you for your time,

Jennifer Stanton

Assistant Manager
The Burrito Haus
Location #327
(979) 123-4567
College Station, TX 77840

Send	Discard

Figure 15.1. Sample email. (Alternative PDF version: [Figure 15.1](#).)

Notes

1. Mary E. Guffey, *Essentials of Business Communication*, 7th ed. (Mason, OH: Thomson/Wadsworth, 2008). See also Ingram Leedy, "Communication Tools Changed the Workplace (From Memos to Emojis)," Protected Trust Modern Workplace Blog, Feb. 4, 2020, https://blog.protectedtrust.com/communication-tools-changed-the-workplace.
2. James Francis, “Sample Email,” 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

LETTERS

Annemarie Hamlin; Chris Rubio; Michele DeSilva; and Claire Carly-Miles

Letters are usually brief (one to two pages) messages sent to recipients outside the organization. They are often printed on letterhead paper and represent the business or organization. While email and text messages may be used more frequently today, the effective business letter remains a common form of written communication. Letters may serve to introduce your skills and qualifications to prospective employers, deliver important or specific information, or serve as documentation of an event or decision. All letters have expectations in terms of language and format. The audience may have their own ideas of what constitutes a specific type of letter, and your organization may have its own format and requirements.

This section outlines common elements across letters, and attention should be directed to the expectations associated with your particular writing assignment. There are many types of letters, and many adaptations in terms of form and content, but we will focus on the 15 elements of a traditional block-style letter. Figure 15.2[1] demonstrates a cover letter that might introduce a technical report to its recipient. Notice that this letter uses full **block format**, a widely accepted and professional choice. Full block format is left aligned (do not indent paragraphs) and single-spaced with a line space between paragraphs. Rely on this format for letters unless your employer requires something different.

Roger McMahon
32598 Collins Way
Redmond, OR 97756
(541) 567-2546

Letterhead (sender's return address)

September 28, 2020

Spacing above and below the date can vary to make the text fit logically on the page, but there should be at least a little to separate it from both addresses.

Tina Blakely, Owner
Three Creeks Spa Service
12129 Lone Tree Place
Sisters, OR 97759

Inside address: the name, title, and address of the intended recipient.

Dear Ms. Blakely:

Use a formal title and last name in the greeting, unless you are close friends with the recipient. Follow the greeting with a colon.

Enclosed you will find my final report on team building for employees at Three Creeks Spa Service. I am excited to have you review my findings which include extensive research of strategies that have been successful for other organizations like Three Creeks. In my informal conversations with some of the other staff at Three Creeks, I know they are also excited to explore some of these team-building activities. If you have any questions about the content in this report, please don't hesitate to contact me either by phone at the phone number listed above or in person at the shop. I look forward to the opportunity to discuss this with you further.

Sincerely,

Roger McMahon

Roger McMahon
Three Creeks Spa Service Dispatcher

Line spacing: Leave one blank line after the address, the greeting, and each paragraph in the body.

After the complimentary closing, (Sincerely, Yours truly, etc.), leave four lines as space for a signature, then type the sender's full name and title on two lines as shown here.

Figure 15.2. Sample cover letter. (Alternate PDF version: Figure 15.2.)

Strategies for Effective Letters

Remember that a letter has five main areas:

1. The **heading**, which names the recipient, often including address and date
2. The **introduction**, which establishes the purpose
3. The **body**, which articulates the message
4. The **conclusion**, which restates the main point and may include a call to action
5. The **signature line**, which sometimes includes the contact information

Always remember that letters represent you and your company in your physical absence. In order to communicate effectively and project a positive image, remember that:

- Your language should be clear, concise, specific, and respectful;
- Each word should contribute to your purpose;
- Each paragraph should focus on one idea;
- The parts of the letter should form a complete message;
- The letter should be free of errors.

Notes

1. Derived from: “Sample Cover Letter,” in “Professional Communications,” *Technical Writing*, by Allison Gross, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva, Open Oregon Educational Materials, n.d. https://openoregon.pressbooks.pub/technicalwriting/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

MEMORANDUMS

Annemarie Hamlin; Chris Rubio; Michele DeSilva; Nicole Hagstrom-Schmidt; Kalani Pattison; and Matt McKinney

A memo (or memorandum, plural: memoranda or memorandums, meaning "reminder") is normally used for communicating policies, procedures, or related official business *within* an organization. It is often written from a one-to-all perspective (like mass communication), which broadcasts a message to an audience, rather than a one-on-one interpersonal communication, which delivers a message to an individual. It may also be used to update a team on activities for a given project, or to inform a specific group within a company of an event, action, or observance.

Memo Purpose

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

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

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

Memo Summaries

Memos typically open with a Summary section before moving to the main body. The Summary should be longer than the Purpose section, because the Summary's job is to cover the most important information in the memo, whereas the Purpose section simply explains the function of the memo. Here's an example of the difference:

- **Purpose:** The purpose of this memo is to report the current status of our project and explore next steps.
- **Summary:** The first task in the project has been completed, which entailed a review of prior plagiarism cases investigated by Texas A&M's Student Conduct Office (SCO). We are currently

> working on the second task, which is arranging an interview with the head of the SCO, but this has proven difficult. The third task, surveying students involved in these cases, has not yet been completed. Based on the status of each task, we are going to amend our data collection schedule and allot more time to collecting survey data.

Note how the Summary elaborates on the Purpose while also helping the reader to anticipate the takeaways in the memo's discussion of each task, which will be conducted in more detail in the main section.

Summary sections in memos typically fall under one of two types of summary: pure or executive. Pure summaries provide a comprehensive overview of the entire memo, giving relatively equal weight to all subsequent sections. Executive summaries, by contrast, privilege information that enables a high-ranking organizational audience to make an informed decision. Although both types of summary are meant for audiences who don't need (or intend) to read the full memo, the executive summary is more pragmatic and narrowly focused.

For example, say you were writing a memo about a research study you conducted. If you chose to write a pure summary, you would give equal weight to Methods, Results, and Discussion. If you chose an executive summary, you would focus primarily on Discussion and Results, with little or no mention of Methods.

For more discussion and examples of pure summaries, executive summaries, and a third type of summary (abstracts) see Chapter 18: Proposals, Chapter 19: Informational Reports, and Chapter 20: Recommendation Reports.

Memo Tone and Content

What a writer puts in a memo will be driven by the rhetorical situation. In general, memos are internal documents, meaning that their content should be geared toward a particular person or persons within the organization. They are also formal and objective, often reflecting company policies, official updates, or employee schedules.

When composing a memo, you will want your content to be immediately accessible to a reader. Memos, like most technical and professional communication, privilege putting the most important information first. An effective memo, therefore, will not bury information in the middle of a paragraph. A memo writer will also provide detail appropriate to their audience.

Table 15.1 below offers five specific tips for crafting an effective memo, with particular attention on the impact of tone and content on the audience.

Table 15.1. Tips for creating effective memos.

Effective Memos...	Explanation
Address audience needs	Always consider the audience and their needs when preparing a memo. The goal is clear and concise communication at all levels with no ambiguity. *Example*: The memo writer clarifies an acronym or abbreviation that is known to management but not known by all the employees in an organization-wide memo.
Adopt a professional, formal tone	Memos are often announcements, and the person sending the memo speaks for a part or all of the organization. The memo may have legal standing as it often reflects policies or procedures and may reference an existing or new policy in the employee manual, for example.
Identify their subject early	The subject is normally declared in the subject line and should be clear and concise. *Example*: If the memo is announcing the observance of a holiday, the specific holiday should be named in the subject line. Use "Thanksgiving weekend schedule" rather than "holiday observance."
Announce their purpose	The purpose of the memo is clearly announced. Some written business communication allows for a choice between direct and indirect formats, but memorandums are always direct.
Are objective	Memos are a place for facts alone and should have an objective tone without personal bias, preference, or interest on display.

Memo Format

At a glance, most memos look like particularly formal emails, though instead of having the To, From, Subject, and Date information located outside of the email, memos include that information on the page. Many organizations will have a "house memo" or equivalent format that they use for internal communications. Sometimes, these documents will contain a company letterhead or logo to signal the document's official status.

While each organization's preferred format will be different, Figure 15.3 provides a useful base memo format for you to use in your course, as well as some specific tips on what to include in each section. As you review Figure 15.3,[2] pay attention to the use of headings and situations in which you may alter them to help your reader more quickly read and understand the content.

MEMORANDUM (or other title identifying the type of document such as "Interoffice Communication" or "Memo," not the title of the assignment)

TO: Audience Name, Job Title or Position
FROM: Author Name, Job Title or Position
SUBJECT: Subject of Memo (Design Similar to an Email Subject Line)
DATE: Date Memo Sent

Optional section that provides a short, one-sentence statement indicating the purpose of the memo (not the purpose of the assignment). Rather than using "The purpose of this memo is... (to request, report, explain)," try to make it more concise by saying, "This memo requests...," "This memo reports...," or "This memo explains..." This statement may or may not have a heading.

Summary
Provide a brief overview of the contents of the memo. Remember, the Summary is typically used as a substitute for the full memo, not an introduction. Do not include information here that does not appear elsewhere in the memo itself.

Discussion
This section is the "body" of the memo. This section contains the major message, report, or whatever you need to discuss. It is the longest section of the memo.

Some memos omit "Discussion" as a heading and instead use other informative headings to organize the body content. You may also consider keeping "Discussion" as a Level 1 heading and adding subheadings underneath it. If you go this route, make sure your Level 2 headings are distinct from the formatting on the Level 1 heading.

For easily readable memos, break up your Discussion into paragraphs. Each paragraph should focus on one key "thing." In a memo addressed to your instructor, this "thing" may be a specific document, a rhetorical technique, a particular challenge, or whatever you decide.

Finally, note that memos, like most professional documents, are single-spaced. A full line of space separates each paragraph. You should not indent so long as you are following these formatting guidelines. These conventions are applicable to most US-based professional writing, but may vary in specific organizations or in other areas of the world.

If your memo stretches onto more than one page, include the recipient, date, and page number in the top left or right of the second page and any following it.

Recommendation
This short, optional section advises the reader on next steps. Are you waiting for some information, and the recipients should wait to hear from you again? Are you hoping for a response or action from any members of the audience? Make sure everyone knows whose responsibility it is to act next.

Figure 15.3. An example of a memo with explanatory content. (Alternative PDF version: [Figure 15.3](#).)

Notes

1. Leo Lewis, “Panasonic Orders Staff to Buy £1,000 in Products,” *The Times*, Feb. 13, 2009, https://www.thetimes.co.uk/article/panasonic-orders-staff-to-buy-pound1000-in-products-8z3mszj2rml.
2. Nicole Hagstrom-Schmidt, “An Example of a Memo with Explanatory Content,” 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

SOCIAL MEDIA

Matt McKinney

Every business and professional organization works to cultivate some kind of social media presence, often using a variety of different platforms. While each of these platforms have their own unique conventions, technical and professional correspondence on social media has some characteristics that are generally applicable:

- There is much more competition for your audience's attention. Unlike emails, letters, and other forms of correspondence, social media posts are usually not self-contained. They exist in feeds alongside countless other posts, all vying for active engagement from users. Consequently, getting your audience's attention quickly is paramount compared to other forms of correspondence.
- Your audience is public, not private. Most organizations do not apply filters to their posts, meaning anyone with an account on the social media platform can see the message, and there is an increased likelihood that a post will be screen-shotted or shared widely. Because of this, effective social media correspondence is positive, and private user inquiries, complaints, or concerns should be publicly welcomed but shifted to private channels.
- Casual tone and diction are more acceptable. Because you want to stay positive and get your audience's attention, stylistic choices that would normally be less acceptable in technical and professional correspondence (e.g. all-caps, emojis, and exclamation points) are much more practical here. This is especially true if you are addressing a younger audience.
- Messages tend to be shorter, and contain multiple forms of media. The competition for engagement, the public nature of the correspondence, and the emphasis of casual tone all entail that the shorter and more reader-friendly the message, the better. Photos, memes, gifs, and (short) videos are even more eye-catching than text, so often your correspondence should center on these.

Common Social Media Platforms

The following are some of the most common social media platforms technical and professional communicators engage in. Note the different purposes, audiences, and conventions within each platform, and keep in mind that new platforms emerge frequently.

- **Facebook.** The oldest and most ubiquitous social media platform still in use, Facebook is an important platform for most professional organizations. It is primarily used by an older audience, is more text-heavy than other platforms, and also allows for the creation of groups, where users can form and join communities focused on shared interests.
- **Twitter.** The primary characteristic of this platform is its 280 character limit. Naturally, messages here are extremely concise, and it's usually more effective to focus posts on visual media, hashtags, and embedded links.
- **Instagram.** This platform favors shorter messages than Facebook, and focuses more on photographs and stories (i.e. posts that are temporary, more frequently updated, and almost entirely visual). Instagram is used by a younger audience than Facebook and Twitter as well.
- **Snapchat.** This platform is also used primarily by younger audiences, with an increased emphasis on stories rather than permanent posts. It is best suited for advertisements and promos.
- **LinkedIn.** While most platforms often contain personal content, LinkedIn focuses purely on a

person's or organization's professional credentials; it is almost analogous to a digital business card and ongoing networking event. Users post their work history, skill sets, and demonstrate engagement with current events in their professional communities. Interactions between users also focus solely on professional exchanges, like endorsing someone's skill set, extending your professional networks, or posting and responding to job ads.

TEXT MESSAGING AND CHAT PROTOCOL

Annemarie Hamlin; Chris Rubio; Michele DeSilva; James Francis, Jr.; and Kimberly Clough

Text messages are part of our communication landscape, and skilled business communicators consider them a valuable tool to connect.

Whatever digital device you use, written communication in the form of brief messages, or texting, has become a common way to connect. It is useful for short exchanges, and it is a convenient way to stay connected with others when talking on the phone would be cumbersome, or if a need to multitask arises. Correspondence on business communication platforms, such as Slack or Microsoft Teams, should adhere to similar principles as texting. These platforms host channels, organized by projects or teams, that function like group chats between employees.

Texting is not useful for long or complicated messages, and careful consideration should be given to the audience. If you are using Slack, GroupMe, Twitter, Facebook, Instagram, Snapchat, Google Hangouts, Zoom chat, or another platform, it is important to consider whom you are messaging, if the communication is private or public, and what information you are transmitting to the other party/parties involved. Be aware of the principles that should guide your writing in this context.

When texting, always consider your audience and your company, and choose words, terms, or abbreviations that will deliver your message appropriately and effectively.

Tips for Effective Business Texting

Daily business operations require coworkers, clients, and other professionally-related individuals to communicate with each other regarding a variety of operations and tasks. When using text messaging in a professional setting, the protocols for format, content, and audience consideration are heightened beyond everyday communication with a personal friend or acquaintance outside of the work environment.

> **Know your audience.** "? % dsct" may be an understandable way to ask a close associate what the proper discount is to offer a certain customer, but if you are writing a text to your boss, it might be wiser to write, "What % discount does Murray get on a $1K order?"
>
> **Consider the sensitivity of information communicated, as legal issues and policies of privacy may apply.** There is a vast difference between asking, "When does the committee meeting begin?" versus "What is the client's account number?"
>
> **Recognize the appropriate nature of the platform being utilized.** Contacting someone's agent via email to request an interview is common; however, direct messaging (DM'ing) the person in question through Twitter could also grant interview access. Each situation of communication is different and requires an evaluation of the channel selected.
>
> **Research the safety of the platform before communicating with another person.** Various accounts on Twitter, Instagram, Facebook, and more experience hacking every day.

Anticipate unintentional misinterpretation. Texting often uses symbols and codes to represent thoughts, ideas, and emotions. Given the complexity of communication, and the useful but limited tool of texting, be aware of its limitations and prevent misinterpretation with brief messages.

Contacting someone too frequently can border on harassment. Texting is a tool. Use it when appropriate, but don't abuse it.

Ask someone their preferred times for text communication. Some people are not able to use digital devices during work hours; on the other hand, some people prefer not to communicate about business beyond scheduled work hours.

Avoid using unfamiliar text features (creating a group chat, archiving messages, etc.) without prior knowledge. Accidentally erasing communication, blocking a party, or more can create problems such as lost data, confusion, privacy violations, and so forth.

NETIQUETTE

Annemarie Hamlin; Chris Rubio; Michele DeSilva; and Matt McKinney

Netiquette refers to etiquette, or protocols and norms for communication, on the Internet. We create personal pages, post messages, and interact via online technologies as a normal part of our careers, but how we conduct ourselves can leave a lasting image, literally. The photograph you posted on your Facebook page or Twitter feed may have been seen by your potential employer, or that unprofessional remark in a post may come back to haunt you later.

Following several guidelines for online postings, as detailed below, can help you avoid embarrassment later.

1. **Know Your Context**
    - Introduce yourself.
    - Avoid assumptions about your readers. Remember that culture influences communication style and practices.
    - Familiarize yourself with policies on Acceptable Use of IT Resources at your organization. One example of a college's acceptable use policy can be found in the Aggie Honor Code and Netiquette.[1]
2. **Remember the Human**
    - Remember there is a person behind the words. Ask for clarification before making judgement.
    - Check your tone before you publish.
    - Respond to people using their names.
    - Remember that culture and even gender can play a part in how people communicate.
    - Remain authentic and expect the same of others.
    - Remember that people may not reply immediately. People participate in different ways, some just by reading the communication rather than jumping into it.
    - Avoid jokes and sarcasm; they often don't translate well to the online environment.
3. **Recognize that Text is Permanent**
    - Be judicious. What you say online is difficult to retract later.
    - Consider your responsibility to the group and to the working environment.
    - Agree on ground rules for text communication (formal or informal; seek clarification whenever needed, etc.) if you are working collaboratively.
4. **Avoid Flaming: Research Before You React**
    - Accept and forgive mistakes.
    - Consider your responsibility to the group and to the working environment.
    - Seek clarification before reacting.
    - Ask someone with more experience (e.g. supervisor, coworker) for guidance.

- Sometimes, online behavior can appear so disrespectful and even hostile that it requires attention and follow up. In this case, let your supervisor know right away so that the right resources can be called upon to help.

5. **Respect Privacy and Original Ideas**

    - Quote the original author if you are responding to a specific point made by someone else.
    - Ask the author of an email for permission before forwarding the communication.

Ultimately, it is important to remember that engaging in correspondence professionally, personably, and ethically is essential to mastering technical and professional communication. You already have, or likely will have, written countless emails, letters, memos, texts, and social media posts throughout your daily life. Together, these pieces of correspondence form a body of work that will help you craft your ethos as a professional, form and maintain beneficial working relationships, and transmit information efficiently and persuasively. These skills will also help you avoid and navigate potential conflicts that may arise in the workplace and other professional contexts. Treat each correspondence as an opportunity to practice them.

Notes

1. "Aggie Honor Code and Netiquette," Texas A&M University Distance Education, accessed August 12, 2020, https://distance.tamu.edu/Student-Rules-and-Policies/Aggie-Honor-Code-and-Netiquette.

16 - APPLICATIONS

Crafting Application Materials: An Overview

Matt McKinney

Crafting and customizing application materials are essential skills for any technical or professional communicator, regardless of field or industry. You will need these skills during many important moments of your education and career, including:

- Seeking an internship or entry-level position at the beginning of your career.
- Applying to advance your education (e.g. medical school, trade school, etc.).
- Applying for a promotion within your company or organization.
- Applying for competitive awards or additional funding in pursuit of educational or professional development (e.g., scholarships, grants, travel funds, etc.).
- Moving from one company or organization to another.
- Changing your career path from one field or industry to another.
- Returning to the workforce after a gap in employment.

This chapter will provide you with strategies for writing and revising application materials in a variety of circumstances, with an emphasis on materials for job applications. Most job applications will require two complementary documents: a cover letter and a résumé.[1] A résumé provides a comprehensive overview of your relevant credentials for a specific position. By contrast, the cover letter focuses on your two or three strongest credentials and contextualizes them, showcasing your ethos, pathos, and skill sets as a professional in the position for which you are applying. This chapter will begin with how to research and analyze ads to ensure you are responding to them with your materials effectively. From there, this chapter will review the different components and genre conventions of application materials (such as résumés and cover letters), as well as the different structural templates you can use to best showcase your skills and credentials in these documents. It will then conclude with how to write a thank-you letter and express gratitude professionally.

Note

Application Tip: A great practice for crafting and refining application materials is to have a "master" version of your résumé, curriculum vitae (CV), personal statement, and/or cover letter, which can be adapted quickly to the specific rhetorical situation of any application you craft. Not only will this promote efficiency as you apply for multiple positions and opportunities, but you can return to these documents and update them as you advance in your career and develop new skills.

Notes

1. Both resume and résumé are correct English spellings. Consistency is the most important consideration for your work.

PREWRITING AND RESEARCH FOR APPLICATION MATERIALS

Megan Savage; Nicole Hagstrom-Schmidt; and Matt McKinney

Spending adequate time preparing to write your application materials can save you time in the drafting process. This section of the chapter covers strategies that can help in your job or higher education search.

Conducting a Self-Inventory

As you work on your résumé or curriculum vitae (CV), you may worry either that you have nothing valuable to include or that you are "bragging." One way to overcome both these hurdles is to allocate pre-writing time to a self-inventory. Brainstorm your skills, accomplishments, and knowledge. What did you accomplish at work, school, or a volunteer position? What skills have you learned? What would you tell a friend or family member that you were proud of having achieved there? (Or, what would your grandparent or close family friend brag about you to their peers?) Start writing down key terms and action verbs that describe your experiences and accomplishments, and don't worry yet about putting them into a résumé format.

For help brainstorming action verbs that describe your skills, browse a key term list such as the one in Table 16.1.[1] First, scan the groupings of skills (Communication Skills, Creative Skills, Financial Skills, etc.) for key terms related to skills you have or work you have done. Then, write down 1) categories of skills you have and 2) corresponding action verbs that describe skills you have or work you have done (e.g. analyzed, performed, calculated, advocated, etc.).

Table 16.1. Key verbs for résumés.

Communication/ People Skills	Creative Skills	Management/ Leadership Skills	Helping Skills	Organizational Skills
Collaborated	Combined	Assigned	Aided	Arranged
Communicated	Created	Coordinated	Arranged	Categorized
Developed	Developed	Decided	Assisted	Distributed
Edited	Drew	Improved	Contributed	Organized
Incorporated	Illustrated	Led	Cooperated	Recorded
Proposed	Planned	Managed	Encouraged	Responded
Suggested	Revised	Oversaw	Helped	Updated
Synthesized	Shaped	Recommended	Motivated	Tracked
Translated	Crafted	Reviewed	Supported	Monitored
Facilitated	Conceived	Supervised	Prepared	Synthesized
Mediated	Established	Delegated	Bolstered	Adapted

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

Locating Jobs and Graduate Programs

With the popularity of the Internet, locating potential jobs and graduate programs is presumably easy. However, effective searching is not something that can be done just with a Google search, especially if you're looking for jobs in the professional sphere such as business, finance, STEM, or education, or if you want more detailed information about a graduate program's emphasis and professional culture.

Job Sites. Websites (and their associated apps) such as *LinkedIn*, *Indeed*, and *Glassdoor* are classic places to start a job search. These sites are search engines specifically for jobs. To search for a job, type in relevant information such as a job title, company name, key skill, or location. Jobs that fit your criteria will be listed as results.

University Department Websites. There are multiple reasons why these websites are essential to the application process. Similar to job postings, most people interested in advanced higher education don't apply to only one university. Additionally, many universities' application processes require that graduate applicants fulfill two sets of guidelines: one that is university-wide and one that is specific to each program or department. Further still, the graduate application process typically requires the submission of more than just a résumé and cover letter (transcripts, letters of recommendation, personal statements and other essays, etc.). Finally, department websites will give you valuable information about faculty and their professional interests, to give you a sense of how you might fit into the program and whom you might want for a mentor. For all of these reasons, you will need to make sure that you have comprehensively reviewed these sites.

University Career Center. Several colleges and universities offer career centers that include targeted job ad databases for students. Some, like *Jobs for Aggies*, [2] include part-time jobs specifically for college students. Others, such as Hire Aggies,[3] have options for searching internships and full-time positions for students and recent grads.

Company Websites. If there is a particular company or specific field that you wish to work in, you might occasionally find job opportunities posted on a company's web page. To locate open positions, you will usually have to find a specific link on the company's website. Most organizations will use labels such as "Employment," "Work for Us," or "Hiring." Occasionally, you will have to go through a company's Human Resources (or HR) page to find openings.

Professors and Academic Advisors. If you are applying to a graduate program (whether medical school or English), you likely have an idea of where you want to specialize. For example, you may want to be a neurosurgeon vs. a general practitioner, focus more on research than teaching, etc. Since every graduate program has a unique professional culture (even in the same field), it's a good idea to speak with people who are already established members of the professional community you wish to join, and who can give you an idea of what your best options are. It's likely that you'll be asking these same people for letters of recommendation, so this is also a chance for you to find out whether they have any connections with the people who will be reviewing your application.

Social Media. If you have an idea of where you would like to work or study, you might also try following a company or graduate program on social media. This approach can be particularly useful for individuals in creative and performance fields, individuals interested in freelancing, and individuals looking into startups. It is also a good passive search strategy that can be useful if finding a job or program is not urgent.

Analyzing the Ad

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

"Analyzing" simply means to break something up into its parts. When writing an ad, employers and graduate programs offer key clues regarding their expectations and organizational culture. To make analysis easier, either print out or save the job or program description so that you may annotate it. On your copy of the description, try the following:

- **Highlight or underline any qualifications that you hold.** These include any skills you have, technologies you've used, etc.
- **Identify any past achievements that relate to any of the preferred qualifications.** For example, if the job description seeks a candidate who can diagnose and solve technical problems, write down an example of a specific time in which you did so in a professional or academic setting.
- **Circle any key terms you might use in your own materials.** Using the same terms as the ad demonstrates to the organization that your credentials are relevant, and that you have the same interests, goals, and values
- **Note any questions/uncertainties.** Questions could include items that you may need clarification on, such as to whom you should address your materials, the salary or stipend of the position, or what the description means in its use of a certain phrase. Potential uncertainties may include any qualifications you do not have in order to decide what to highlight and what to downplay in your materials, as well as what you need to learn more about.

After analyzing an ad, you should be able to identify what is most important to whoever is reviewing your application. As an applicant, you can then show how you meet those expectations in your résumé, CV, cover letter, personal statement, and/or interview.

Researching the Organization

It is important that you research the institution as well as the position for which you're applying. The easiest way to research an organization is to visit its website. Look for an "About Us" page or a "mission statement," and observe how the organization describes its goals and values.

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

- Whom does this organization serve?
- Who are this company's partners or competitors?
- What is this graduate program's emphasis?
- Who are notable faculty members in the program, both in terms of the general field and your specific interests?
- What technologies would you use at this company?
- What is the tone of this company's materials (formal, conservative, humorous, "cutting edge," etc.)?
- How would you describe this company's brand?

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

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

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

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

Notes

1. Adapted from "Creating Resumes I," Roads to Success, 2013, https://web.archive.org/web/20150402071814/https://secure.collegeincolorado.org/images/CiC/pdfs/Roads_to_Success/Facilitators_Guides/Grade_11/G11_JobShadow2.pdf. Licensed under a Creative Commons Attribution Noncommercial-ShareAlike License.
2. Texas A&M University Jobs for Aggies, Office for Scholarship & Financial Aid, accessed August 12, 2020, https://jobsforaggies.tamu.edu/.
3. HireAggies, The Association of Former Students, Texas A&M University, accessed August 12, 2020, https://www.aggienetwork.com/careers/hireaggies.aspx.

RÉSUMÉS

Megan Savage; Anonymous; and Nicole Hagstrom-Schmidt

The purpose of a résumé is twofold:

- A résumé is an overview of your skills, experience, and education as they relate to your career objective.
- A résumé is a marketing tool that conveys your "personal brand."

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

Types of Résumés

Work histories come in a variety of forms; so do résumés. Although career experts enjoy debating which style is the best, ultimately you must consider which fits your current situation. Which style will allow you to best present your experiences and convey your unique qualifications? Table 16.2 lists four common types of résumés.

Table 16.2. Types of résumés.

Type	Function	Advantage	Disadvantage
1. Chronological	Chronological résumés (also called reverse time order) focus on work history.	Demonstrates a consistent work history.	Privileges work history over other forms of experience.
2. Skills	Skills résumés (also called competency-based or functional résumés) focus on skills.	Demonstrates skills that can clearly link to job functions or duties.	Often associated with people who have gaps in their employment history.
3. Combination	A combination résumé lists your skills and experience first, then employment history and education.	Highlights the skills you have that are relevant to the job and provides a reverse chronological work history.	Some employers prefer a reverse chronological order.
4. Scannable	A scannable résumé is specifically formatted to be read by a scanner and converted to digital information.	Increasingly used to facilitate search and retrieval, and to reduce physical storage costs.	Tends not to be as visually striking as other formats.

The **chronological résumé** is a traditional format whose principal and most-developed section is the "Employment Experience" section. In the chronological résumé's "Employment Experience" section, jobs are listed in reverse chronological order, which means that the most recent job is listed first. Achievements and skills are detailed underneath each position.

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

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

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

The first example is the chronological résumé. In this résumé style, writers emphasize their credibility in a particular field by highlighting their education and work, volunteer, research, or internship history. Note the characteristics of the following chronological résumé (Figure 16.1[1]):

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

Name

Street Address | City, State Zip | Phone number | email

Education

BA: Texas A&M University 2020 | Psychology
AAS: Blinn College 2018 | Sign Language Interpreting

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

Experience

Staff Sign Language Interpreter | St. Joseph's, Bryan TX | September 2019-present

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

Educational Sign Language Interpreter | College Station High School, College Station, TX | August 2017-June 2019

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

Interpreter Intern | Blinn College, Bryan, TX | January 2018-June 2018

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

Customer Service | Baylor Scott & White Medical Center, College Station, TX | January 2017-January 2018

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

Activities

Volunteer | Twin City Mission | January 2019-present

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

Professional Memberships

National Registry of Interpreters for the Deaf
National Association of the Deaf

*Figure 16.1. Example of the chronological résumé format. (Alternative PDF version: **Figure 16.1**.)*

The skills résumé, in contrast, uses a writer's unique skill set to establish competency and credibility. While paid experiences may be noted, this approach emphasizes other ways the writer has acquired transferable skills through their education, life experiences, or volunteer work. Note these characteristics of the following skills résumé (Figure 16.2[2]):

- Focuses on skills and experience, rather than on chronological work history.
- Divides the "Skills" section into categories ("Written and Oral Communication Skills," etc.).

- Describes responsibilities, accomplishments, and quantifiable achievements under each "Skills" category.
- Typically opens with a *brief* "Summary" section detailing strengths (no more than three sentences in length).
- Includes relevant achievements and accomplishments in order to demonstrate how the applicant matches the requirements of the potential job for which they are applying.

Name

Street Address
City, State, Zip

Phone Number
Email Address

Summary

Double major in Education and English with extensive experience in writing for a diverse range of people and in a variety of circumstances. Strong written and oral communication skills. Adept at team management and negotiation. Working toward obtaining a Texas Teaching License and TESOL Certification.

Skills

Written and Oral Communication Skills

- Edited College of Liberal Arts newsletter.
- Wrote a Senior Thesis discussing use of multimodal communication in middle-school language arts classrooms.
- Delivered oral presentations on Senior Thesis directed to faculty and undergraduate peers.

Management Skills

- Assisted faculty members with peer tutoring, grading, and recording class attendance.

Organizational Skills

- Assisted faculty members with obtaining and organizing scholarly books and articles pertinent to these faculty members' research projects.
- Created an index for a collection of essays compiled and edited by the Glasscock Humanities Center for Interdisciplinary Research.

Computer Skills

- Skilled in the use of Microsoft programs, including Word, Excel, and PowerPoint.
- Skilled in the navigation of learning management platforms, including WebCT, Blackboard, and Canvas.

Education

Texas A&M University, College Station, TX
B. A. in Education
B. S. in English
Expected Graduation Date: May 2021

Related Course Work

Curriculum Design for Middle-School Language Arts
History, Language, and Culture
Rhetoric and Composition
Technical Business Writing

Employment

(1/2019-8/2019)
Texas A&M University English Department
Editorial Assistant
Landmark Essays in Rhetoric and Literature (Hermagoras Press, 2019)

(8/2018-12/2018)
Texas A&M University English Department
Editorial Assistant
Rhetorica and *Allegorica* periodicals

Honors

Deans Honor Roll, *College of Liberal Arts (2017-2020)*
Academic Excellence Award, *Texas A&M University (2018)*
Foundation Excellence Award, *Texas A&M University (2017)*

Additional Information

Founder and President of Student Organization XYZ

*Figure 16.2. Example of the skills résumé format. (Alternative PDF version: **Figure 16.2**.)*

Finally, the hybrid résumé combines features of the chronological and skills résumé formats. As the most customizable of the formats, writers have the freedom to make the choices necessary to emphasize their fit for a position. With two highly developed sections, hybrid résumé writers need to make smart choices about how to integrate and present information from extracurriculars, research, and education. Note these characteristics of the following hybrid résumé (Figure 16.3[3]):

- Provides detailed Skills and Work Experience sections.
- Uses short Summary and subheadings in Skills and Abilities section to frame self as a practitioner in the field.
- Showcases uninterrupted work history, even if the positions listed are not immediately relevant to the specific job being applied for.
- Integrates extracurricular activities, personal interests, and school projects in Skills and Work Experience sections rather than assigning them to another category.

Anthony Swift

1234 Happy Lane, Hillsboro, Texas 97006 · anthony.swift@email.com · 254-555-1212

Summary

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

Skills and Abilities

Technical Skills

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

Organization and Professional Development Skills

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

Instruction Skills

- Managed foreign teacher organization, communications, and hiring. Introduced innovative teaching methods to staff and created exciting classroom environments for Chinese students.
- Maintained communications between management and foreign staff using Mandarin Chinese while ensuring high teaching standards were maintained. Trained new foreign teachers as well as overseeing three education centers to verify quality of teaching.

Education

Bachelor of Science in Electrical Engineering, *Texas A&M (2018-2020)*
Associates of Science Degree, *Blinn College, GPA: 3.8 Dean's Scholars List-4 semester (2016-2018)*
Chinese Language, *Beijing Language University, Beijing China (2015-2016)*

Work Experience

Math Tutor, Texas A&M University, College Station, Texas (2018-2020)

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

Math Club President, Blinn College, Bryan, Texas (2017-2018)

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

Data Entry Specialist, Seamless Systems, College Station, Texas (2015-2016)

Maintained national database of legal documentation with extensive use of Microsoft Access.

Head Foreign Teacher and Trainer, KidsCan!, Beijing, China (2015-2016)

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

Figure 16.3. Example of the hybrid résumé format. (Alternative PDF version: [Figure 16.3](#).)

There are many reasons to choose one format over another. In brief, the chronological résumé serves candidates with a long/uninterrupted work history in fields where the company worked for is of paramount importance. On the other hand, the skills résumé serves candidates who are transitioning between fields, candidates shifting from a military to a civilian career, or candidates who have gained skills in a variety of different settings (workplace, academic, volunteer). The hybrid résumé offers the most customization and is best for individuals with skill sets developed from a variety of life experiences.

Because skills and hybrid résumé formats are the easiest to customize for a number of different potential employers, the following section of this chapter (Résumé Sections and Conventions) will emphasize those formats. However, the sections discussed may also be applied to the chronological résumé as needed.

Résumé Sections and Conventions

Whatever format you choose, employers will expect to see certain key sections. There is some room for creativity in organization and phrasing but make sure to be thorough. Each section below corresponds to a section on the sample résumé that follows. As you read through the sections, refer to the sample résumé (Figure 16.4) to see how the section appears in context.

Contact Information

Create a header that includes your name, address, telephone number, professional email address, and possibly a LinkedIn page or personal website. For creatives (including social media experts, artists, writers, editors, and performers), you might also include a link to an online portfolio. For published researchers, you might reference your ORCID iD.

Summary or Objective Statement

After the contact information, some job seekers include a short statement that either summarizes their accomplishments or a one-sentence statement that announces their career goals as related to the specific job they are applying for. Summary sections are especially useful for candidates with a long work history or who have experienced job transitions. Objective statements can be useful for recent college graduates seeking long-term employment with an organization. In either case, think of this section as your "elevator pitch," offering a quick impression of your personal brand.

Your personal brand can be thought of as your ethos as an employee. It informs the employer of your strongest credentials while also creating an impression of your character and where you are in your career path. For example, branding yourself as a student or veteran signals that you are fulfilling or have fulfilled a major commitment, as well as your incentive to build on the skills you have. If you're applying for a teaching position and have experience, but currently work in a restaurant, you could brand yourself as an educator in this section so that the employer is not confused by your recent work experience.

Summary and objective statement sections are also useful ways to indicate that your résumé has been customized to respond to a particular job ad. Customization implies interest, motivation, and attention to detail regarding what the employer wants, beyond simply just wanting a job. This section is similar to the cover letter, in that it's an opportunity to do a "deep dive" on your strongest credentials for a specific job, rather than covering the breadth of your accomplishments.

For this section, include a few key (relevant) achievements/strengths (in bullets or sentences). Here are two formulas for a one-sentence summary or objective statement:

- "Accomplished [job title]/Certified [industry] professional holding more than [x] years of experience, specializing in [x, y, z]."
- "[Field of study] graduate seeking opportunity to focus on [x, y, z,] and promote [desired company's mission or goal]."

If you decide to include a Summary/Objective statement, be wary of focusing too much on what you want from the job and not what you have to offer. Also consider whether you will be including a cover letter with your application, in which case an Objective and/or Summary section may be less necessary.

Education

For this section, focus on quality rather than quantity. Include your most relevant educational qualifications and resist including every school attended. Generally, résumés should focus on college education (unless you are a rising first-year student with little or no university experience to list). Transfer students, regardless of whether they have earned a degree from a previous college or university, may (and often should) include an entry from that previous school. When composing the "Education" section of your résumé, do the following:

- Place your education section strategically: after the headline/summary section if it is recent and relevant; after the experience section if your stronger qualification is employment experience.
- List the most current degree/school attended first, and proceed in reverse chronological order (from most recent to oldest entry).
- Include the following information for each educational item: the name of the school, the school's location, your graduation date or anticipated graduation date, the degree earned, and major and minor(s), if appropriate.
- DO NOT include high school if you are in college unless your high school work was outstanding or unique (like a trade/technology/arts high school).
- DO include training and certifications (e.g. first aid certifications, sales seminars, writing groups). However, consider how these might fit in your "Skills" section or their own section or subsection titled "Certifications" or "Additional Training."
- Develop this section by adding educational accomplishments such as the following:
    - Your GPA (if it is 3.0 or better, and if it is expected in your industry; you might also choose to include your GPA in your major in addition to or instead of your cumulative GPA).
    - Relevant courses (if they prepared you for the job). If this is extensive, you can create a separate section (but place it right after education).
    - Special accomplishments (conferences, special papers/projects, clubs, offices held, service to the school).
    - Awards and scholarships (these could also be a separate section under the heading "Honors").

Skills (May Also Be Called Achievements and/or Qualifications)

This section of your résumé enables you to group together and emphasize categories of experience. In other words, this is the section where you organize types of skills by putting them together under headings that a potential employer can easily access and assess. In order to provide an effective, easy-to-use "Skills" section, you should do the following:

- Use sub-headers to group skills into skill set headings (management skills, customer service skills, laboratory skills, communication skills, etc.). Use targeted headings based on the qualifications your potential employer is seeking.
- Include only the most relevant, targeted skills and achievements.
- In each category, emphasize quantifiable achievements and results: skills, equipment, money, documents, personnel, clients, etc.
- Use bullet points to organize the skills in each category. See the "Building a Better Bullet" section below for more information on how to craft an effective "skill bullet."
- Avoid filling the section with abstract qualities or personality traits (hard worker, fast learner, natural leader, good communicator, etc.). These descriptions can't be objectively measured, and anyone can describe themselves this way.
- Position this section strategically in your résumé. If you are applying for a position that's outside of your current field or the scope of your recent employment, it's a good idea to put your "Skills" section higher up in your résumé. This will help the employer see more readily that you are a qualified candidate.

Employment or Experience

This section differs from the "Skills" section above in that here you list the specific jobs you've held, the dates you worked there, your employer and/or location, and your position title. In order to create your "Employment" (or "Experience") section, you should do the following:

- List positions in reverse chronological order (most recent first).
- Include basic information for each job: dates employed, employer, city/state (and country if outside the U.S.) of employment, and job title.
- Include internships and skilled volunteer positions. If you do, title the section "Experience" rather than "Employment" and, depending on the number of positions, add a subheading to distinguish the types of work.
- Use the active voice in your descriptions of the positions (supervised sixteen employees, increased profits, built websites) instead of the passive voice (was responsible for supervising)
- Differentiate the font you use for kinds of information, so that it's easier for the employer to read. For example, use italics for job titles, bold for dates of employment, etc.
- When you are just starting your career, put all of the work experience you have to showcase that you are employable. As you gain more experience, however, you no longer need to include positions that aren't directly relevant to the job you are applying for. For example, if you are applying for a regional manager position and have over a decade of marketing experience, you don't need to list your lifeguarding experience from high school.
- Consider dividing work experience into two sections: "Related Experience" and "Experience" instead of one employment section. This might assist you in highlighting the most relevant jobs (and downplaying less significant work experience). This is best suited for applicants with extensive experience, rather than entry-level applicants, and so is something to be considered for future résumés.

Optional Sections to Include (not included in Figure 16.4)

You may also choose to include additional information that may not fit in the above categories. If so, title these optional sections accordingly (see below). Before doing so, however, consider carefully whether or not this information really contributes to your résumé or not. Is it highly relevant (and if so, might it actually belong in one of the preceding sections), or are you being tempted to pad your résumé? The following may be optional sections to consider:

- **Volunteer Work.** List skilled volunteer work (building websites, teaching classes) under Skills, along with your other qualifications, but include general volunteer work (making meals for a soup kitchen, etc.) toward the end of your résumé in its own section or under activities. Individuals applying to medical school or nonprofits may benefit from having a well-developed volunteer section.
- **Activities.**
  - DO NOT include a section titled "Hobbies" or "Other," with irrelevant interests.
  - DO include interests that may be relevant to the position but aren't professional skills (sports for Nike, Eagle Scouting for leadership, golfing for business jobs, game design/play for game design jobs, blogging for PR jobs). Market yourself in the best light. You should be able to point to specific accomplishments or work if you include this information, and possibly tie it to your cover letter.
- **Honors and/or Awards.** Include honors, awards, publications, conferences attended, languages spoken, etc. You may choose to include a separate honors section or fold these into your Skills/Achievements section OR Education section.

References

Do not list references on your résumé. Instead, give a separate sheet at the employer's request. Generally, three references are sufficient. The most important references are your superiors, but you can also use co-workers, clients, or instructors. Contact each person to verify his/her willingness to act as a reference for you. Your reference sheet should match the look of your cover letter and your résumé. See Figure 16.4.[4]

	Mia Santiago 123 Four Street, City 10110, (123)456-7890 you@email.com, www.website.com
SUMMARY	Business student with extensive retail experience and award-winning customer service skills. Successfully implemented social media presence and branding to improve sales. Strong written communication and graphic design background. Fluent in Spanish.
EDUCATION	B.A Business (Will Graduate 2021) Texas A&M University, Additional Coursework in Graphic Design Great Sales Seminar, 2019, 2020 Customer Service Training, Macy's, 2019
SKILLS	Customer Service • Received "Outstanding Customer Service" Award, 2019 • Assisted up to 100 customers daily in locating merchandise and making purchasing decisions • Increased monthly sales approximately $1000 by utilizing add-on sales techniques • Supported customers by fielding and resolving key concerns • Effectively handled irate customers and complaints in a friendly, patient manner Merchandising/ Marketing • Assisted manager in analyzing sales and marketing trends for purchasing seasonal merchandise • Launched and managed social media presence to increase sales • Created innovative in-store displays and promotional materials • Stocked, priced, and inventoried merchandise Administrative • Produced daily, weekly, and monthly sales reports • Balanced cash drawer with consistently high level of accuracy
EXPERIENCE	Retail Associate, Macy's, College Station, TX — Dec 19-present Sales Representative, Target, Bryan, TX — Sept 18- Dec 19 Server, Rosa's Cafe, College Station, TX — Jan 17- Sept 18

Figure 16.4. Sample of résumé parts. (Alternative PDF version: Figure 16.4.)

General Résumé Guidelines

As with any genre, there are several conventions that employers expect to see. The following tips will help you create a résumé that adheres to those conventions and features customization based on your experiences and the job ad's requirements.

Targeting and Customization

A targeted résumé is a custom document that specifically highlights the experiences and skills that are relevant to the job. Especially since many résumés are first reviewed electronically, it is important to include relevant information from the job ad to ensure that your résumé is seen by an actual reader. To customize your résumé, use key terms you gathered in your pre-writing, the preparation phase 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.

Using "Me" and "I"

The convention in a résumé is to write in sentence fragments that begin with active verbs. Therefore, you can leave out the subjects of sentences. For example: "I eliminated the duplication of paperwork in my department by streamlining procedures" would become "Eliminated paperwork duplication in a struggling department by streamlining procedures." You will use this phrasing most commonly in an Objective/Summary section and in any bullet points you include.

Design

Résumé design should enhance the content, making it easy for the reader to quickly find the most significant and relevant information. See Chapter 7: Design for overall design tips. A few general guidelines:

- Templates are handy, but bear in mind that if you use a common template, your résumé will look identical to a number of others.
- Use tables to align sections, then hide the borders to create a neat presentation.
- Use a ten-twelve point font.
- Don't use too many design features—be strategic and consistent in your use of capitalization, bold, italics, and underlining.
- Use 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.
- Some color can be a positive demonstration of design and technological skills, and is appropriate for most fields.
- Use the same font in your résumé and your cover letter to create coherence. Consider developing other design connections between your cover letter and résumé, such as simple rules (lines) or creating your own version of a letterhead with your name and contact information that appears on both documents.

For the purposes of applying for a position, you have your own personal "brand." Try to keep your résumé, cover letter, and other relevant documents (business cards, follow up letters and emails, thank you notes, etc.) with repetitive aspects of design so that they look like they all "belong" to you.

Length

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

Field-Specific Conventions

You may find that there are certain conventions in your field or industry that affect your choices in writing your résumé. Length, formality, design, delivery method, and key terms are just some of the factors that may vary across disciplines. Ask faculty or professional contacts in your field about employers' expectations, visit your school's career center,[5] or conduct web research to make informed field-specific choices.

Bullet Points

Most résumés highlight relevant experiences using bullet points. Using a bullet point draws specific attention to a particular achievement or set of duties. This formatting style ends up being more effective than a paragraph where those specific details can get lost, especially if you have multiple things to say. Below are several suggestions on enhancing your bullet points.

Results

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

Quantifiable Skills

The more you can present your skills and achievements in detail, especially quantifiable detail, the more authoritative you will sound. This means including references to technologies and equipment you have used; types of documents you have produced; procedures you have followed; languages you speak; amounts of money you have handled; numbers of employees you have supervised or trained; numbers of students you have taught; technical languages you know; types of clients you have worked with (cultural backgrounds, ages, disability status—demographic information that might be relevant in your new workplace); graphic design, blogging or social media skills; and so on.

Filler Words (Fluff)

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

Building a Better Bullet (Two-Skill Bullet Formulas)

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

Formula 1: Verb + Details = Results

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

Examples of Verb + Details = Results
Developed (VERB) new paper flow procedure (DETAILS), resulting in reduced staff errors and customer wait times (RESULT)
Provided (VERB) friendly customer-focused service (DETAILS) leading to customer satisfaction and loyalty (RESULT)
Organized (VERB) fundraising event (DETAILS) generating $xxx dollars for nonprofit (RESULT)
Provided (VERB) phone and in person support for patients with various chronic and acute health issues (DETAILS & RESULT COMBINED)
Supported (VERB) 8-10 staff with calendaring, files and reception (DETAILS), increasing efficiency in workflow (RESULT)

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

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

- First Draft: Participated in a leadership program
- Second Draft: Selected as one of 125 for year-long professional development program for high-achieving business students
- Final Draft: Selected as one of 125 participants nationwide for year-long professional development program for high-achieving business students based on leadership potential and academic success

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

Notes

1. Adapted from Megan Savage, "Resume Formats," licensed under Creative Commons Attribution 4.0 International License in Allison Gross, 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.
2. Claire Carly-Miles, "Sample Skills Résumé," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
3. Adapted from "Anthony Swift Resume," in Megan Savage, "Resume Formats," licensed under Creative Commons Attribution 4.0 International License. This image appears in Allison Gross, 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.
4. Adapted from Megan Savage, "Resume Sections and Guideline," licensed under Creative Commons Attribution 4.0 International License in Allison Gross, 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.
5. Texas A&M University Career Center, Division of Enrollment and Academic Services, 2020, https://careercenter.tamu.edu/

CURRICULA VITAE (CVS)

Matt McKinney

Just as résumés are typically used for job applications in most private sector and government positions, CVs (singular: curriculum vitae or vita, plural: curricula vitae or vitas) are typically used in academia. CVs are similar to résumés in their general form and function. Both genres provide a comprehensive overview of the applicant's relevant credentials for a specific position. Additionally, both CVs and résumés need to be updated regularly throughout the applicant's career, and both need to be adapted to specific audiences and rhetorical contexts. As with résumés, the arrangement of sections in a CV should reflect the audience's values and emphasize the strongest credentials of an applicant (e.g., when deciding whether to put publications before teaching experience). However, CVs are also distinct from résumés in several important respects. Each of these distinctions is explored below.

Length & Scope

CVs are much more comprehensive than résumés, to the point where it's generally understood that the lengthier your CV is, the more impressive it is, with virtually no upper limit. The CV of a well-established academic, for example, can easily exceed 20 pages. By contrast, while it's fine to go over one page in your résumé, even lengthier résumés almost never exceed three pages.

The reasoning for this difference in length conventions is reflective of each document's scope. A three-page résumé allows an advanced applicant to show the "highlight reel" of their credentials in multiple categories (education, employment, certifications, skills, etc.), whereas an entry-level applicant may only be particularly strong in one or two of these categories, and thus only needs one page. Remember that a résumé focuses on action verbs and task descriptors in these cases, so there's no need to list five jobs that cover the same skill—just the most recent or relevant job.

A CV, by contrast, details every academic position and achievement the applicant has fulfilled throughout their entire career. This includes, but is not limited to:

- Every title and position they've held.
- Every class they've taught.
- Every article, study, or book they've published.
- Every presentation they've given.
- Every committee they've served on.
- Every professional membership/organization they've belonged to.
- Every training or workshop they've held.
- Every grant or scholarship they've earned.
- Every award they've won.

A CV does not add task descriptors to any of these positions or accomplishments. This is partially because there is more common understanding as what each one entails between the applicant and a faculty audience, since they are all part of the same professional community.

Audience

Though we typically think of CVs as written for academic faculty (since a faculty committee in the department will hire the applicant), they are actually written for more than one audience. While résumés are usually only submitted to specific employers, an academic's CV is often posted on the department website's online directory. In other words, an academic's current students, prospective students considering enrolling in the program, and anyone visiting the department site has access to the CV.

Prominently displaying an academic's CV provides transparency, in that students are able to better understand what makes them qualified as a professional. It also bolsters the credibility of the department as a whole to have prominent faculty members' accomplishments on public display.

Adapting & Updating

In some circumstances, such as when a department or university is hiring for an internal position or offering a specific funding opportunity, an academic will need to condense their CV. In these situations, submitting a 20+ page CV would simply be too cumbersome for a review committee, especially since they may only need to see the applicant's credentials in a specific area, such as teaching.

Consequently, it is good practice for academics to have shortened versions of their CVs that focus on specific sets of qualifications. For example, an academic could have a teaching CV, a research CV, or a service CV, depending on the audience's needs.

Furthermore, while an academic's CV should be comprehensive, it becomes appropriate for early credentials to be omitted when an academic reaches a certain stage in their career. For example, focusing on achievements during undergraduate years is appropriate for a graduate student. However, someone who has earned their PhD no longer needs to highlight they were a good student by mentioning how many times they were on the Dean's List; simply having a doctorate demonstrates scholarly aptitude.

COVER LETTERS

Megan Savage; James Francis, Jr.; Matt McKinney; and Nicole Hagstrom-Schmidt

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

Your cover letter is essentially an argument for why you should be granted an interview. Keep the following tips in mind as you write your cover letter:

1. **Support the claim that you are qualified for the position with evidence.** Demonstrate your authority by speaking in detail about your qualifications, and show the reader that you have the skills and abilities necessary to do the job at hand. The more detail you offer and the more precise your language is, the more the reader will be able to picture you doing the job. See the sample cover letter in Figure 16.5 below for examples of "showing."
2. **Use research and rhetoric to effectively appeal to the company or organization's expectations.** Your audience analysis research will help you connect with the company and choose the appropriate tone, level of formality, and level of technicality.
3. **Format your letter according to common professional conventions.** For the format for professional letters, see Chapter 15: Correspondence.

Outline

Cover letters follow the same general outline for their content. Cover letters typically contain a salutation, an opening paragraph that names the position and highlights your major qualifications, one or two body paragraphs elaborating on your major qualifications, a short closing paragraph thanking the reader, and a signature. Details on each component of the outline are provided below. See Figure 16.5, a cover letter template, and Figure 16.6 for an example of how these components come together in a cover letter.

1. **Salutation.** Make your best attempt to find a specific name (or at least the job title) of the person to whom you should address this letter. If you cannot find the name, you may address the letter "Dear Hiring Manager." Do not use "Dear Sir or Madam" or "To Whom it May Concern," as it conveys uncertainty on whom you're writing to and may not reflect the gender of your audience.
2. **Opening Paragraph.** State why you are writing, specifically naming the position to which you are applying. Indicate how you learned about the position (networking if you can). In one sentence, use your audience analysis research to establish a connection with the company. Finally, in one sentence, summarize your strongest qualification(s) for the job.

Note: If you are applying for a position that isn't local (e.g., the position is in Atlanta and you live in Houston), include a sentence here indicating that you are already in the process of relocating. If you already have an address in that area, use it in your cover letter and résumé. This sentence tells the employer that you are as serious about this job as local applicants, rather than just applying on a whim. It also gives them a clear idea of when you will be available to work.

1. **Body Paragraph(s).** Build each paragraph around a key qualification or professional strength that relates to the job for which you are applying. These qualifications or strengths should be the ones you mentioned in your opening paragraph. Begin each paragraph with a claim about this qualification/strength, and then provide a developed illustration of a time in your work or academic history when you used/excelled at this skill or used it to benefit others. For example, if the job requires excellent customer service skills, you might discuss a time in which you defused a conflict or increased your company's profits. It can be effective to conclude your middle paragraphs with sentences that express how these past experiences prepare you for the potential job.
2. **Closing Paragraph.** Thank the reader for their time and consideration. Gesture towards an interview. You may explicitly request an interview, or you may wish to include a phrase like "I look forward to discussing my qualifications with you in person soon." If there is any information the reader should know about getting in touch with you, include it. Provide your phone number and email address here if they do not appear elsewhere in the cover letter. You may refer the reader to your enclosed résumé.
3. **Signature.** As with most letters, you should conclude your letter with a professional "farewell" such as "Sincerely" or "Regards." Below the farewell, add the name that you use professionally. If you are able, insert your own handwritten signature. This can be done as a photograph, a scan, a copy/pasted signature from another PDF file, or a drawing. Your typed name should still go below your handwritten signature if you choose to include it.

Sample Cover Letters

Figure 16.5 below is a sample cover letter.[1]

Your Name
Your Address
Other Contact Information

Date Letter Sent

Contact Person (if known)
Title of Contact Person (if known)
Address of Business/Organization
Address of Business/Organization

Dear Hiring Manager:

Traditionally, this first sentence identifies the position that you are interested in and how you found the position. The remaining 1-3 sentences identify your main qualifications that you will be developing in the body paragraphs. Your final sentence should operate similar to a thesis statement in an essay.

This second paragraph develops what you claimed were your main selling points in the first paragraph. Start this paragraph with a sentence that makes a claim about a qualification or skill as opposed to a sentence about a specific example. Then, use a detailed example or list of examples that supports your claim about yourself. Connect your qualification/skill and example(s) to the business/company to demonstrate your knowledge of its mission, goals, and/or objectives.

This third paragraph is optional but often welcome. In this paragraph, you follow the same structure in Paragraph 2; however, you will focus on a different skill or qualification.

The fourth and final paragraph thanks the reader for their time, reiterates the writer's interest in the position, and offers contact information.

Sincerely,
[Applicant's Signature]
Name of Applicant

Figure 16.5. Cover letter template. (Alternative PDF version: Figure 16.5.)

Figure 16.6 below shows the main parts of a cover letter. [2]

12248 SE Texas Ave. College Station, TX 77845 March 3, 2020 Mr. Doug Jones Director of Human Resources, EVZ 600 Minnow Lane Seattle, WA 12345 Dear Mr. Jones:	
At Texas A&M University's computer science job fair on February 25, 2020, I met with your representative, Ms. Karen Lincoln, regarding your entry-level Database Administrator opening. Not only am I a DBA and SQA certified CIS specialist, but I also have over a decade of experience in the steel and manufacturing industry EVZ specializes in. My strong manufacturing and technological background prepares me to help EVZ continue your impressive track record of safety improvements.	**Introductory Paragraph** Your introduction should discuss the following: • The title of the job for which you are applying • Where you heard about the position • A connection with the organization and its goals • How your experience matches the position • How you will help the organization achieve its goals
From my conversation with Ms. Lincoln and your online information, it's clear you are looking for someone who not only has technical skills, but who understands the steel industry. Within six months at United Steel Mill, I was promoted from Clerk to Machine Operator, largely as a result of my attention to detail and ability to collaborate. In three years, I had worked my way up to Plant Safety Coordinator, Quality Control Database Administrator, and Floor Trainer. While in those roles, I implemented a plant-wide safety program, saving my company roughly $15 million in recovered product, and reducing accidents by over 25%. In addition to demonstrating my understanding of the steel industry, this experience demonstrates the kinds of skills EVZ seeks: accuracy, integrity, and strong problem-solving skills.	**Body Paragraph 1** This paragraph should discuss the following: • More connection with company goals/mission • Support for your claim that you can help them achieve goals/mission • Specific example based on information in résumé • How you will help the organization
I have a BA degree in Computer Information Systems and an AAS in Network Administration; through my experiences, I have become very familiar with all aspects of Database Administration. In my position as Database Intern for Work Inc., I enrolled users, maintained system security, and monitored user access to the database, with 30-40 concurrent users at any given time. At Texas A&M, I maintained a 4.0 GPA, was admitted to Phi Theta Kappa, and was placed on the President's Honor Roll every term—a standard I will bring to EVZ.	**Body Paragraph 2** This paragraph should discuss the following: • More detail on position requirements • More detail supporting your claim that your experience fulfills these requirements • Specific example based on information in résumé • How you will help the organization
EVZ has grown rapidly for twenty years, and I would like to speak with you to discuss how my experience can aid your commitment to improving safety, quality and processes as you continue to grow. Enclosed is my résumé, and you can reach me at (503)555-6237 or johnice@email.com with questions. Thank you for your time and consideration. I look forward to meeting with you soon.	**Closing Paragraph** This paragraph should do the following: • State your main objective and interview • Provide contact information • Close the letter in a professional manner, thanking the reader • Provide signature block • Provide enclosure information
Sincerely, John Ice	

Figure 16.6. Parts of a cover letter. (Alternative PDF version: [Figure 16.6](#).)

Notes

1. Nicole Hagstrom-Schmidt, “Cover Letter Template,” 2021. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
2. This image was derived from Megan Savage, “Cover Letters,” licensed under a Creative Commons Attribution 4.0 International License in Allison Gross, 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.

PERSONAL STATEMENTS & OTHER APPLICATION ESSAYS

Matt McKinney

Although the term "personal statement" implies uniformity in terms of genre conventions, the length, focus, and structure of personal statements can vary quite a bit. Some universities or scholarship organizations want your statement limited to one page; some go up to three or five. Some personal statements allow the applicant to focus on a broad question such as why they want to attend the university; some ask the applicant to focus on a specific goal they have or challenge they've overcome. Some organizations offer little guidance in terms of how the personal statement should be structured; some ask the applicant to provide short answers to multiple questions.

Despite the variety in length, focus, and structure, there are some common factors that applicants can use to create a "master" personal statement that can be adapted for multiple purposes. Below are some guidelines to make this genre approachable.

Anchor your statement using prompt language. As with all application material genres, you need to find clues in the prompt to determine what your audience wants to know. If they are asking you to focus on a hardship in your life, then that needs to be the main focus of your essay as opposed to your GPA.

Open with a "Wow" section to make yourself memorable. Similar to a cover letter, your personal statement is your opportunity to distinguish yourself from other applicants through a deep dive of relevant experiences. However, a personal statement should create a professional narrative that touches on your passions and background, not just your skills and career goals. Some refer to this as the "Wow" paragraph, because it encourages the audience to read your full application and see what you have to offer based on your experiences. For example, were you inspired to pursue medicine through a doctor who saved a loved one's life? Did you come from another country to study in the United States? Did you overcome a particular obstacle in order to make college a viable option for your future? These are the kind of questions the Wow section should answer.

When you share your "Wow" story, make sure you frontload the point for the reader. If you begin your story with an explanation for why you're telling it, your reader will have a better idea of how to interpret your experiences and evaluate them accordingly. Stories without a clear purpose or relationship to the prompt are less likely to engage the reader. For example, it might help the reader to know you were inspired to pursue a degree in English by a particular book in your senior AP class, but going into detail about a typical school day for you is probably not helpful.

Follow up with a "Why" section to showcase how you are a good fit for the institution or scholarship. Once you've created a memorable and distinctive impression on your audience, you then want to move to convincing them that you have something to offer. If you've already held a job or taken courses in your field, for example, talking about those experiences will help the audience understand how you would fit into the curriculum and professional culture of the organization, or why you're the best candidate for a particular honor. You could also mention whether there are particular faculty you want to work with, or particular projects you want to pursue, because this shows specific interest in the organization and that you are goal-oriented.

When discussing challenges and hardships, disclose sensitive information strategically. There are two primary instances where you as an applicant may need to address hardships you've faced: when the prompt specifically requests it (as mentioned previously), or when there is a perceived weakness in your credentials (such as a low GPA). In either instance, make sure that you are communicating ethically and honestly without covering unnecessary information. When possible, try to focus on hardships dictated by circumstances rather than personal choice, and don't go into graphic detail. For example, audiences are very likely to be understanding if you got a C in your major or took longer to graduate because you were working to support your family, or had to learn to speak and write English at the same time. By contrast, blaming your previous teachers or describing a driving under the influence (DUI) charge is less likely to elicit a positive response.

THANK-YOU LETTERS

Nicole Hagstrom-Schmidt

After an individual does you a favor, it is considered polite in United States culture to respond with a written note expressing your gratitude. Common scenarios where you might write a thank-you note include when a professor or boss agrees to write you a letter of recommendation, your relatives send you a present for your birthday or graduation, or after a hiring manager has met with you for an interview. By sending a short, personal message that thanks the giver, you show that you value their time, resources, and relationship to you. In job scenarios, the thank-you letter also conveys professionalism by showing your ability to follow-up on tasks and be courteous to your future co-workers.

Thank-You Letter Format

Most thank-you letters follow a basic format, though you may vary or add content based on the event and your audience. Below is the standard format for most thank-you letters and notes.

1. Salutation
2. Statement of thanks for the specific favor or gift.
3. Statement of personal connection between the giver and the recipient.
4. Statement of desire to connect personally again.
5. Repeated, short statement of thanks.
6. Signature

With close family and friends, you usually do not need to be so formal. A text message, direct message, or phone call expressing thanks is often more than sufficient (and more personal) than an email. However, the more distant the family member or acquaintance, you may opt for more formality by sending a handwritten thank-you card by mail.

As a job hunter, you will compose a thank-you letter typically after each interview stage. This message is usually sent via email or whatever channel you have already established for communication within 48 hours of the interview. In your message, be sure to indicate your continued interest in the position or state if you have decided to take another job offer elsewhere. Below, in Figure 16.7,[1] is a sample thank-you message.

Khalil - Thank You for the Interview

lchavez@revelscorp.org

Khalil - Thank You for the Interview

Dear Ms. Chavez,

Thank you for taking the time to meet with me this morning regarding the analyst position at Revels Corp. I was especially excited to learn about Revels' plans to develop a new research program in Health and New Technologies, my area of specialization as part of my undergraduate degree in Biotechnology.

I enjoyed meeting with you and the rest of the team. I remain interested in the position and hope to hear from you soon.

Thank you again,

Saadia Khalil
skhalil@tamu.edu
(XXX) XXX-XXXX

*Figure 16.7. Interview thank-you letter sample. (Alternative PDF version: **Figure 16.7**.)*

Notes

1. Nicole Hagstrom-Schmidt, "Interview Thank-You Letter Sample," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

17 - INSTRUCTIONS

Writing Instructions

Suzan Last, David McMurrey, and James Francis Jr.

One of the most common and important uses of technical writing is to provide instructions—those step-by-step explanations of how to assemble, operate, repair, or do routine maintenance on something. Although they may seem intuitive and simple to write, instructions are some of the most challenging documents a technical writer will ever compose. This chapter will show you what professionals consider the best techniques in providing instructions.

An effective set of instruction requires the following:

- Clear, precise, and simple writing
- A thorough understanding of the procedure in all its technical detail
- The ability to put yourself in the place of the person trying to use your instructions
- The ability to visualize the procedure in detail and to capture that awareness in writing
- Willingness to test your instructions based on the needs of your audience

A standard set of instructions looks like (typically, but not always):

- A small pamphlet or booklet in size
- White pages with black text for simplicity
- Section headings and subheadings to breakdown the instruction process
- Illustrations for the reader to follow along
- Short, concise sentences/phrases for clarity
- Repeated content in different languages for accessibility
- Contact information for additional help
- A URL for access to a digital copy of the instructions

PRELIMINARY STEPS

Suzan Last; David McMurrey; Nicole Hagstrom-Schmidt; and Claire Carly-Miles

At the beginning of a project in which you will be writing a set of instructions, it is important to determine the structure or characteristics of the particular procedure you will write about. The following sections delineate some steps to follow.

Perform a Careful Audience Analysis

Early in the process, define the audience and situation of your instructions. Remember that defining an audience means defining the level of familiarity your readers have with the topic. As you analyze your audience, consider as many factors as you can. What is their level of knowledge? Will they need basic terms defined? Would they benefit from visuals? How will they be accessing the instructions? Will they be reading and following the instructions at the same time?

Determine the Number of Tasks

How many tasks are there in the procedure you are writing about? The **procedure** is the whole set of activities your instructions are intended to discuss. A **task** is a semi-independent group of actions within the procedure: for example, setting the clock on a microwave oven is one task in the overall procedure of operating a microwave oven.

A simple procedure like checking the oil in a car contains only one task; there are no semi-independent groupings of activities. A more complex procedure like using a microwave oven contains several semi-independent tasks such as setting the clock, choosing the power level, using the timer, cleaning the interior, and maintaining the microwave, among others.

While some instructions have only a single task, they contain many **steps** within that single task. For example, imagine a set of instructions for assembling a swing-set: in some cases, that task may contain more than 130 steps. When you have several steps, a good approach is to group similar and related steps into phases, and start renumbering the steps at each new phase. A **phase**, then, is a group of similar steps within a single-task procedure. In the swing-set example, setting up the frame would be a phase; anchoring the poles in the ground would be another; and assembling the box swing would be still another. The following two sections will help you consider how to write instructions for a task containing multiple steps:

1. **Determine the best approach to the step-by-step discussion.**
   For most instructions, you can focus on tasks or you can focus on tools (or features of tools). In a **task approach** (also known as task orientation) to instructions on using voicemail, you'd have these sections:

    - Recording your greeting
    - Playing back your messages
    - Saving your messages

- Deleting your messages

These are tasks—the typical things the reader would want to do with the machine.

On the other hand, in a **tools approach** to instructions on using a photocopier, there likely would be sections on how to use specific features:

- Copy button
- Cancel button
- Enlarge/reduce button
- Collate/staple button
- Copy-size button, and so on

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

2. **Design groupings of tasks.**
   Listing tasks may not be all that you need to do. There may be so many tasks that you must group them so that readers can find individual ones more easily. For example, the following are common task groupings in instructions:

   - Unpacking and set-up tasks
   - Installing and customizing tasks
   - Basic operating tasks
   - Routine maintenance tasks
   - Troubleshooting tasks

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields*. Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/.

McMurrey, David. *Online Technical Writing*. n.d. https://www.prismnet.com/~hcexres/textbook/.

COMMON SECTIONS IN INSTRUCTIONS

Suzan Last; David McMurrey; and Claire Carly-Miles

The following is a review of the sections you'll commonly find in instructions. As you read through these, keep in mind that they may or may not appear in the actual instructions you'll write; they may or may not occur in the order presented here; and they won't necessarily be the only sections possible in a set of instructions.

A Set of Instructions Often Includes These Common Sections

Introduction
Carefully plan how to begin your instructions. Your introduction might do any of the following (but not necessarily in this order):

- Indicate the specific tasks or procedure to be explained, as well as the scope (what will and will not be covered).
- Indicate what the audience needs in terms of knowledge and background to understand the instructions.
- Give a general idea of the procedure and what it accomplishes.
- Indicate the conditions when these instructions should (or should not) be used.
- Give an overview of the contents of the instructions.

General Warnings, Caution, Danger Notices
Instructions often must alert readers to the possibility of ruining their equipment, incorrectly performing the procedure, and hurting themselves. Also, instructions must often emphasize key points or exceptions. For these situations, you use special signifiers—note, warning, caution, and danger notices.

Technical Background or Theory
At the beginning of certain kinds of instructions (after the introduction), you may need a discussion of background related to the procedure. For certain instructions, this background is critical—otherwise, the steps in the procedure make no sense. For example, you may have had some experience with trying to choose a color by moving a selector around a color wheel. To really understand what you're doing, you need to have some background knowledge on color theory. Similarly, you can imagine that, for certain instructions using cameras, some theory might be needed as well.

Equipment and Supplies
Notice that most instructions include a list of the things you need to gather before you start the procedure. This includes **equipment**, the tools you'll use in the procedure (such as mixing bowls, spoons, bread pans, hammers, drills, and saws), and **supplies**, the things that are consumed in the procedure (such as wood, paint, oil, flour, and nails). In instructions, these items typically are listed either in a simple vertical list or in a two-column list. Use the two-column list if you need to add some specifications to some or all of the items—for example, brand names, sizes, amounts, types, model numbers, and so on.

Structure and Format

Most step-by-step sets of instructions are formatted as vertical numbered lists. However, this option is not the only choice. There are some variations, as well as some other considerations:

> **Fixed-order steps** are steps that must be performed in the order presented. For example, if you are changing the oil in a car, draining the oil is a step that must come before putting in the new oil. These steps are usually presented in vertical numbered lists.
>
> **Variable-order steps** are steps that can be performed in practically any order. Good examples are troubleshooting guides that tell you to check this or check that when you are trying to fix something. You can do these kinds of steps in practically any order. With this structure, the bulleted list is the appropriate format.
>
> **Alternate steps** are those in which two or more ways to accomplish the same thing are presented. Alternate steps are also used when various conditions might exist. Use bulleted lists with this type, either with "OR" inserted between the alternatives, or the lead-in indicating that alternatives are about to be presented.
>
> **Nested steps** may be used in cases when individual steps within a procedure are rather complex in their own right and need to be broken down into sub-steps. In this case, you indent further and sequence the sub-steps as a, b, c, and so on.
>
> **"Stepless" instructions** can be used when you cannot use vertical numbered lists or provide straightforward instructional-style directing of the reader. Some situations may be so generalized or so variable that steps cannot be stated.

Supplementary Discussion

Often, it is not enough simply to tell readers to do something. They need additional explanatory information, such as how the thing should look before and after the step, why they should care about doing a particular step, or what mechanical principle is behind what they are doing. Some readers may require even more micro-level explanation of the step, including a discussion of the specific actions that make up the step.

The problem with supplementary discussion, however, is that it can hide the actual steps. You want the steps—the specific actions the reader must take—to stand out. You don't want it all buried in a heap of words. There are at least two techniques to avoid this problem: 1) you can split the instruction from the supplement by using separate paragraphs, or 2) you can bold the instruction.

This text was derived from

WRITING STYLE

Suzan Last and David McMurrey

Placing the key user steps in **bold** can be a very helpful way to signal clearly what the reader needs to do. Often the command verb is bolded; sometimes bold font highlights the key component being discussed.

Use of the **passive voice** in instructions can be problematic. Occasionally, instructions may sound like this: "The **Pause** button should be depressed in order to stop the display temporarily." It would be more helpful to indicate when the reader must "**press** the Pause button."

Using the third person can also lead to awkwardness: "The user should then press the Pause button." Instructions should typically be written using command verb forms and using the second-person "you" to make it clear what the reader should do.

ILLUSTRATING YOUR INSTRUCTIONS

Suzan Last; David McMurrey; James Francis, Jr.; and Kimberly Clough

Perhaps more than in any other form of technical writing, graphics are crucial to instructions. Sometimes words simply cannot explain the step, and illustrations are often critical to the readers' ability to visualize what they are supposed to do. Be sure that the graphics represent the image from the reader's perspective.

Formatting Your Instructions

Since people rarely want to read instructions but often have to, format your instructions for easy readability. Try to make your reader want to read them, or at least be open to the idea of consulting them. Highly readable format will allow readers who have figured out some of the instructions on their own to skip to the section where they are stuck. Use what you have learned in Chapter 7: Design to create effective and readable instructions.

Headings

Use a comprehensive and intuitive system of headings to make your instructions reader-friendly. Provide headings for any background section you may have, including the equipment and supplies section. Additionally, provide a general heading for the actual instructions section, and include subheadings for the individual tasks or phrases within that section.

Lists

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

Infographics

Infographics (information graphics) present information by combining text and visuals. While infographics are generally static, data analytics dashboards are interactive and customizable visuals of information; analytics dashboards are often used in lieu of data reports because they are easier to read and can focus on key performance indicators, such as sales numbers and customer retention. You can use online graphic design platforms, like Canva or Crello, to create eye-catching instructions for simple procedures. While people may gravitate toward infographics because they are visually appealing, make sure to consider the complexity of the information you wish to present. Using infographics for instructions works best with short processes that need little text and steps that can be clearly communicated with visuals. You should also consider accessibility. Although there are ways to make infographics more accessible, many infographics are incompatible with screen readers.

General Warnings, Caution, Danger Notices

When you include these types of warnings, make sure to use good design principles to communicate with your audience clearly, regardless of language. For example, a lot of countries use a red octagon for a stop sign or a circle with a slash through it to indicate "No" or "Not Allowed." In addition, be sure that the design of these warnings catches the audience's attention; include them in a notable place, and use contrasting colors and a large-enough size.

Sample Instructions

Let's take a look at a sample set of instructions in the handout in Figure 17.1[1] below. As you review the handout, keep in mind that your work should never mirror a sample document. For example, this handout contains eight pages; most handouts you create will fall between two-to-three pages in length. At most, you want to review and evaluate the document in order to better understand what design and content choices are effective and what areas could use more development regarding audience identification, delivery of the instructions, and use of design principles.

How to Enhance Images with Windows 10 Photos Editor

If you like taking simple photos for fun and/or a hobby, but do not have access to fancy—and often expensive—programs like Adobe Photoshop, you can use the Windows 10 Photos Editor. You will need the following items to utilize these instructions effectively for photo editing:

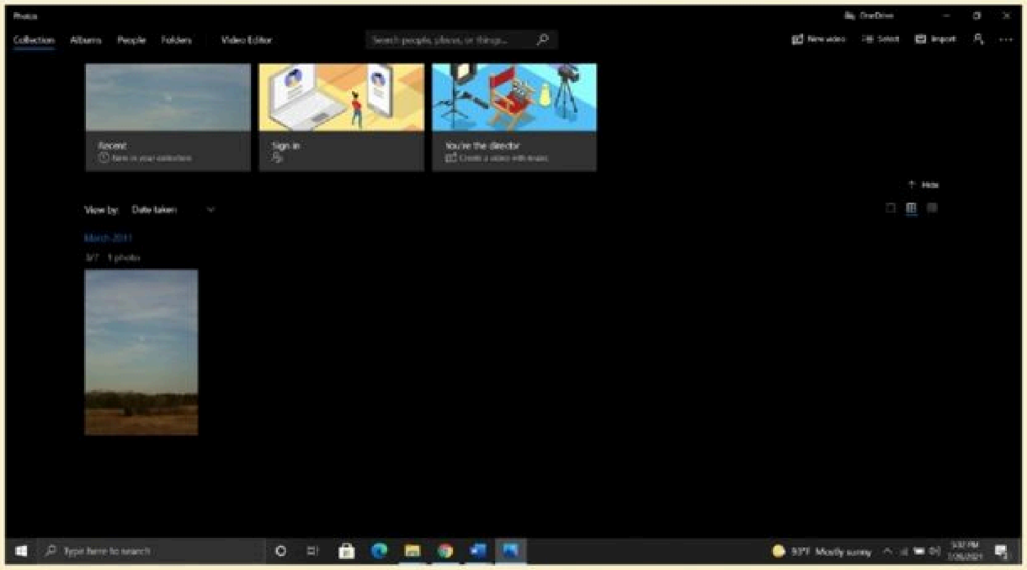
- Device (laptop, desktop, etc.) with Windows 10 installed
- A copy of an image for editing***

****** *always use an image copy instead of the original in case you do not like the edits you make*

First, check to ensure you have the application accessible on your device. Click the Windows icon to open the Start Menu and scroll down to locate the Photos application:

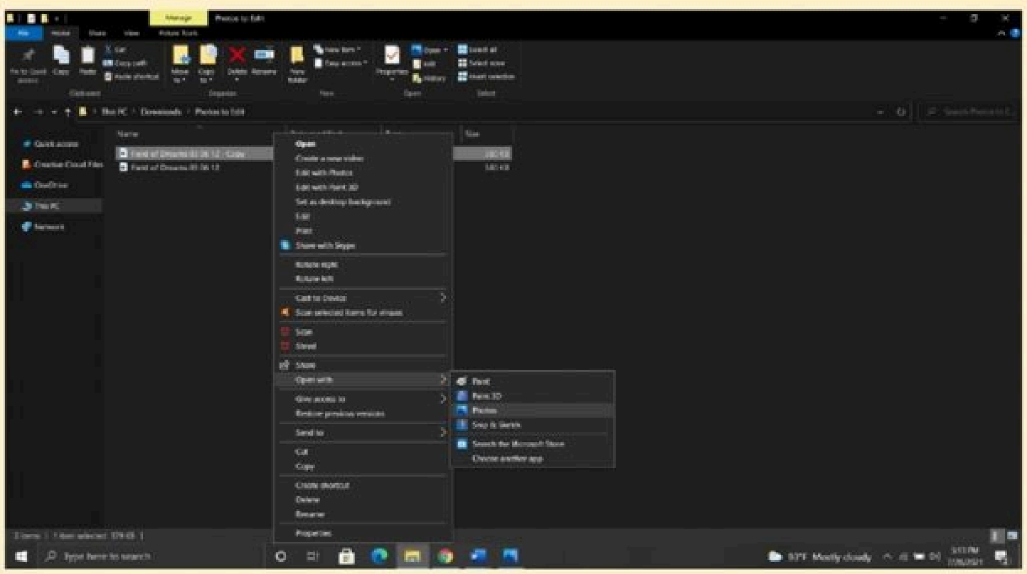
Now you have **two options**:

1. Click the icon and it will open to display "Collections, Albums, People, Folders, Video Editor" to search for any relevant content stored on your device.

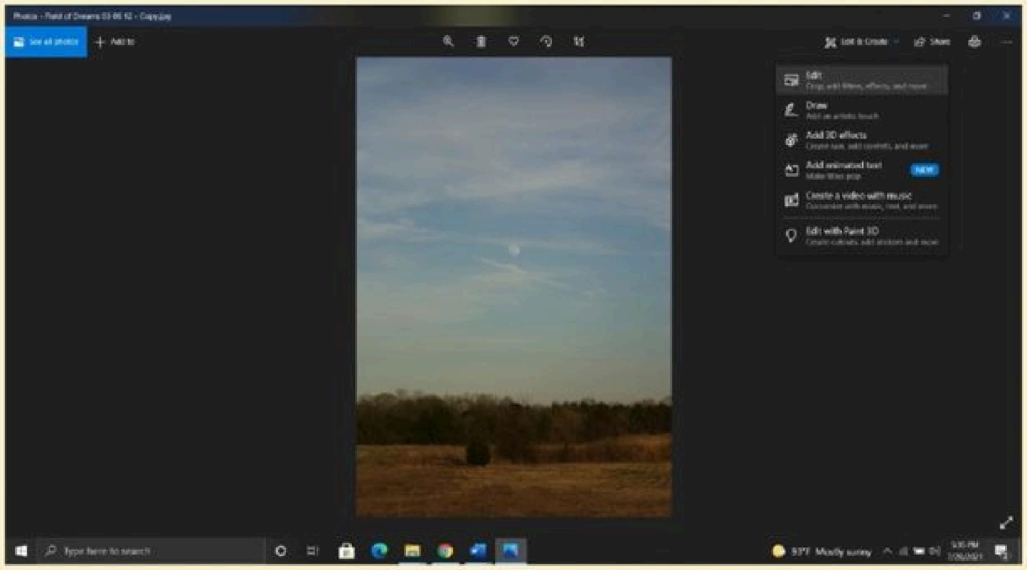


OR

2. Locate the photo you want to edit in a folder, right-click the image, and select “Open with” and Photos” to load up the image.

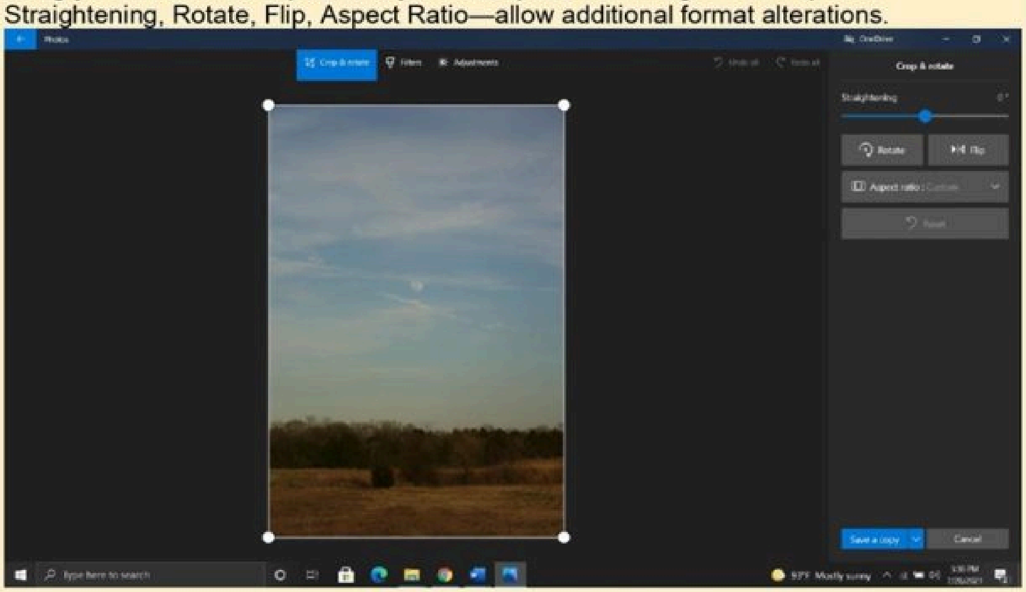


Once you have your image on the screen, the application allows you to Edit, Draw, Add 3D Effects, Add Animated Text, Create a Video with Music, and/or Edit with Paint 3D.

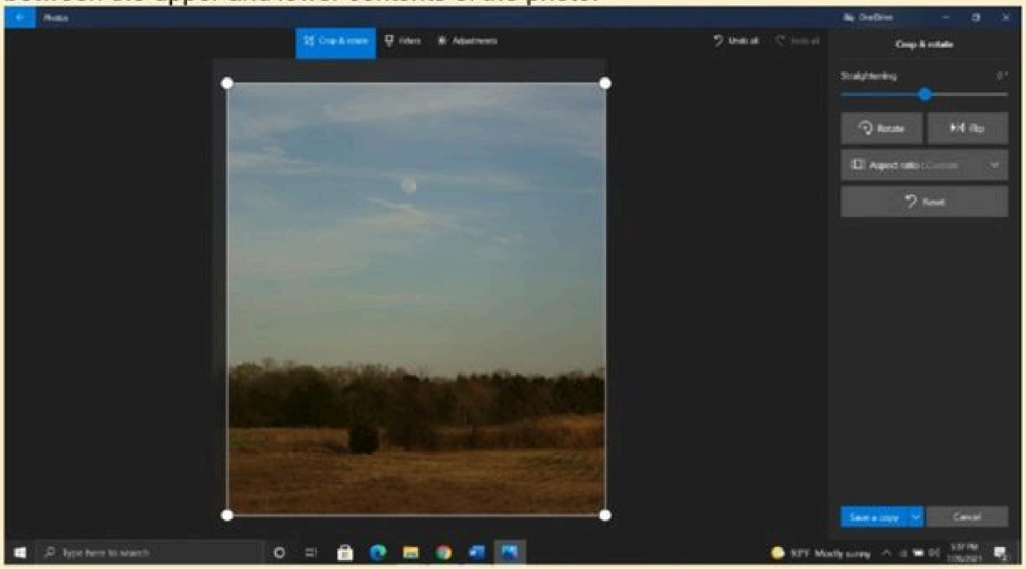


For this handout, we will focus on the “Edit” option to perform a simple crop (framing of the photo) and color adjustment. Here are a few steps to follow that will help you complete this objective:

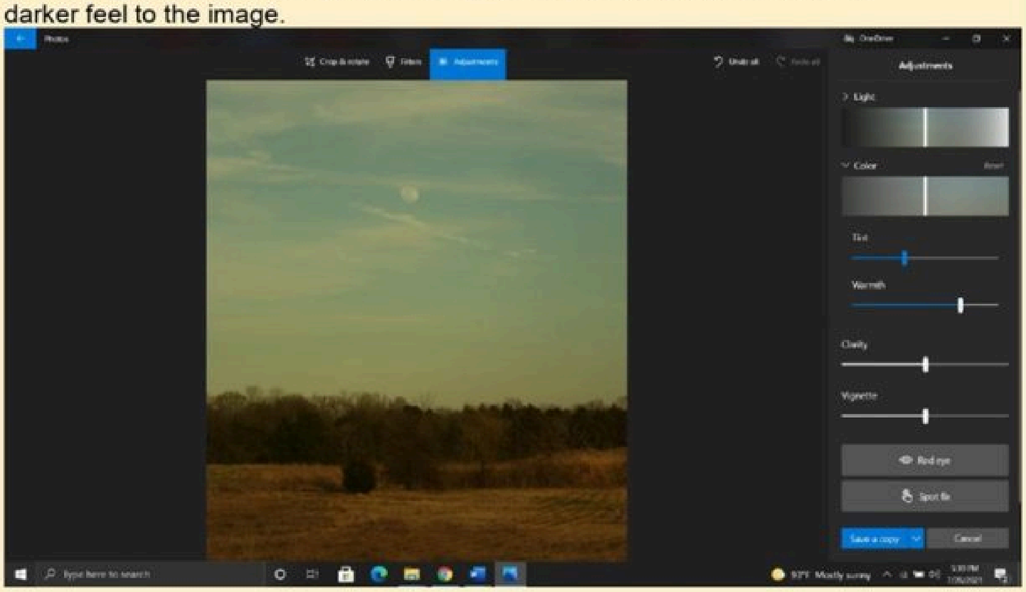
A. After selecting “Edit” from the previous screen, you will see “Crop & rotate” “Filters” and “Adjustments” at the top of the image. “Crop & rotate” will automatically position a frame around the image that can be manipulated by using your mouse, touchpad, or stylus to crop the new image. Other options—Straightening, Rotate, Flip, Aspect Ratio—allow additional format alterations.



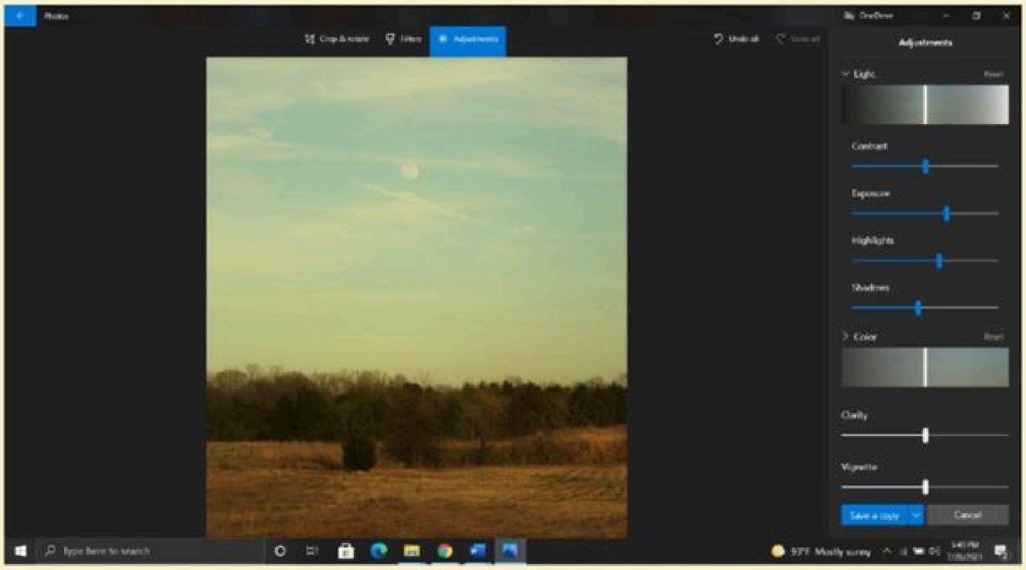
B. In this example, some of the sky and a partial amount of the left side of the photo will be cropped out to create a more central focus on the moon and balance between the upper and lower contents of the photo.



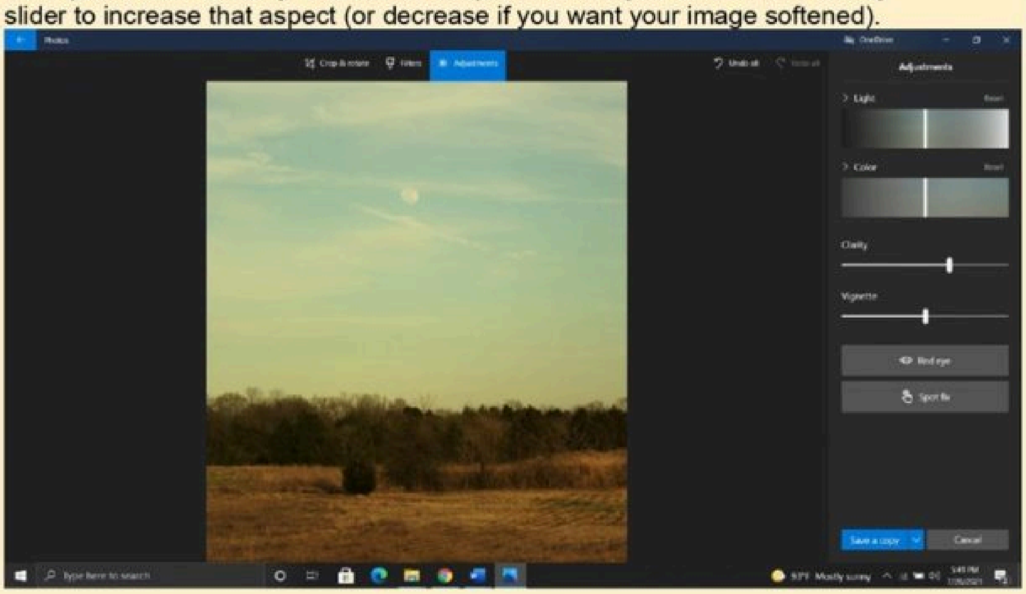
C. Next, click on the Adjustments tab. This will automatically accept your crop changes and provide a menu for Light, Color, Clarity, and Vignette options. For this photo, Tint is decreased (shifted left from 0) and Warmth is increased (shifted right from 0) under the Color drop-down menu to create a moodier, darker feel to the image.



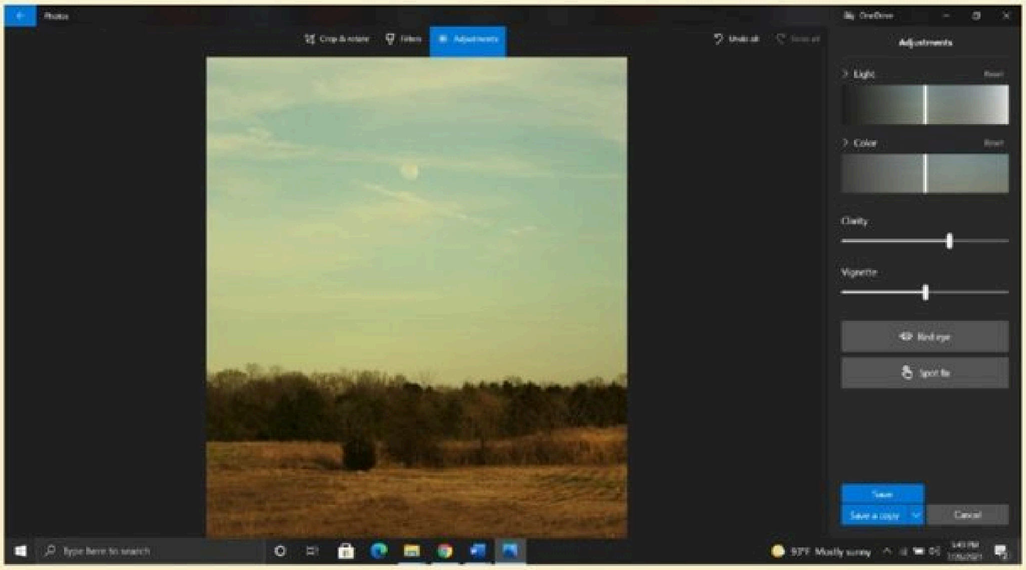
D. Under the Light drop-down menu, both Exposure and Highlights are increased to lighten and brighten the image. The photo will still appear heavier in tone, but the lightening will help maintain the same time-of-day sense from the original.



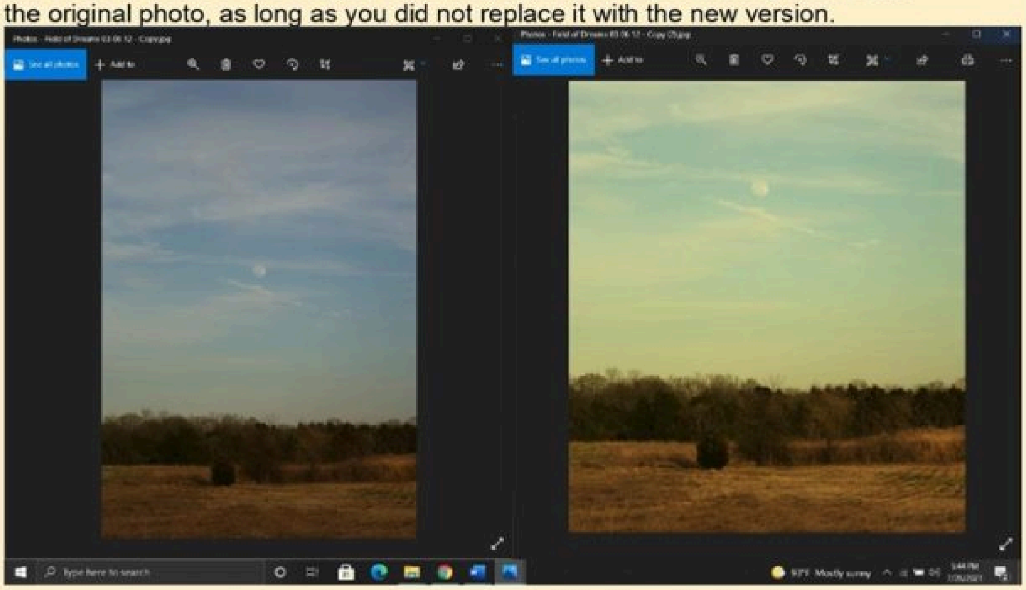
E. If the photo seems blurry or could be crisper in detail, you can use the Clarity slider to increase that aspect (or decrease if you want your image softened).



F. Finally, use the “Save a copy” button to finalize your image. This will avoid overwriting/replacing the original photo; however, if you want to replace the original image, simply click “Save” which will overwrite/replace the original.

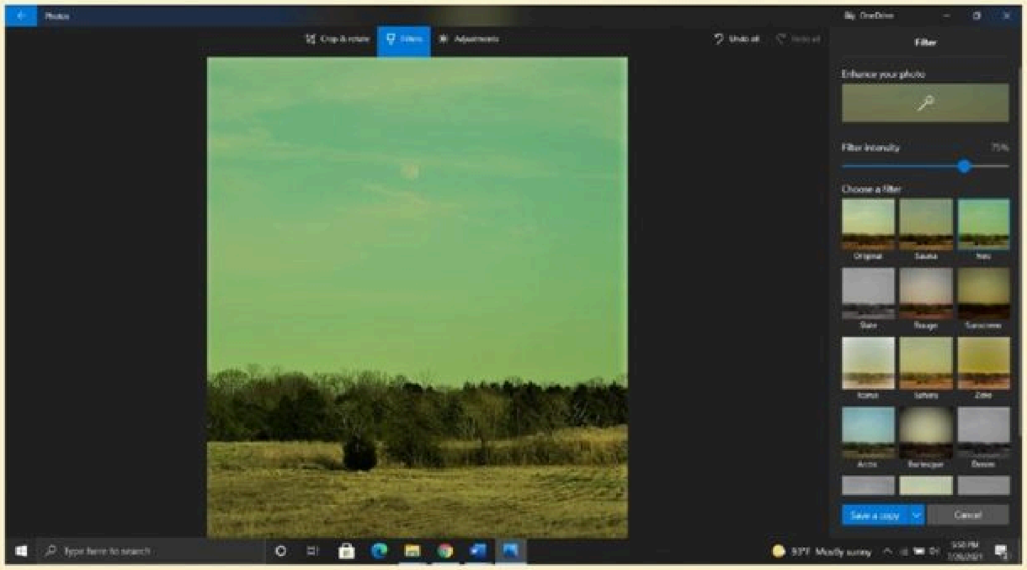


G. Now, you can go back and use the Photo Editor to load up the original and the newly-edited image to compare them side-by-side and evaluate the results. If you don't like the edited version, you can always go back to the drawing board with the original photo, as long as you did not replace it with the new version.

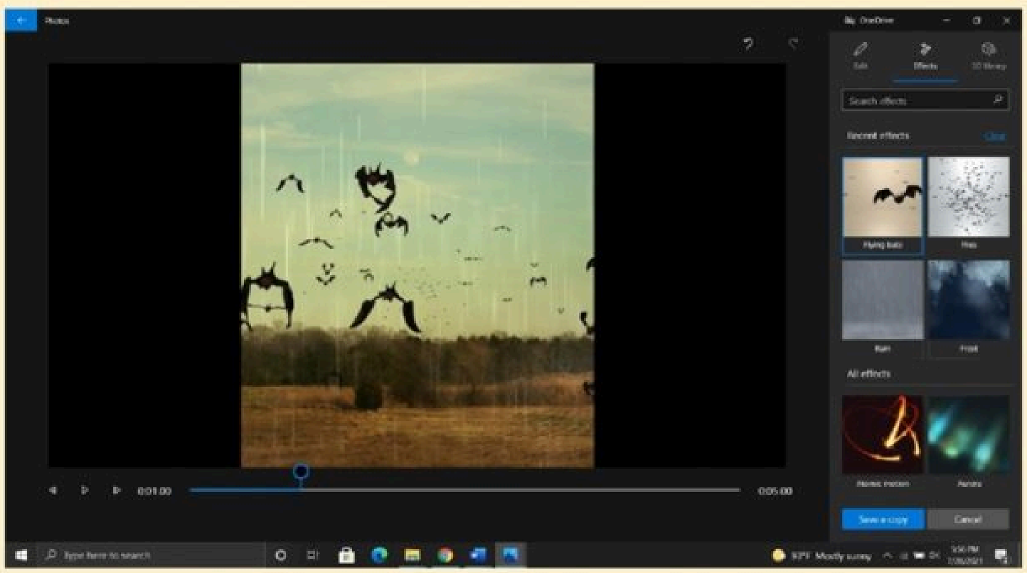


Printed your photo for display, use it as a wallpaper image on your device, and more!

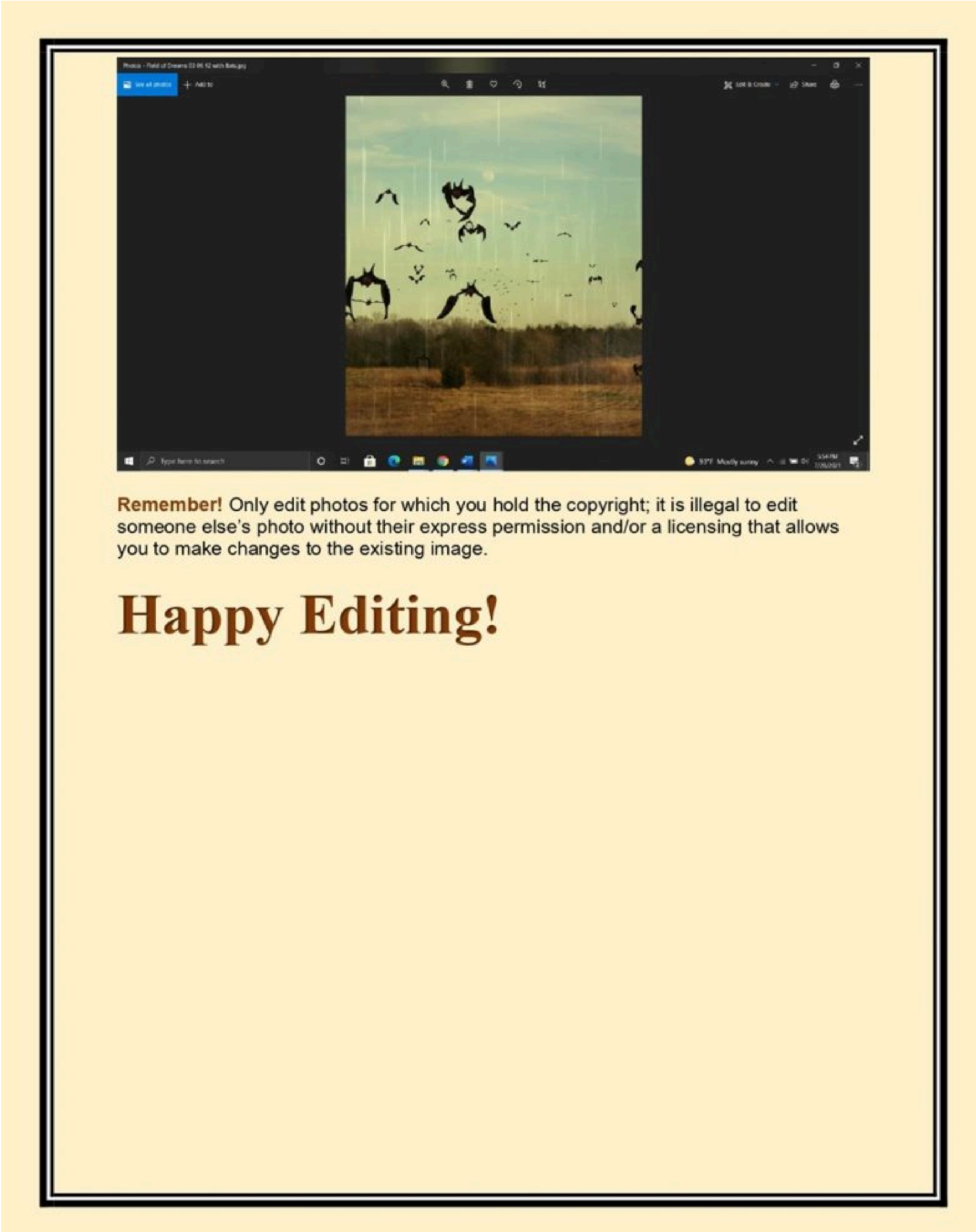
Keep going! Play around with the Crop & Rotate and Adjustment settings to edit other photos for practice and to identify what you like and do not like to create a personal style for your images. Additionally, the Filter option can be used to achieve overlay effects common to social media like Instagram:



Feeling adventurous? Return to the main image screen (instruction #2) and select the Add 3D Effects option. You can add weather conditions, insects, movement, and sounds to create something whimsical as a video like this:



And that video can be screen-captured and cropped to create a photo like this:



Remember! Only edit photos for which you hold the copyright; it is illegal to edit someone else's photo without their express permission and/or a licensing that allows you to make changes to the existing image.

Happy Editing!

*Figure 17.1. Sample instructions for using Windows 10 Photo Editor. (Alternative PDF version: **Figure 17.1**.)*

This sample works well to demonstrate a basic set of instructions in a handout format. The writer informs their audience where and for whom the instructions apply specifically—particular software program (Windows 10 Photo Editor), identified audience (a casual photographer), purpose and outcome (simple editing elements), etc.—to keep the information focused. These particulars matter because there are many other options for editing a photo that can be considered in another set of instructions. The author offers a list of required items to prepare their audience, and the instructions are generally short and clear in scope to avoid confusion. The writer also uses a combination of letters and numbers to walk the reader through the instructions in a step-by-step linear progression to ensure structure and organization of the information. The audience is directly addressed with imperative action verbs such as "click," "use," and "go" to maintain an instructional tone; "you" and "your" demonstrate a second-person point of view to complement the verbs.

In its design elements, the handout could use more balance in text-and-graphics placement. Some of the images and/or text run off one page to the next, breaking their cohesiveness for each instructional step; these layout concerns are issues that might be solved by making the images a bit smaller on the page to increase room for both text and image. The writer uses black, dark brown, and beige (background) to maintain a consistent color palette. As most handouts start with a white background, changing the color to something softer from the harsh white can enhance the readability for the audience. The type (font size) could be bigger for the instructions to consider accessibility; however, the handout is tagged "PDF/A compliant" in its settings which enhances usability with screen readers (when saving your document—usually from Word to PDF—click the Options button to view this setting).

These are just a few points to consider when making a set of instructions in a handout format. Remember to

- identify your audience.
- focus on clear and well-organized steps.
- balance the written content with complementary design elements.

This text was derived from

Last, Suzan, with contributors Candice Neveu and Monika Smith. *Technical Writing Essentials: Introduction to Professional Communications in Technical Fields.* Victoria, BC: University of Victoria, 2019. https://pressbooks.bccampus.ca/technicalwriting/. Licensed under a Creative Commons Attribution 4.0 International License.

McMurrey, David. *Online Technical Writing.* n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

Notes

1. James Francis Jr., "Sample Instructions for Using Windows 10 Photo Editor," 2021. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

18 - PROPOSALS

Introduction to Proposals

Suzan Last, David McMurrey, Annemarie Hamlin, Chris Rubio, Michele DeSilva, and Nicole Hagstrom-Schmidt

Proposals and reports (for progress reports, see Chapter 19) are some of the most common types of reports you will likely compose in the workplace. Proposals are especially common in grant-driven fields, such as academia, public health, and nonprofits.

A proposal, in the technical sense, is a document that tries to persuade the reader to implement a proposed plan or approve a proposed project. Most businesses rely on effective proposal writing to ensure successful continuation of their businesses and to get new contracts. In a proposal, the writer tries to convince the reader of the following things:

1. The proposed plan or project is worth the time, energy, and expense necessary to implement or see through.
2. The author represents the best candidate for implementing the idea.
3. The proposed project or plan will result in tangible benefits for the reader.

Example scenarios where a proposal might be called for are listed below:

- A company has a problem or wants to make some sort of improvement. The company sends out a request for proposals; you receive the request and respond with a proposal. You offer to come in, investigate, interview, make recommendations, and present all this information in the form of a report.
- An organization wants a seminar in your expertise. You write a proposal to give the seminar and provide a guide or handbook that the people attending the seminar will receive.
- An agency has just started using a new online data system, but the user's manual is technically complex and difficult to read. You receive a request from this agency for proposals to write a simplified guide or startup guide.
- A nonprofit organization focused on a particular issue wants a consultant to write a handbook or guide for its membership. This document will present information on the issue in a way that the members can understand. The organization asks you to submit a proposal detailing how you would fulfill this need.

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.

McMurrey, David. *Online Technical Writing.* n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

SOME PRELIMINARIES

David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Matt McKinney; Kalani Pattison; Nicole Hagstrom-Schmidt; and Kimberly Clough

To begin planning a proposal, remember the basic definition: a proposal is an offer or bid to complete a project or research for a specific person or organization. To write a successful proposal, put yourself in the place of your **audience**—the recipient of the proposal. Consider the elements of a rhetorical situation discussed in Chapter 2, and think about what sorts of information that person would need in order to feel confident about supporting the project or research and having you complete it.

The proposal often serves as the first point of contact between the writer and the audience concerning the topic of your research or project. Consequently, the proposal provides initial context (describing the need for the project or research) for subsequent documents related to your project, including informational, feasibility, and recommendation reports.

In addition to selling the project, proposals must sell the writer (or the writer's organization) as the best candidate to complete the project. Establishing your **ethos** is crucial to the success of these types of documents. Even if the project is interesting and worthwhile, if you are unable to support why you should be the person to complete it, you will lose the bid to another writer or company that instilled more confidence in the readers.

It is easy to confuse proposals with other kinds of documents in technical writing. For example, imagine that you have a terrific idea for installing some new technology where you work, and you write a document explaining how it works, showing the benefits, and then urging management to install it. All by itself, this would not be a complete proposal. This document would be more like a feasibility report or recommendation report, which studies the merits of a project or plan and then recommends for or against it (See Chapter 20, which discusses recommendation reports). However, this document could become a proposal by adding elements that ask management for approval for you to go ahead with the project.

DESIGNING AND FORMATTING PROPOSALS

Suzan Last; Nicole Hagstrom-Schmidt; Kalani Pattison; Matt McKinney; and James Francis, Jr.

When you write a proposal, you must persuade the reader that your idea is the one most worth pursuing. Proposals are persuasive documents intended to initiate a project and convince the reader to authorize a course of action proposed in the document. These projects might include proposals to

- Perform a task (such as a feasibility study, a research project, etc.)
- Provide a product
- Provide a service

Types of Proposals

Proposals fall into two distinct categories: solicited vs. unsolicited; and internal vs. external. The first category refers to how the audience advertises (or does not advertise) the situation they want a response to.

> **Solicited proposals.** An organization identifies a situation or problem that it wants to improve or solve and issues an **RFP (Request for Proposals)** asking for proposals on how to address it. The requesting organization will vet proposals and choose the most convincing one, often using a detailed scoring rubric or weighted objectives chart to determine which proposal best responds to the request.
>
> **Unsolicited proposals.** A writer perceives a problem or an opportunity and takes the initiative to propose a way to solve the problem or take advantage of the opportunity (without being requested to do so). This is often the most difficult kind of proposal to get approved.

The second category, internal vs. external, refers to whether the proposal's author is part of the organization or not. Both internal and external proposals may be solicited or unsolicited, depending on circumstance.

> **Internal proposals.** These proposals are written by and for someone within the same organization. Since both the writer and reader share the same workplace context, these proposals are generally shorter than external proposals and usually address some way to improve a work related situation (productivity, efficiency, profit, etc.). As internal documents, they are often sent as memos or introduced with a memo if the proposal is lengthy.
>
> **External proposals.** These proposals are sent outside of the writer's organization to a separate entity (usually to solicit business). Since these are external documents, they are usually sent as a formal report introduced by a cover letter (or **letter of transmittal**). External proposals are usually sent in response to a Request for Proposals, but not always.

Sample Proposal Organization

Each proposal is unique in that it must address a distinct audience in a particular context and for a specific purpose. Many companies will have a template that employees should use for internal proposals, and solicited proposals often provide an outline or set of guidelines for proposal contents and organization. A fairly standard organization for many types of proposals is detailed below in Table 18.1.

Table 18.1. Proposal organizational structure.

Proposal Organizational Structure	
Summary	Covers all essential information in the proposal, either to encourage your audience to continue to read the full proposal, or for the convenience of a specific audience who does not have the time or need to read the whole document. Since the writer has not yet begun the project, they would most likely use a pure summary here. This type of summary ascribes equal weight to all sections of the proposal. In a proposal, this includes methods of data collection, which enables the writer to present their project design persuasively. See Chapter 15: Correspondence and Chapter 20: Recommendation Reports for more discussion on summary types.
Introduction/ Background	Clearly and fully defines the problem or opportunity addressed by the proposal, and briefly describes how the project will address that need. Convinces the reader (consider persuasive writing strategies) that there is a clear need for and a clear benefit to the proposed idea.
Project Description	Describes the project in detail and explains how the project will improve the situation: 1. Confirms feasibility (is it doable?) with consideration to time. What makes the project realistically achievable? 2. Explains the specific benefits of implementing the project and the consequences of not doing it. 3. Gives a detailed description or explanation of your proposed project plan or methodology and the resources needed to achieve goals. 4. Addresses potential obstacles or objections; concedes where appropriate.
Credentials	Establishes writer's qualifications, experience, and authority to lead this project. What is your connection to the problem or opportunity?
Timeline	Provides a detailed timeline for completion of the project. Uses a Gantt chart—See "Timelines and Gantt Charts" below—to indicate when each stage of the project will be complete.
Budget	Provides an itemized budget for completing the proposed project.
Conclusion	Concludes with a final pitch that summarizes and emphasizes the benefits of implementing your proposed idea—but without sounding like an advertisement.
References	Lists your research sources to document and credit appropriately; this clarifies and authenticates the project work and avoids fallout of plagiarism.

Depending on the type of your proposal and your audience expectations, some of these sections may either be in a different order or not present at all. The Credentials, Timeline, and Budget sections, for example, can be found in a different order than listed above. Certain sections may also use different headings or subheadings to more precisely convey the content in their sections. These differences are most common in the Project Description portion of the proposal.

Timelines and Gantt Charts

There are several different types of timelines or schedules that can be used to convey a planned schedule for a project or research. The simplest are lists of dates and deadlines. More complex projects, in which tasks vary in duration, can be worked on simultaneously, or depending on the completion of other tasks, may more clearly convey their schedules or timelines through the use of a **Gantt chart**.

Gantt charts are a way of visually depicting the timelines of tasks within a planned project. They are created by using the table format. 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. Sometimes complex Gantt charts may also depict subtasks within other tasks, as well as how tasks are dependent on each other. Consider the following simple example of a Gantt chart in Figure 18.1, which gives the steps in planning an international trip.

Figure 18.1[1] is a simple Gantt chart where the length of the tasks in weeks has been determined by factors such as the average time for passport renewal. If the actions were to take place over a shorter period of time, it would be more practical to include dates with increased frequency. In addition, this chart only 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.

#	Task	Week 1	2	3	4	5	6	7	8	9	10	11	12
1	Apply for Passport Renewal												
2	Determine Destination												
3	Apply for Visa												
4	Buy Airline Tickets												
5	Book Hotel												
6	Plan for Transportation												

*Figure 18.1. Gantt chart for planning an international trip. (Alternative PDF version: **Figure 18.1**.)*

Note: Darker cells indicate completed tasks, while lighter cells indicate tasks yet to be started.

The following list presents a series of thoughts concerning the tasks and their timelines, and how they may overlap or need to wait for a previous task to be finished. These logical steps are necessary to consider as Gantt charts convey the expected duration for each task.

- **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 Table 18.2, the creator used 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 18.2,[2] 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.

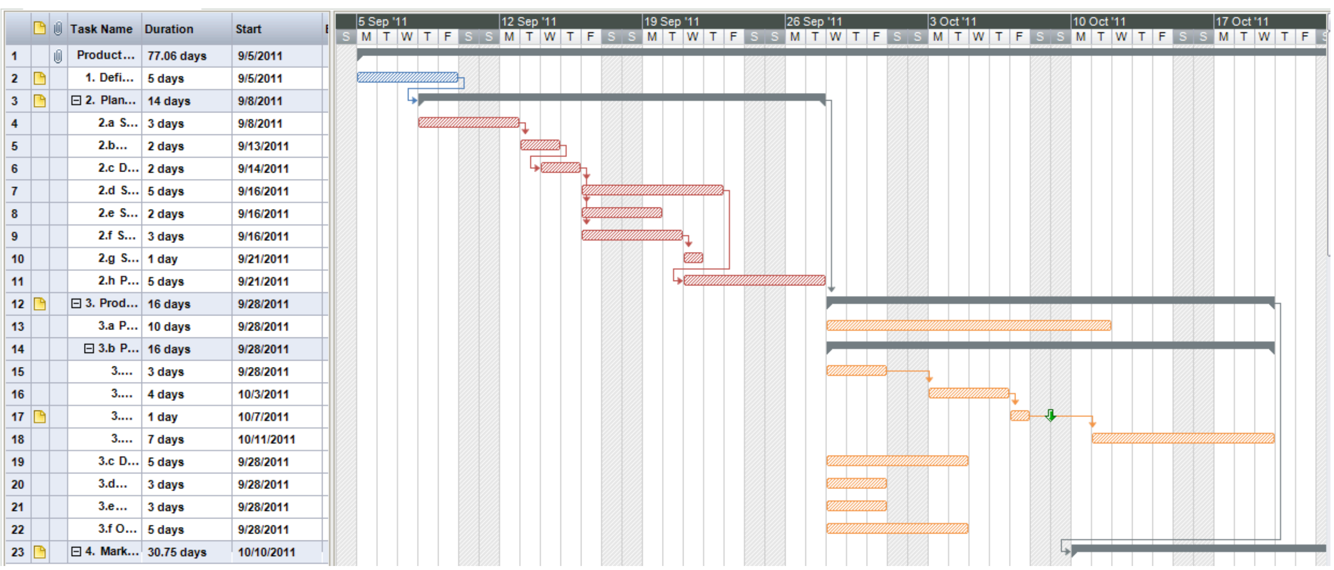


Figure 18.2. Illustration of a more complex Gantt chart. Though the figure is a bit too small to read, the form of the chart aspect should be relatively clear.

Additional Proposal Elements to Consider

- Decide what graphics to use to illustrate your ideas, present data, and enhance your pitch.
- Include secondary research to enhance your credibility and the strength of your proposal.
- Choose format. Is this a memo to an internal audience or a formal report to an external audience? Does it require a letter of transmittal?

Notes

1. Kalani Pattison, "Gantt Chart for Planning an International Trip," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
2. Matchware Inc., "MindView-Gantt Chart," Wikimedia Commons, May 27, 2013, https://commons.wikimedia.org/wiki/File:MindView-Gantt_Chart.png. This image is licensed under a Creative Commons Attribution-ShareAlike 3.0 Unported License.

PROPOSALS IN ENGL 210

Suzan Last; David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Nicole Hagstrom-Schmidt; and Matt McKinney

Proposals written as an assignment in Technical Writing classes generally do the following:

Address the defined audience, not the instructor. Although you are writing a proposal to be graded in a class, you will want to follow regular proposal guidelines as closely as possible. This includes directing your proposal to the real audience.

Identify and define the problem that needs to be solved or the opportunity that can be taken advantage of. You must show that you clearly understand the problem/situation if you are to convince the reader that you can solve it. Part of understanding the problem is understanding the audience. If your proposal does not clearly indicate how the audience will be impacted, then your proposal will likely be rejected.

Describe your proposed project, clearly defining the scope of what you propose to do. Often, it is best to give a general overview of your idea and then break it down into more detailed sub-sections. Strong proposals often include information on how the project will be conducted, similar to a Methods or Methodology section of a report or study.

Indicate how your proposed research will give you enough information to solve the problem and eventually provide a clear recommendation. Specifically, indicate how your project will meet the objectives and abide by the constraints outlined in the problem definition. Give specific examples. Be as empirical as possible, but appeal to all appropriate persuasive strategies. Emphasize anticipated results, benefits, and feasibility of your proposed research.

Propose a timeline for completing your project. This timeline should be represented graphically in the form of a Gantt chart or timeline. It should include the major milestones or deliverables of the project, as well as dates or timeframes for completion of each step.

Describe your qualifications to take on and/or lead this project. In a Qualifications section, you persuade the reader that you have the required skills, experience, and expertise to complete this job. When composing a Qualifications section, consider education, research, work, volunteer, and extracurricular experiences. Depending on your audience (such as a religious community or workplace), you may also appeal to your shared mutual interests and membership in the community.

Use a pure summary in your memo that identifies the problem, describes what you will do in each task and why, and specifies your qualifications. Do not simply provide a metacommentary in your Summary section (for example, don't write, "This memo will discuss the proposed tasks for this project and specify my qualifications for completing them"). Instead, provide details.

Remember that a Summary is sometimes used as an abbreviated stand-in for the full memo, so simply pointing your audience to the main body of the memo is not helpful. Also keep in mind that an executive summary typically emphasizes results and recommendations, so this summary type may not be a good fit for a project that hasn't begun yet.

Figure 18.3 [1] below offers a template for structuring a proposal using the traditional memo format. Notice that the template utilizes different levels of headings to organize and draw attention to important information in the proposal. This structuring allows for a reader (who may be reading through several competing proposals) to quickly scan for the necessary information.

MEMORANDUM

TO: Name of Intended Audience
FROM: Author(s) of Proposal
SUBJECT: Internal Research Proposal
DATE: Date Submitted

SUMMARY

This section consists of a few sentences that reflect the content of the entire document. A reader should be able to read this section and understand the major takeaways of the proposal.

INTRODUCTION

[NOTE: The sections below may be divided into subsections or individual paragraphs, or may be combined, depending on the amount of relevant information the writer wishes to provide for the audience.]

Section One: Background & Context

This section provides relevant context and background information for the problem or situation that the proposal addresses. This information could include information on the organization soliciting the proposal or wider relevant contexts.

Section Two: Explanation of the Problem or Situation

This section identifies the issue being explored in detail. It also includes the scope of the project.

Section Three: The Research Plan

This section summarizes the planned research project that explores the problem/situation, identifies solutions, and evaluates them. This section may consist of titles of research tasks in bullet or numbered form.

Section Four: Roadmapping

This brief section/paragraph states the sections that will appear in the remainder of the proposal.

PROPOSED TASKS

Include a short introduction (1–2 sentences) to the proposed tasks in the research project.

Task 1: Descriptive Task Title

For each research-based task, explain how the task will be accomplished. Tasks should be listed in chronological order, with preliminary, information-finding tasks preceding analytical and evaluative tasks.

Task 2: Descriptive Task Title

Research-based task descriptions should be similar to what a reader would see in a "Methods" section in an article or report.

Task 3: Descriptive Task Title

Repeat until all tasks are listed and described in appropriate detail.

SCHEDULE

Insert your Gantt or bar chart here.

QUALIFICATIONS or EXPERIENCE

(Pick one; don't use both.) This section describes the researcher's relevant qualifications or experience. The goal here is for the audience to see that the researcher is qualified to lead the proposed project.

REFERENCES

The final section contains bibliographic citations for all sources referenced in the proposal.

Figure 18.3. 210 proposal template. (Alternative PDF version: Figure 18.3)

Notes

1. Nicole Hagstrom-Schmidt and Kalani Pattison, “210 Proposal Template,” 2021. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

LANGUAGE CONSIDERATIONS

Suzan Last and Nicole Hagstrom-Schmidt

Proposals are fundamentally persuasive documents, so paying attention to the **rhetorical situation**—the relational position of the audience (upward, lateral, downward, or outward communication), the purpose of the proposal, the form, and the tone—is paramount. When drafting and revising your proposal, consider the following tonal elements:

- Clearly define your purpose and audience before you begin to write.
- Conduct preliminary research so that you know what you are talking about.
- Remain positive and constructive: you are seeking to improve a situation rather than critique it.
- Be solution oriented; don't blame or dwell on the negative.
- Make your introduction logical, objective, and empirical; don't start off sounding like an advertisement or sounding biased; avoid logical fallacies.
- Use primarily logical and ethical appeals; use emotional appeals sparingly.

As always, adhere to the 7 Cs (for a review, see Chapter 5) by making sure that your writing is

- **Clear and coherent.** For maximum clarity, provide a logical overall structure with clear headings and subheadings. Review your document with at least one other reader to ensure that all the content makes sense.
- **Concise and courteous.** Don't annoy your reader with clutter, unnecessary padding, inappropriate tone, or hard-to-read formatting.
- **Concrete and complete.** Provide specifics, especially in relation to your sources and methods. Don't leave out necessary information such as the timeline.
- **Correct.** "Correctness" refers not only to mechanical issues such as grammar or spelling but also to proper formatting and the accuracy of information. When writing a proposal, make sure to verify all sources, claims, and any information provided on the RFP. Further review any formatting guidelines, especially if you are completing an internal proposal. Finally, to ensure mechanical accuracy, review your proposal at least twice with two trusted peers or supervisors.

19 - INFORMATIONAL REPORTS

Types of Informational Reports

Matt McKinney

It can be helpful to envision informational reports as a technical form of communication somewhere between correspondence and larger-scale reports, such as proposals or recommendation reports. This is because informational reports typically focus on major projects or subjects beyond the scope of everyday communication. At the same time, they are much more specific and simple in purpose than reports designed to persuade, present, and discuss results, or argue for specific actions.

Further still, informational reports encompass a variety of genres:

- **Progress reports** (or more informal status reports or status updates) focus on providing project updates to supervisors and upper management.
- **Lab reports** comprehensively record the procedures, outcomes, and limitations of scientific research.
- **Incident reports** document onsite events such as accidents or malfunctions for which involved parties may be held liable.
- **Evaluations** provide an overview of performances on the job by organizational members (e.g. employees, coworkers, employers, etc.).

This chapter will review progress and lab reports, providing specific guidance on how to craft them effectively.

PROGRESS REPORTS

Suzan Last; David McMurrey; Nicole Hagstrom-Schmidt; and Matt McKinney

You write a **progress report** or status update to inform a supervisor, associate, or client about progress you have made on a project over a specific period of time. Periodic progress reports are common on projects that last several months or more. Whoever is paying for this project wants to know whether tasks are being completed on schedule and on budget. If the project is not on schedule or on budget, they will want to know why and what additional costs and time will be needed. Also, if a technical writer is working on a contract basis, they will be expected to provide a weekly report.

Progress reports answer the following questions for the reader:

- How much of the work is complete?
- What part of the work is currently in progress?
- What work remains to be done?
- When and how will the remaining work be completed?
- What changes, problems, or unexpected issues, if any, have arisen?
- How is the project going in general?

Purpose of a Progress Report

The main function of a progress report is persuasive, aiming to reassure clients and supervisors that you are making progress, that the project is going smoothly, and that the project will be completed by the expected date, or to give reasons why any of those might not be the case. Progress reports also offer the opportunity to do the following things:

- Provide preliminary findings or in-progress work on the project.
- Give your clients or supervisors a chance to evaluate your work on the project and to suggest or request changes.
- Discuss problems or delays in the project and thus forewarn the recipients.
- Force you to establish a work schedule, so that you will complete the project on time.

Format of a Progress Report

Depending on the size of the progress report, the length and importance of the project, and the recipient, a progress report or status update can take forms ranging from a short, informal conversation to a detailed, multi-paged report. Most commonly, formal progress reports are delivered in the following forms:

- **Memo.** A short, semi-formal report to someone within your organization (can range in length from 1–4 pages).
- **Letter.** A short, semi-formal report sent to someone outside your organization.
- **Formal report.** A long, formal report sent to someone within or outside of your organization.

- **Presentation.** An oral presentation given directly to the target audience.

Organizational Patterns for Progress Reports

The recipient of a progress report wants to see what you have accomplished on the project, what you are working on now, what you plan to work on next, and how the project is going in general. The information is usually arranged with a focus either on time, on tasks, or on larger goals:

- **Time.** The progress report divides itself into distinct time periods or phases (such as previous, current, and future) and shows tasks completed or scheduled to be completed in each period.
- **Specific tasks.** The progress report shows order of tasks or defined milestones and progress made toward completing each task or milestone.
- **Larger goals.** The progress report emphasizes the overall effect of what has been accomplished.

Information can also be arranged by report topic. You should refer to established milestones or deliverables outlined in your original proposal or project specifications. Whichever organizational strategy you choose, your report will likely contain the elements described in Table 19.1 below.

Table 19.1. Progress reports.

<table>
<tr><th colspan="2">Progress Reports—Structural Overview</th></tr>
<tr><td>Summary</td><td>Preface your progress report with a Summary section that provides a comprehensive overview of the most important information (i.e., the number and a descriptor of each task and its completion status).
As with your project proposal, you are most likely going to use a pure summary to discuss the status of each task, rather than an executive summary. This is because progress reports tend to emphasize what needs to be done and if any changes need to be made, rather than analyzing data and making final recommendations. For a discussion of different types of summaries, see Chapter 20.</td></tr>
<tr><td>Introduction</td><td>Review the details of your project's purpose, scope, and activities. The introduction may also contain the following:
date the project began
date the project is scheduled to be completed
people or organization working on the project
people or organization for whom the project is being done
overview of the contents of the progress report</td></tr>
<tr><td>Project status</td><td>This section (which could have sub-sections) should give the reader a clear idea of the current status of your project. It should review the work completed, work in progress, and work remaining to be done on the project, organized into sub-sections by time, task, or topic. These sections might include
Direct reference to milestones or deliverables established in previous documents related to the project.
A timeline for when remaining work will be completed.
Any problems encountered or issues that have arisen that might affect completion, direction, requirements, or scope.</td></tr>
<tr><td>Conclusion</td><td>The final section provides an overall assessment of the current state of the project and its expected completion, usually reassuring the reader that all is going well and on schedule. It can also alert recipients to unexpected changes in direction or scope, or problems in the project that may require intervention.</td></tr>
<tr><td>References</td><td>This additional section provides full citations for any outside material included in the progress report. If no outside references are included (or if you are not required by your professor to include a bibliography), you may omit this section.</td></tr>
</table>

LAB REPORTS

Gia Alexander

Lab reports are another common type of technical document you can expect to produce at work, especially if you enter a medical, scientific, technical, engineering, or research field. The main purpose of a typical lab report is to document procedures and results of experiments or other similar primary research. The target audience of a lab report is usually a colleague or peer who will use the information to make a decision, better understand the material being studied, or replicate the procedure or experiment. Although most lab reports share these underlying similarities, the structure, organization, presentation of material, and design of the document vary widely by field and institution. If your particular discipline's style guide does not offer details on how to prepare a lab report, you should seek the guidance of a subject-matter expert in your field or at your organization.

20 - RECOMMENDATION REPORTS

Recommendation Reports

David McMurrey, Suzan Last, Kalani Pattison, Matt McKinney, and Nicole Hagstrom-Schmidt

A recommendation report starts from a stated need. From there, it offers a selection of solution options, presents a detailed comparative analysis of the options, and then recommends one, some, or none. For example, a company might be looking at grammar-checking software and want a recommendation on which product is the best fit for them. As the report writer on this project, you could study the market for this type of application and recommend one particular product, two or three possible products (differing perhaps in their strengths and weaknesses), or none (maybe none of them are appropriate for the client's specific needs). The recommendation report answers the question "Which option should we choose?" (or in some cases "Which are the best options?) by recommending Product B, or maybe both Products B and C, or none of the products. These recommendations might arise from questions such as

- What should we do about Problem X?
- What is the best way to provide Function or Service A?
- Should we use Technology X or Technology Y to perform Function Z?

In this chapter you will learn how to compose a recommendation report. Specifically, you will learn about the expected content and format for a recommendation report and a related genre, the feasibility report. This chapter also includes a breakdown and discussion of typical sections of recommendation reports. Finally, the chapter concludes with advice on how to use criteria, decision matrices, and decision trees to objectively evaluate solutions, products, or services in recommendation and feasibility reports.

Typical Contents of Recommendation and Feasibility Reports

The major difference between recommendation and feasibility reports is whether you are researching and devising potential solutions to a problem or evaluating a variety of predetermined solutions for logistics, efficiency, efficacy, and cost-effectiveness. Both recommendation and feasibility reports end in a section that makes a recommendation for a decision or course of action. Whatever variety of feasibility or recommendation report you write, most of the sections and the organization of those sections are roughly the same.

In the research-based type of recommendation or feasibility reports, you provide not only your recommendation, choice, or judgment, but also the data, analysis, discussion, and conclusions leading to it. Your readers can use this information to check your findings, logic, and conclusions, thus ensuring that your methodology was sound and that they can agree with your recommendation. Your goal is to convince the reader to agree with you based upon your careful research, detailed analysis, rhetorical style, and documentation. Without sufficient understanding of your project design and methods, your audience may not trust your final conclusions and recommendations, or they may do at least some of the work over again before making a decision or implementing your recommendation.

The general problem-solving approach for a recommendation report entails the steps shown in Table 20.1 below. These elements may be in various sections of the report, depending on the report's scope and structure.

Table 20.1. Typical recommendation report elements.

Element	How to Address the Element
1. Identify the need.	What is the situation that needs to be improved?
2. Establish 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 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 two solution options meet the objectives (often using criteria and a decision matrix/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.

FORMATTING A TECHNICAL REPORT

Kalani Pattison; Matt McKinney; Nicole Hagstrom-Schmidt; David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; and Claire Carly-Miles

While formatting may seem to be of lesser importance than content, the way that something looks conveys the first impression your reader has of your work. Making sure that your formatting is clear, logical, and consistent can be compared to dressing professionally for a job interview. You want your first impression to be a strong one. Use formatting to ensure that your reader knows you are serious about and proud of your work: you care enough about your own ideas to make sure that they are easy to navigate, that they are ordered logically, and that they are polished visually.

Page Numbering

Page numbering (or pagination) is an expectation for any major written source that uses pages. Depending on your style, you may use a combination of Roman numerals (i, ii, iii…) and Arabic numbers (1, 2, 3). Below are key points to remember when paginating your document:

- All pages in the report (within but excluding the front and back covers) are numbered, but on some pages, the numbers are not displayed. Microsoft Word and Google Docs allow you to present the page numbers in this way, but other word processors may require you to compose the report's parts in different documents, save them as PDFs, and then combine the PDFs.
- On special pages, such as the title page, page numbers are not displayed.
- In the contemporary design format, all pages throughout the document use Arabic numerals; in the traditional design format, all pages before the introduction (or the first page of the body of the report) use lowercase Roman numerals.
- Page numbers can be placed in one of several areas on the page. Usually, the best and easiest choice is to place page numbers at the bottom center of the page. (Remember to hide or remove them on special pages!)

Headings

In all but the shortest reports (two pages or less, and often even then), use headings to distinguish the different topics and subtopics covered. Headings are an important feature of professional and technical writing: they alert readers to upcoming topics and subtopics, help readers find their way around in long reports and skip what they are not interested in, and break up long stretches of text.

Headings are also useful for writers. They keep you organized and focused on the topic. Indeed, headings are like the parts of an outline that have been pasted into the actual pages of the document. When you begin using headings, your impulse may be to add in the headings after you've written the rough draft. Instead, visualize the headings before you start the rough draft, and incorporate them as you write.

Here are a number of helpful tips for ensuring your headings are as clear and useful as possible for your readers:

- **Make the phrasing of headings self-explanatory.** Instead of "Background" or "Technical Information," use a more descriptive title, such as "Physics of Fiber Optics."
- **Make headings parallel in phrasing.** That is, use the same **syntax** and word forms for each heading. Parallelism sends readers important clues as to whether the section is similar in nature to the preceding ones. For example, take a moment to notice the first word of each bullet point in this list: Make, Make, Make, Avoid, Avoid, Avoid, etc. These words are all imperative verbs and thus parallel in phrasing.
- **Make headings indicate the range of topic coverage in the section.** For example, if the section covers the design and operation of a pressurized water reactor, the heading "Pressurized Water Reactor Design" would be incomplete and misleading.
- **Avoid "lone headings."** That is, avoid only including one subheading in a section. This is the same concept as having an "A" without a "B" or a "1" without a "2" in outlines. It is also the same as having a bullet-point list with only one bullet point. These are all cases where the format indicates that there is more than one of something (headings, bullet points, etc.).
- **Avoid "stacked" headings.** This occurs when there are any two consecutive headings without intervening text. For example, if you have the Level 1 heading Methods and a Level 2 heading (Task 1: Researching Physics of Fiber Optics) immediately below it, make sure to include some introductory text *after* the Level 1 heading and *before* the Level 2 heading.
- **Avoid pronoun reference to headings.** For example, if you have a heading "Torque," don't begin the sentence following it with something like this: "This is a physics principle…" Reiterate the main idea first so that pronouns clearly have a noun (or antecedent) to refer back to.
- **Omit articles from the beginning of headings, when possible.** For example, "The Pressurized Water Reactor" can easily be changed to "Pressurized Water Reactor" or, better yet, "Pressurized Water Reactors."
- **Don't use headings as lead-ins to lists or as figure titles.** Headings are for sections of text. Lists and figures should be integrated into their appropriate section and should not stand alone. For example, if you have the Level 1 heading "Task Schedule," do not immediately follow that heading with the actual task schedule. Instead, introduce the task schedule before inserting it.
- **Avoid "orphan" headings.** An orphan heading occurs at the bottom of a page and the text it introduces starts at the top of the next page. To fix, insert a page break before the heading; this will move the heading onto the next page.

If you manually format each individual heading using the guidelines presented in the preceding list, you'll find you're doing quite a lot of repetitive work. The styles provided by Microsoft Word, Open Office Writer, Google Docs, Pages, and other software save you this effort. You simply select Heading 1, Heading 2, Heading 3, and so on. You'll notice the format and style are different from what is presented here. However, you can design your own styles for headings. See Chapter 7: Design for more information about headings.

Information Sources and Documentation

Documenting your information sources is all about establishing, maintaining, and protecting your credibility in the profession. You must **cite** (or "document") borrowed information regardless of how you present it. Whether you directly quote it, paraphrase it, or summarize it, that information is still *borrowed* information. Whether it comes from a book, an article, a diagram, a table, a webpage, a product brochure, or an expert whom you interview in person, it's *still* borrowed information. Typically, citing outside information requires you to include an in-text citation and a corresponding bibliographic entry in a References, Works Cited, or Bibliography section.

Documentation systems vary according to professionals and fields. For a technical writing class in college, you may be using either MLA or APA style. See Chapter 12: Avoiding Plagiarism and Citing Sources Properly for APA and MLA citation formatting guidance.

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McMurrey, David. *Online Technical Writing*. n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

FRONT MATTER

David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Nicole Hagstrom-Schmidt; Matt McKinney; and Kalani Pattison

The **front matter** of a report refers to portions that summarize and inform the reader of the contents of the report. These documents all appear prior to the report itself. Common components of front matter include a letter of transmittal, a title page, some form of summary, a table of contents, and lists of figures and/or tables. While they come first in order, these components are usually composed last as it is difficult to summarize what is not written, and even harder to assign page numbers for it.

Letter of Transmittal

The letter of transmittal is a cover letter that is attached to the outside of the report. Traditionally, printed reports would have the letter of transmittal attached with a paperclip or bound within the report. Thus, this letter is not considered when assigning page numbers to the report.

A transmittal letter is a communication from you (the report writer) to the recipient (the person who requested the report and who may even be paying you for your expert consultation). Essentially, this letter says, "Here is the report that we agreed that I would complete by a certain date. Briefly, it contains this and that, but does not cover this or that. Let me know if it meets your needs." The letter of transmittal also explains the context or the events that brought the report about.

In the template of the letter of transmittal that follows in Figure 20.1,[1] notice the standard business-letter format. If you write an internal report, use the memorandum format instead. In either case, the contents and organization are the same:

> **First paragraph.** Provides the name of the report, putting it in italics. It also mentions the date of the agreement to write the report.
>
> **Middle paragraphs.** Focus on the purpose of the report and give a brief overview of the report's contents.
>
> **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 report satisfactory.

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 20.2[2] shows what this might look like.

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 20.1. Template for letter of transmittal. (Alternative PDF version: **Figure 20.1**.)*

Tompkins Hall 225
Box 8105, NCSU
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 20.2. An example of a letter of transmittal. (Alternative PDF version: [Figure 20.2](#).)

Title Page

The next item in a report is the title page. Remember, without a title page, a report is anonymous; it gets ignored.

There are no standard requirements for the title page, although your company or organization should have its own requirements. However, most reports include the following:

- The report title
- The author's/authors' name(s)
- The name of the author's organization
- Date of delivery.

An example of a report cover is shown below in Figure 20.3.[3]

Communication in the Workplace:
What Can NC State Students Expect?

Jason Swarts, Stacey Pigg, Jamie Larsen,
Julia Helo Gonzalez, Rebecca De Haas, & Elizabeth Wagner

Professional Writing Program
Department of English
North Carolina State University
2018

Figure 20.3. Example of a report title page. Alternative PDF version: [Figure 20.3](#).)

Types of Summaries

In most technical reports, you will encounter one of three types of summary in the front matter: executive summaries, abstracts, or the generic pure summary. These types all have one important similarity: they are distillations of a larger document's key components. However, each of them serves a distinct purpose based on the needs of their audiences and the rhetorical contexts in which they are situated. Understanding these purposes and the rhetorical situations that shape executive summaries, abstracts, and pure summaries will help you craft each of them more effectively.

Executive Summaries

An **executive summary** summarizes the key facts and conclusions contained in the report. Think of this section as if you used a highlighter to mark the key sentences in the report, then siphoned them onto a separate page, and edited them for readability. Typically, executive summaries are one-tenth to one-twentieth the length of reports ten to fifty pages long. For longer reports, ones over fifty pages, the executive summary should not go over two pages. The point of the executive summary is to provide a summary of the report—something that can be read quickly.

Executive summaries are typically found in business reports. While they do provide some description of the subject and how it was investigated for the sake of context, executive summaries emphasize results and recommendations above all else. Unlike abstracts and pure summaries, they are designed to be read by audiences who will not read the full report but who still have an interest in the report's findings and any recommendations for taking a specific action.

Example Context

You write a recommendation report for your organization that offers a strategy for shifting to more diverse hiring practices. Your immediate supervisor will read the report in full, but the board of directors will need the executive summary to make a quick decision on whether to adopt your strategy.

Abstracts

Abstracts are typically found in scientific and academic articles. Rather than standing in for the full document, like an executive summary would, the abstract's primary function is to convince the audience to read the full document. Additionally, its content tends to mirror the IMRaD structure (Introduction, Methods, Results, and Discussion), instead of focusing primarily on results or actionable items. Most electronic databases show an article's abstract in the search results, so researchers will likely be perusing multiple abstracts when deciding what to include in their own papers. As a result, you need to make sure that your abstract stands out and fulfills your audience's needs.

Example Context

You write a peer-reviewed article for a medical journal on clinical trials you conducted for a cancer drug. Now that the article is published, you want other scientists to replicate and/or respond to your study (and better yet, cite it in their own publications). To help ensure this happens, you emphasize your study's focus and its operational definitions of key terms, outline your forms of data collection, report the data you collected, and then offer a brief interpretation.

Pure Summaries

Pure summaries are the most nebulous of the three types in terms of audience and context. This type of summary is often used simply to introduce a larger document or speech and to provide some initial signposting to help the audience navigate it. (For an in-depth discussion of signposting, see Chapter 6). Since executive summaries and abstracts are typically found in more specific rhetorical situations, the best way to distinguish a pure summary from these is to check it against the characteristics of each. In other words, is the summary meant to be read instead of the full report? Is the summary meant to convince the reader to keep reading, or is it meant to help them navigate content as they read further? If the last question seems like the best fit, a pure summary is very likely the best choice.

Example Context 1

The Writer's Memos you will write for the major assignments in this class feature a pure summary section. Your instructor will read the full memo, but will expect an overview of each subsequent section.

Example Context 2

When you are giving an oral presentation, it is traditionally good practice to open with a pure summary of your talk. Since the audience cannot go back and review your ideas as they could with a document, outlining your structure up front and then repeating it helps them anticipate and retain your points (see Chapter 14: Oral Communication).

Note

Summary Tip: If the executive summary, introduction, and transmittal letter strike you as repetitive, remember that readers do not always start at the beginning of a report and read page by page to the end. They skip around. For example, they may scan the table of contents; skim the executive summary for key facts and conclusions; or read carefully only a section or two from the body of the report, and then skip the rest. For these reasons, reports are designed with some duplication so that readers will be sure to see the important information no matter where they dip into the report.

Case Study: Applying All Three Summary Types to One Report

To understand the differences between executive summaries, abstracts, and pure summaries, let's look at how each could be drafted for the same project: improving a student organization's recruitment strategy so that they attract a more diverse membership. Keep in mind that these are just examples and that some research projects are more complex than others. Also note that these examples are split into smaller paragraphs to enhance readability.

> **Executive Summary.** Over the last three years on campus, the Texas A&M chapter of Future Coders of America (FCA) has struggled with increasing diversity in its membership. This lack of diversity has become noticeable in comparison to that of other student organizations and the demographics of the university as a whole. Using triangulated forms of data collection, including interviews with faculty and researching other university organizations, our team conducted research on this issue in order to improve diversity in the FCA over the next three years.
>
> Results show that to attract a diverse membership, a student organization must establish close ties with campus diversity centers and resources, form partnerships with other student organizations, and encourage diversity within its own leadership. We therefore recommend that the FCA reach out to the campus diversity center and promote future events there, reach out to the Society of Women Coders and collaborate on hosting an event, and focus on leadership diversity long-term, when these initial strategies result in a more diverse membership.
>
> **Abstract.** This study investigates the issue of diversity in the recruitment strategies of Texas A&M Future Coders of America (FCA). Over the past three years, the FCA's focus on recruitment has resulted in a membership that is disproportionately white and male in comparison to other student organizations and the demographics of Texas A&M as a whole.
>
> For the purposes of this study, we define diversity in terms of race and gender. Using this definition, we collected data through a variety of methods. These methods include surveying students who are active in organizations with more diverse membership, interviewing the faculty advisors for the university's Diversity Office, interviewing the leaders of student organizations with more success recruiting diverse members, and researching FCA chapters at other universities.
>
> Through these methods, we discovered that partnerships with campus diversity offices and other organizations are the best strategies for improving diversity in recruitment. A recurring pattern among surveyed students reveals that diverse leadership is also important. We discuss how these findings can be applied by the FCA in subsequent years.
>
> **Pure Summary (for a verbal presentation).** Today we are going to discuss the issue of diversity in recruitment for the TAMU chapter of the Future Coders of America (FCA). We will begin with a review of the status quo, illustrating how the FCA is behind other student organizations at Texas A&M. From there, we will clarify our decision to define diversity in terms of race and gender, and how that led to our methods.
>
> We will then discuss the process we undertook in interviewing organization leaders and the Diversity Office faculty advisors, surveying active organization members, and researching FCA chapters on other campuses. With each method of data collection, we will discuss trends in the data and how we shifted our expectations. Finally, we will conclude by reviewing our proposed solutions, which are to form a partnership with the Diversity Office and host joint events with other student organizations.

Note the shift in focus for each summary type. The executive summary, for example, highlights the results and actions the FCA can take to resolve the issue, without going into the methods. The abstract, by contrast, highlights how the focus of the study is reflected in its definition of key terms and the methods of data collection it employs. While the pure summary also addresses these points, it does not give more weight to any section over the others, and it frames itself as a signpost for the rest of the presentation.

Table of Contents

You are likely familiar with tables of contents (TOC) but may never have stopped to look at their design. The TOC shows readers what topics are covered in the report, how those topics are discussed (the subtopics), and on which page numbers those sections and subsections start. In creating a table of contents, you have a number of design decisions:

> **Levels of headings to include.** In longer reports, consider including only the top two levels of headings. This keeps the TOC from becoming long and unwieldy. The TOC should provide an at-a-glance way of finding information in the report quickly.
>
> **Alignment and spacing.** Notice in Figure 20.4[4] below that items in each of the different levels of headings are aligned with each other. In addition, page numbers are right-aligned.
>
> **Capitalization.** Main chapters or sections use all capital letters or small caps (the letters are all capitalized, but the first letter is larger); first-level headings capitalize the first letter of each main word (this is also referred to as "title case"); lower-level sections capitalize the first word only (this is also called "sentence case").
>
> **Vertical spacing.** Notice that the first-level sections have extra space above and below, which increases readability. Second-level sections, however, are single spaced.

Using the automatic TOC creator in your word processor can help you produce a clean, professional document. If you prefer to make your own, learn to use right-aligned tabs (dot leader tabs when possible) in order to line up the page numbers correctly.

One final note: Make sure the words in the TOC are the same as they are in the text. As you write and revise, you might change some of the headings—don't forget to change the TOC accordingly.

Table of Contents

Figure 20.4. Example Table of Contents. (Alternative PDF version: Figure 20.4.)

List of Figures and Tables

If your document has more than two figures or tables, you need to create a separate list of figures and tables or a list of illustrations. The list of figures and tables follows many of the same design considerations as the table of contents. Readers use the list of figures and tables to quickly find the illustrations, diagrams, tables, and charts in your report.

Complications arise when you have both tables and figures. Strictly speaking, figures are illustrations, drawings, photographs, graphs, and charts. Tables are rows and columns of words and numbers; they are not considered figures.

For longer reports that contain dozens of figures and tables each, create separate lists of figures and tables, as shown below. If they fit, you may put them together on the same page. For documents with only a few figures and tables, you can combine the two lists under the heading “List of Figures and Tables” or “List of Illustrations” as long as you continue to identify them with the appropriate labels in the list. If there are no tables, it should be only a “List of Figures,” (Figure 20.5[5]) and if there are no figures, it should be only a “List of Tables” (Figure 20.6[6]).

List of Figures

Figure 1.1. Percentage of participants across fields who ranked writing quality as extremely or very important 3

Figure 1.2. Percentage of participants who rated writing quality as extremely, very, moderately, slightly or not at all important across fields 4

Figure 1.3. The importance of writing for career advancement for surveyed researchers 5

Figure 1.4. The importance of writing for career advancement for surveyed engineers 5

Figure 1.5. Percentage of the total work week participants spend writing across professions 6

Figure 1.6. Percentage of the total work week spent planning or writing documents with others, by profession 6

Figure 1.7. Percentage of the total work week spent communicating internationally by profession 7

Figure 1.8. Percentage of participants who use each device for workplace communication 10

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*Figure 20.5. Example list of figures. (Alternative PDF version: **Figure 20.5**.)*

List of Tables

Figure 20.6. Example list of tables. (Alternative PDF version: Figure 20.6.)

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McMurrey, David. *Online Technical Writing*. n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

Swarts, Jason, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner. *Communication in the Workplace: What Can NC State Students Expect?* North Carolina State University Professional Writing Program, 2018. https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

Notes

1. Nicole Hagstrom-Schmidt, “Template for Letter of Transmittal,” 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. It references material found in Jason Swarts,

Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

2. Kalani Pattison, "An Example of a Letter of Transmittal," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. It references material found in Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, Communication in the Workplace: What Can NC State Students Expect? (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.
3. Kalani Pattison, "Example of a Report Title Page," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Derived from Swarts, Jason, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.
4. Kalani Pattison, "Example Table of Contents," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.
5. Kalani Pattison, "Example List of Figures," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.
6. Kalani Pattison, "Example List of Tables," 2020. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

INTRODUCTION

David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; and Matt McKinney

The body of the report includes the main text of the report (that is, the sections ranging from the introduction to the conclusion). Different types of reports contain different sections depending on their purpose and audience needs.

An essential element of any report is its introduction, the section where you clearly state your report's purpose and contents. In a technical report, the introduction prepares the reader to read the report's main body.

Keep in mind that while this section's function is similar to the front matter, the introduction's purpose is a bit different. Instead of providing a brief but comprehensive overview of subsequent sections, the introduction covers essential information about the issue or topic in more thorough detail, including what the reader needs to know about the issue to understand its seriousness and your motivation to research it.

One organizational strategy that can work well for introductions is John M. Swales' CARS (Create A Research Space) Moves,[1] which consists of three steps:

1. **Establishing a territory.** This is where the writer discusses general facts about the topic or recent developments surrounding it. For example, if your research is investigating the effects of a new policy on a business's productivity, this is where you would describe the policy and what it entails in a neutral manner. If you are conducting medical research, this is where you might discuss recent developments in the field.
2. **Establishing a niche.** Also referred to as "finding the gap," having provided a neutral overview of important or recent facts on the topic, the writer then moves into a more specific gap in the overview. In other words, you are moving from what people are saying about your issue to what has not been said, and why this niche is important. In the business internal research report, this might be an unintended consequence of the new policy. In the medical research report, this could be a variable that contemporary studies have not addressed.
3. **Occupying the niche.** In this final step, the writer explains the focus of their research and frames it in response to the niche outlined in Step 2. Since the reader at this point has a basic understanding of what information the writer finds important and how the writer understands the problem, this move can be made relatively quickly. In the business internal research report, Step 3 might entail the writer explaining how they are going to investigate the problem in the policy or even test the feasibility of a new one. In the medical research report, Step 3 might be the writer's research question, stated hypothesis, and goal in conducting their study.

Swales' CARS Moves is not the only way to structure the introduction, but it is a helpful strategy for scaffolding this section's function in the report. It also helps the writer to create a smooth transition into the methods section, where the focus shifts from what your study is investigating or responding to, to how this investigation or response will be carried out. Figure 20.7[2] below provides a template for an introduction.

Introduction [Level 1 Heading]

The following components are frequently divided into paragraphs as opposed to being their own distinct sections under Level 2 headings.

Component 1: Introduction to report.
This section will look similar to the introductory paragraphs of the Letter of Transmittal and the Executive Summary. It introduces the reader to the report.

Component 2: Background.
This section may include multiple paragraphs, depending on the research topic and the amount of information needed for the audience to understand the report.

Component 3: Problem Statement.
This section may be integrated with the introduction to the report or background. It specifically identifies the problem or situation being addressed.

Component 4: Proposed Action/Research Plan.
This section reiterates the proposed research tasks from the proposal. It further discusses any deviations and provides a revised research plan, if needed.

Component 5: Major Findings.
This section highlights important results and conclusions that will be particularly interesting to the audience and useful for understanding the final recommendations.

Component 6: Recommendations.
This section states the recommendation(s) for the audience.

Component 7: Road-mapping Statement.
This short section (possibly a sentence or two) states the sections that will follow, in order.

*Figure 20.7. Introduction to a recommendation report template. (Alternative PDF version: **Figure 20.7**.)*

Notes

1. John M. Swales, *Genre Analysis: English in Academic and Research Settings* (Cambridge: Cambridge University Press, 1990), 141.
2. Nicole Hagstrom-Schmidt, "Introduction to a Recommendation Report Template," 2021. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

METHODS

Matt McKinney and Claire Carly-Miles

The methods section is the beginning of the "meat" of a report because it is the first section where you describe how you investigated the subject or issue in detail. Specifically, you are walking the reader through the different forms of data collection you have designed.

Project proposals typically demonstrate the writer's thoroughness and dedication to the project by addressing potential methods of data collection and investigation (see Chapter 18: Proposals). By the time you are drafting your recommendation report, however, any methods you initially proposed may have changed. Consequently, if you are adapting parts of your proposal to the recommendation report, you will need to make sure that you have updated your discussion of each form of data collection where appropriate. Whatever initial ideas you had are only important in terms of contextualizing your final decisions. The example below shows an example of how a writer may explain a change in their proposed methods.

Example

I conducted interviews with Dr. Nguyen and Dr. Doyle to learn more about the curriculum design for upper-level courses in the social sciences. My original intention was to interview the dean and associate dean of the college, but they were attending an international conference during the dates I had scheduled and were thus unavailable.

When discussing your data collection design, it is important that you provide as much detail as possible. This will not only help the reader understand your thinking but also justify your decisions.

As you compose this section of the document, consider the following questions:

- Are you clarifying in subheadings and topic sentences how data was collected? For instance, did you create surveys, use interviews, and/or conduct secondary research on scholarly databases, etc.? If you did, you might begin one methods step like the example below.

Example

Task 1: Gather information on lab usage
Initially I created a survey to gather information on the use of lab facilities; however, because of the global pandemic, few students are currently using these labs, so I changed the survey to investigate how virtual labs are being created and utilized.

- Are you reviewing the logistics of each form of data collection through the use of concrete detail so that the reader understands how each form of data collection was carried out, the rationale for any significant changes in design that may have occurred, and how you addressed potential obstacles? Are you justifying how and why each form of data collection was an effective way to investigate and/or solve the problem being researched? You might need to focus on clarifying how many people you intended to survey and why; identifying and justifying the dates, times, and locations of field observations, etc.

Example

Our new survey focused strictly on junior and senior chemical engineering majors, of which there are 500. We chose to restrict the survey to this group because they have had more experience in conventional labs and are better able to assess the changes occurring in the shift from those labs to virtual ones.

- Are your data collection methods objective and removed from bias (i.e., not skewed towards justifying your initial hypothesis)? You might plan to survey a random population instead of your own friends, or explain that you will find articles on an academic database instead of on a popular website or on social media.
- Are you explaining how your forms of data collection are triangulated with one another to address any potential limitations? For instance, you might explore a potential course redesign by surveying students and interviewing faculty, not just one or the other.

Composing your methods section effectively will strengthen your ethos as a researcher in the eyes of the reader. It will also prepare them for analyzing the data you collected, which will likely be covered in the next section (the results) of your report.

RESULTS

David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Matt McKinney; and Nicole Hagstrom-Schmidt

Having detailed your research and project design choices for data collection in the methods section, a results section focuses on the actual collected data. As Chapter 19 notes when discussing lab reports, the results section typically provides brief descriptions of collected data and little else. However, some recommendation reports do not emphasize research (i.e. methods and results) to the same degree. Consequently, when you determine what to include in this section (or whether to include it at all), be mindful of your audience's expectations and the conventions of your field or organization.

Unlike the introduction and methods sections of this recommendation report model, which focus heavily on your thoughts and choices as a researcher in framing your topic and investigation, your interpretations and thoughts on collected data should not be present in the results. Separating data and researcher interpretations presents the former objectively and allows the audience to observe any trends or patterns without the researcher's influence. In some cases, such as scientific studies, this can make replication of the study easier; in other cases, it can be even more persuasive if the audience independently comes to the same conclusions as the researcher.

Refer to the example of results from Figure 20.8[1] below. Note how they delineate specific findings with basic descriptions without going into commentary. In the next section (the conclusions), the researcher will have the opportunity to expand on these descriptions and reflect critically on their research.

Survey Results

Overall, professionals perceive that the quality of their writing matters to the performance of their jobs, and 75 percent of professionals rated writing as extremely important or very important to job performance. Only one percent of participants reported that the quality of their writing was not at all important.

When we break down the responses further, we can see some variation across professions in how employees understand the importance of writing quality to everyday job performance. As Figure 1.1 illustrates, between 70 and 85 percent of participants from most fields surveyed indicated that writing quality was very important or extremely important to their jobs, with professionals from the fields of management, finance, and research representing the three highest categories. The field of computer programming included the lowest percentage of participants who rated writing quality as extremely or very important to job performance, with 48 percent of participants choosing one of these two responses.

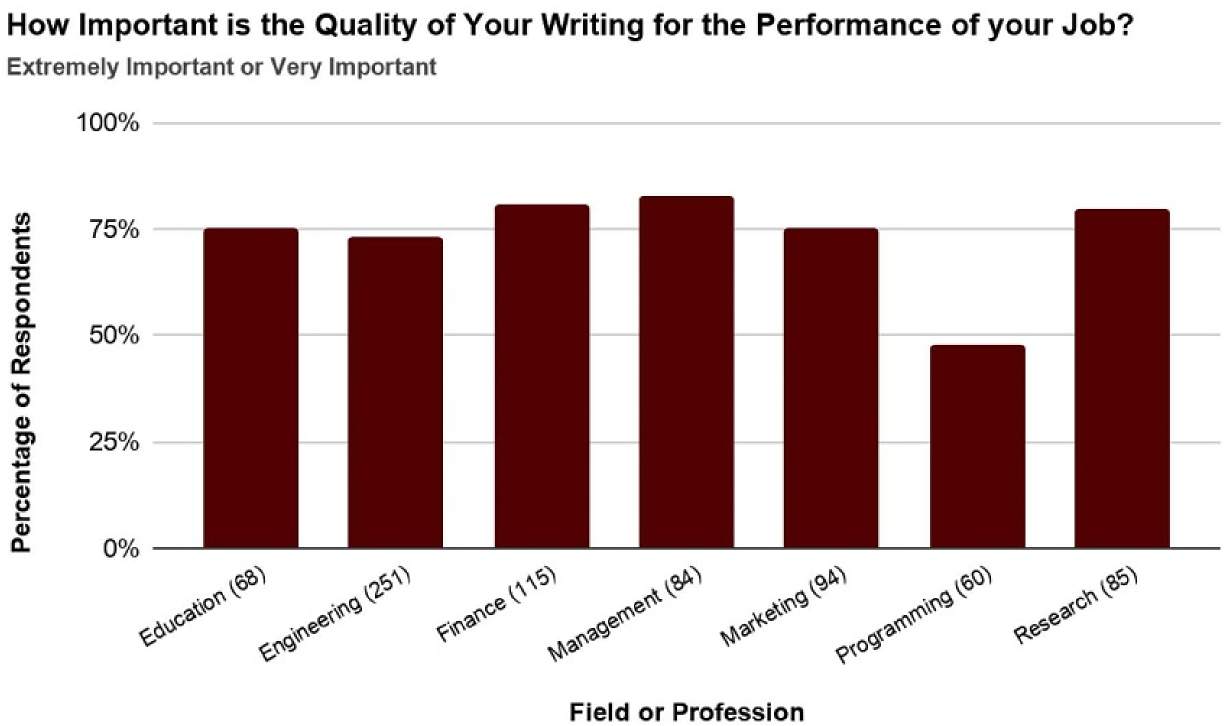

Figure 1.1

Figure 20.8. Excerpt from the body of a technical report describing results from research. (Alternative PDF version: [Figure 20.8](#).)

This text was derived from

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.

McMurrey, David. *Online Technical Writing*. n.d. https://www.prismnet.com/~hcexres/textbook/. Licensed under a Creative Commons Attribution 4.0 International License.

Swarts, Jason, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner. *Communication in the Workplace: What Can NC State Students Expect?* North Carolina State University Professional Writing Program, 2018. https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

Notes

1. Kalani Pattison, "Excerpt from the Body of a Technical Report Describing Results from Research," 2022. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Figure derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

CONCLUSIONS

David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Kalani Pattison; and Nicole Hagstrom-Schmidt

Writers sometimes use the word "conclusion" to refer to the last section or paragraph of a document. However, in report writing term refers to one of a few specific types of sections. In the case of a report with a results or findings section, the conclusions is often the section that contains the analysis and synthesis of those reported results. There are at least four ways to end a report: a "true" conclusion, a summary, an afterword, or a combination of these types.

In a recommendation or feasibility report, often the conclusion will not be the last section of the document, but a section made up of "true" conclusions that precedes the final recommendation.

"True" Conclusions

"True" conclusions are based on logic. For example, in the body of a report, you might present conflicting theories and explore the related data. Alternatively, in a researched report structured similarly to an IMRaD report, you most likely have both methods and results sections. In a "true" conclusion, you present your resolution of the conflicting theories or the logical conclusions you can draw from the results you presented.

In a "true" conclusion section within a researched report, you will likely be able to draw multiple conclusions from your research tasks, methods, and results. In fact, if you are triangulating your sources during the research phase, you may have multiple research methods that lead to the same conclusion. The secondary sources you find and the results of a survey you conduct, for instance, may lead to the same single logical conclusion or point.

On the other hand, one research task may also lead to multiple conclusions. An interview with a primary source, for instance, may give you enough details about various aspects of a project to allow you to draw multiple conclusions from the data you are given.

To write a strong "true" conclusion section, you need to step back from both results and any other sections (such as the "Recommendation" section within a recommendation report) and ask, "What do the results here imply? What do they mean?" without proceeding to the point of suggesting what action or decision should be made in response.

Summary Conclusions

Another common way to wrap up a report is to review and summarize the key points. A summary is in order if your report is long, complex, and heavily detailed, as well as if you want your readers to come away with a certain perspective. For short reports, summaries can seem absurd—the reader thinks "You've just told me that!" Summaries need to read as if time has passed and the writer is viewing the subject after reflection. These summary-conclusions are different from the summary often included at the beginning of a report, as they do not cover the whole of the document (introduction and context, methods, etc.) but merely summarize the findings or what the writer wants the reader to remember.

Figure 20.9[1] below offers an example of a summary-conclusion. Notice that these two paragraphs emphasize key findings and distill what they might mean within business communications, the report's topic.

What Did We Learn from this Study?

As with previous studies (beginning in 1996 and most recently in 2013), communication is clearly essential to daily operations at most businesses. Written and spoken communication is a crucial part of the workplace for many of our respondents, as 94% of our respondents said that writing was at least moderately important for their jobs, while 75% labeled writing as Very and Extremely Important. 83% of respondents stated that writing was important for their performance appraisals. In short, communication, both written and verbal, continues to be an important part of any graduate's job.

Written communication can happen between coworkers, between an employee and a boss, between a company and a customer, and any combination of those groups. In its most generalizable form, written communication serves a transactional function by supplying information or perspective that addresses problems of knowledge or action across domains of professional practice. The culture of the organization does set what written and spoken communication looks like; for example, a programming business might use Slack for quick updates among employees, while an engineering business may rely on proposals for clients. Spoken communication in the form of presentations can be used for customers/clients or for other employees. Still other writing can happen in a collaborative environment, and that collaboration can happen between coworkers, between coworkers and supervisors, and between the company and the client.

*Figure 20.9. Summary-Conclusion section of a report. (Alternative PDF version: **Figure 20.9**.)*

Afterwords

A rarer possibility for ending a report involves turning to some related topic but discussing it at a very general level. Imagine that you had written a background report on some exciting new technology. In the final section, you might broaden your focus and discuss how that technology might be used or the problems it might bring about. However, the key is to keep it general—do not force yourself into a whole new detailed section.

Figure 20.10[2] offers an example of an afterword-type final section. This afterword is titled "Suggestions for Further Research," which is a heading commonly seen in research articles.

Suggestions for Further Research

Like most ends of projects, we are left with avenues to explore in addition to the results we have found. One avenue is to study younger workers further. Some respondents indicated that younger workers seem less comfortable with in-person communication. In the next study, we could review the relationship between age and various communication preferences. Another question about communication preferences could consider how and when professionals use other devices for work, even when they are not at the workplace. Professionals indicated a trend toward incorporating more phones and other handheld devices into workplaces, and we also wonder about how these devices are shaping processes of invention, review, and revision. The mere presence of tablets, phones, and other handheld devices as mediators of writing practice point to interesting input/output issues regarding readability and usability of documents as well as the challenges of writing (thumb typing, swiping, writing as managing componentized content).

*Figure 20.10. Afterword-type final section. The main body of the report discusses a study of writing in the workplace conducted at NC State University. This final section explores the future, looking at current developments and speculating on the impact of certain trends. (Alternative PDF version: **Figure 20.10**.)*

Combinations

In practice, the preceding ways of ending reports are often combined. You can analyze final sections of reports and identify elements that summarize, elements that conclude, and elements that discuss something related but at a general level (i.e., an afterword).

No matter the type of conclusion, however, avoid conclusions for which there is no basis (i.e., discussion or support) in the body of the report.

Finally, in certain types of reports, especially in recommendation or feasibility reports, conclusions are not the last section, but are rather a transition between data in a report and the final section which presents applications, recommendations, and suggestions for next actions to readers.

This text was derived from

Swarts, Jason, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner. *Communication in the Workplace: What Can NC State Students Expect?* North Carolina State University Professional Writing Program, 2018. https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

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.

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1. Kalani Pattison, "Summary-Conclusion Section of a Report," 2022. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Figure derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, *Communication in the Workplace: What Can NC State Students Expect?* (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.
2. Kalani Pattison, "Afterword-Type Final Section," 2022. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. Figure derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, Communication in the Workplace: What Can NC State Students Expect? (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

RECOMMENDATION OR FINAL OPINION

David McMurrey; Jonathan Arnett; Kalani Pattison; and Nicole Hagstrom-Schmidt

In a feasibility or recommendation report, the final section (after the conclusions) states the recommendation or final opinion. Remember that some readers may skip right to the recommendation section, so this section must anticipate their needs and preferences. Also, there will be some cases where there may be a best choice based on your criteria, but you would not want to recommend it. For example, early in their history, laptop computers were heavy and unreliable; there may have been one model that was better than the rest, but even it was not worth having.

The recommendation section should echo or briefly make connections to the most important conclusions leading to the recommendation, and then state the recommendation emphatically. Often, you may need to recommend several options based on different possibilities. In a recommendation report, this final section states a final opinion or judgment based on clear evidence, criteria, and conclusions. Below is an example recommendation that concludes that Options 1 and 2 may be worthwhile choices for the audience to pursue.

Example

Option 1 would be the most effective way to achieve the goal, but it is also expensive and on the upper end of the budgetary limits.

On the other hand, Option 2 is not quite as good but much more affordable.

The following two suggestions are also legitimate recommendations to make, as long as you can show that your research was thorough and valid.

Examples

None of the options researched is worth the risk and cost—readers should maintain the status quo.

or

We recommend a specific type of device to fix the problem, and we recommend more research to determine the best brand, style, and choice.

REFERENCES

Nicole Hagstrom-Schmidt

Your references section contains the complete bibliographic information for any sources you have cited in the report. Depending on your citation style, this section may be titled "References" (APA) or "Works Cited" (MLA). Other citation styles will have their own preferred title, or your organization may have a house style that they prefer. Figure 20.11[1] below offers a format template for common resources used in reports. For more information on end citation, see Chapter 12.

Regardless of whether you are using APA or MLA, organize your sources alphabetically. Use the first word of the entry for alphabetization purposes, whether that first word is from a title, an author's last name, or the first word of an organization. You should not organize sources according to when they appear in the report.

For formatting, use a hanging indent. A hanging indent is the reverse of a normal indent. Your first line of a reference entry should be fully left aligned. All subsequent lines in an entry should be one half-inch (or one tab) over. You can set up a hanging indent in Word or Google Docs rather than manually inserting a tab for each line. Using formatting rather than doing the tabbing yourself is recommended, as the format will stay consistent even if you need to make revisions to the entry.

References [Level 1 Heading]

Group or Organization Name. (Year, Month, Date). *Title of page in italics*. Website name if different from group/organization name. URL.

Last Name, F.I. (Year of Publication). Journal article title. *Journal Title in Italics, Volume Number in Italics*(Issue Number), Page Range. DOI or stable URL if known.

Unauthored article title in italics. (Year of Publication). Website name. Retrieved Month, Day, Year, from URL.

*Figure 20.11. APA references template. (Alternative PDF version: **Figure 20.11**.)*

Notes

1. Nicole Hagstrom-Schmidt, "APA References Template," 2022. Licensed under a Creative Commons Attribution-

NonCommercial-ShareAlike 4.0 International License. Figure derived from Jason Swarts, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner, Communication in the Workplace: What Can NC State Students Expect? (Raleigh: North Carolina State University Professional Writing Program, 2018), https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

APPENDICES

David McMurrey; Annemarie Hamlin; Chris Rubio; Michele DeSilva; Claire Carly-Miles; and Nicole Hagstrom-Schmidt

Appendices (singular: appendix) are optional supplementary sections following the body of a report. Each appendix is assigned a letter and title: Appendix A: Title, Appendix B: Title, and so on. All are listed at the end of the Table of Contents in a section under the heading "Appendices" if there are more than one ("Appendix" if there is only one). For each appendix, the page number is indicated (page numbers continue on from the main body of the report).

Appendices contain anything that does not comfortably fit in the main part of the report but cannot be left out of the report altogether. An appendix is commonly used for large tables of data, copies of survey questions and results, big chunks of sample code, fold-out maps, background that is too basic or too advanced for the intended readers of the report, or large illustrations that do not fit in the body of the report.

Anything that you feel is too large for the main part of the report, or that you think would be distracting and interrupt the flow of the report, is a good candidate for an appendix. Any data that is crucial to your argument, however, should be included in the appropriate section of the body of your report. In other words, your report should be complete and persuasive without the "extra" information found in appendices, but if readers were interested in more information, they could easily find it in the appendices.

DECISION-MAKING AND CRITERIA

David McMurrey; Jonathan Arnett; Kalani Pattison; and Nicole Hagstrom-Schmidt

The previous parts of this chapter have dealt mostly with expectations regarding the sections of a recommendation or feasibility report. However, underlying the report as a whole, a decision-making process is taking place. Presenting a clear recommendation or suggestions to your audience depends on clearly informing your readers how you reached your decision.

Depending on the structure of your report and the delineation of your research tasks within your results, conclusions, recommendations, or all of these sections, you will have to justify evaluations, comparisons, and decisions that you made in the course of your research. Below are several common places where you may make crucial decisions that affect the content and results of your entire report:

- If one of your research tasks is to determine the best product to buy, and another task is to determine where to install it, you will have to evaluate multiple options as part of the results of those tasks.
- If you administer a survey, conduct interviews, and find secondary resources about website builders, you may have to determine the most important information to include in your conclusion in order to draw your results or findings together into logical conclusions.
- If you find that a suggested course of action isn't actually going to improve a situation, a decision-making tree or a decision matrix in the recommendation might help support your recommendation of keeping the status quo.

In all of these cases, and in almost all recommendation or feasibility reports, you need to be able to clearly explain your decision-making processes to your audience in an objective way. Three tools that you can use to do so are criteria, decision matrices, and decision trees.

Criteria

Criteria (singular: criterion) are the quantitative and qualitative categories and standards you use to judge something. If your technical report requires you to make a judgment of some sort—is the project feasible? What is the best option? Did the item pass or fail a test?—you should describe and define the factors that guide your decision. Common examples of decision-making criteria include costs, schedules, popular opinions, demonstrated needs, and degrees of quality. Here are some examples:

- If you are recommending a tablet computer for use by employees, your requirements are likely to involve size, cost, hard-disk storage, display quality, durability, and battery life.
- If you are looking into the feasibility of providing every student at Austin Community College with an ID on the ACC computer network, you need to define the basic requirements of such a program: what it would be expected to accomplish, problems that it would have to avoid, and so on.
- If you are evaluating the logistics of the free bus public transportation program in Bryan/College Station for Texas A&M students, you need to know what is expected of the program and then explore costs, locations, and other factors in relation to those requirements.

Criteria may need to be defined on a very specific level. For example, "chocolate flavor" may be a criterion for choosing among brands of chocolate truffles, but what defines a desirable chocolate flavor? Do you want a milk chocolate flavor? A dark chocolate flavor? White chocolate? A high or low percentage of cacao? Sweet, bitter, or spicy? Single-origin cacao beans or a blend? If single-origin, do you want Ghanian, Venezuelan, Honduran, Ecuadorian, or Filipino? The more you know about a criterion, the more precise you can be in your evaluation.

Criteria may also be referred to as **requirements** and can be defined in three basic ways:

- **Numerical values.** Many requirements are stated as maximum or minimum numerical values. For example, there may be a cost requirement, such as the tablet computer for employees should cost no more than $900.
- **Yes/no values.** Some requirements are simply a yes-no question. For instance, does the tablet come equipped with Bluetooth? Is the car equipped with voice recognition?
- **Ratings values.** In some cases, key considerations cannot be handled either with numerical values or yes/no values. For example, your organization might want a tablet that has an ease-of-use rating of at least "good" by some nationally accepted ratings group. In other situations, you may have to assign ratings yourself.

The criteria section should also discuss how important the individual requirements are in relation to each other. Picture the typical situation where no one option is best in all categories of comparison. One option is cheaper; another has more functions; one has better ease-of-use ratings; another is known to be more durable. Set up your criteria so that they dictate a "winner" from a situation where there is no obvious winner.

Decision Matrices

One useful tool for decision-making based on criteria of varying importance is a decision matrix (plural: matrices). Decision matrices allow for numerical calculations and comparisons of different choices with criteria that have varying levels of importance.

To create a decision matrix, you start with the options to be compared, the criteria to be used to evaluate the options, and the relative weight or importance of each criterion in the decision. Table 20.2[1] shows how a generic decision matrix would be set up.

Table 20.2. Generic decision matrix example.

Criteria	Weight	Option 1	Option 2	Option 3
Criterion 1				
Criterion 2				
Criterion 3				
Criterion 4				
Totals:				

In the weight column, each criterion would be given a number within a certain range—from 1 (least important) to 5 (most important), or 1 to 10, depending on how much the levels differ in importance.

Some writers may be more comfortable with using percentages out of 100 when considering weight. Criteria can share the same weight or importance. The options would then be scored along a similar scale according to how well they perform in the particular criterion. The weight and score would then be multiplied and the whole column added together to give a total.

The following Table 20.3[2] is a decision matrix reflecting different options for communicating to students in an online course. The weights are given in the shaded columns, the score each option earns for each criterion are shown in bold, and the maroon multiplication next to the score shows how the weight and score are multiplied. These totals are then added for a total of the whole column.

Table 20.3. Example decision matrix with randomly generated data.

Criteria (Scored 1-5)	Weight (1-5)	Email	Canvas Announcements	Piazza
Ease of Student Access	4	**5** (x4=20)	**3** (x4=12)	**5** (x4=20)
Frequency of Student Attention	5	**1** (x5=5)	**4** (x5=20)	**3** (x5=15)
Ease of Professor Use	3	**5** (x3=15)	**5** (x3=15)	**3** (x3=9)
Formatting Flexibility	1	**5** (x1=5)	**4** (x1=4)	**2** (x1=2)
Totals:		45	51	46

As you can see in Table 20.3, if you went strictly by the *number* of criteria that an option excelled in, you might determine that emails are the best way to contact students. However, if you use the more nuanced decision matrix, then you could conclude that Canvas Announcements are the best way to communicate with students. The varying weights of each criterion and the score each option earns should be based on solid research. This matrix, then, allows you to quantify the reasons for choosing one option over another, despite the weights and scores being a little subjective.

Decision Trees

In addition to making a recommendation based on criteria or on weighted criteria, sometimes recommendations can be made after following a decision tree. Creating a visual representation of a decision tree can be useful in illuminating your thought process so that readers can follow your reasoning. Such decision trees can also be useful in communicating procedures for others to follow, especially in problem-solving situations.

The following decision tree in Figure 20.12[3] illustrates how to determine whether to hire a professional to complete a household project or to do it yourself. As you can see, most decision trees are based on a series of Yes/No, Either/Or limited choices. There may be a choice out of three or four options at a particular step, but that isn't as common, and so it is not depicted in the example.

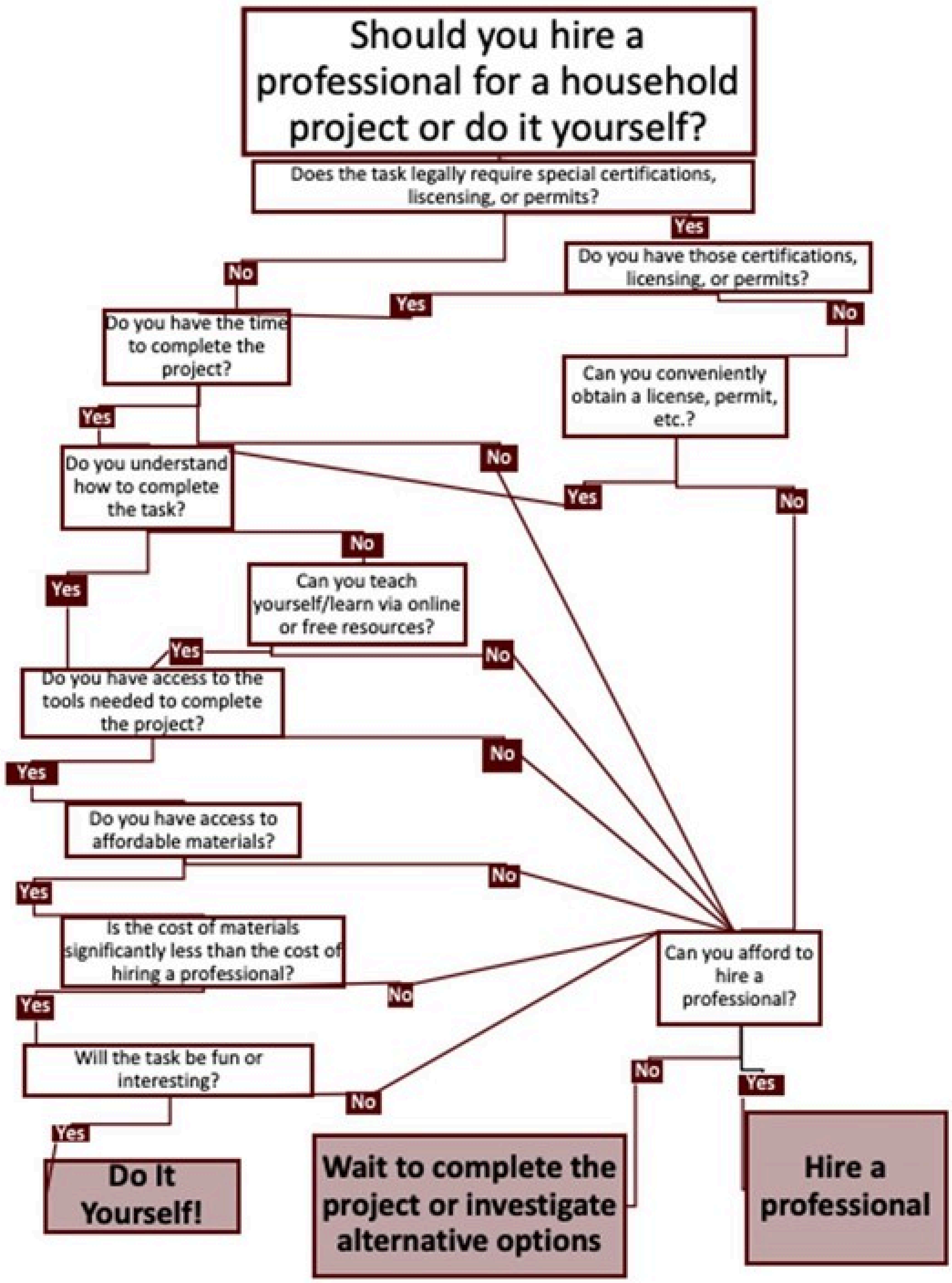

Figure 20.12. Example of decision tree.

This text was derived from

Notes

1. Kalani Pattison, "Generic Decision Matrix Example," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
2. Kalani Pattison, "Example Decision Matrix with Randomly Generated Data," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
3. Kalani Pattison, "Example of Decision Tree," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

CRAFTING RECOMMENDATION AND FEASIBILITY REPORTS: WHAT TO REMEMBER

Matt McKinney

Recommendation and feasibility reports are among the most intricate and comprehensive documents you will craft as a technical writer. They often contain a variety of sections with different and specific purposes. Sections in recommendation and feasibility reports typically convey new information while also strategically repeating key information. Further still, these reports are written for multiple audiences, and therefore they must effectively guide each audience through the same content with differing levels of detail based on their needs. Finally, the writer usually needs to explore a variety of options and potential decisions based on data and research, and then they must account for their decision-making process in a reader-friendly manner. Figure 20.13[1] shows one possibility for structuring and designing the main body of a recommendation report.

INTRODUCTION

This section introduces the project, including the problem or situation, background, and research aims. This section also often states the final recommendations and explains the structure of the report.

METHODS

This brief intro should cover the general aim of any research-based tasks mentioned in the proposal. This section can also touch on any revisions made to the tasks while the research was in progress.

Task 1: Title of Task
Description of how Task 1 was conducted.

Task 2: Title of Task
Description of how Task 2 was conducted.

Task X: Title of Task
Repeat until the methods for research-based tasks have been covered.

RESULTS

This section identifies the major findings from each research-based task. In this report format, the results are separated by task, the same as they are in the Methods section.

Task 1: Title of Task
Description of the results gathered from Task 1.

Task 2: Title of Task
Description of the results gathered from Task 2.

Task 3: Title of Task
Repeat description of results until all research-based tasks have been covered.

CONCLUSIONS

This section showcases the analysis of the data you collected from each of your research-based tasks. Unlike the Methods and Results sections, this section is separated into individual "conclusions," or major takeaways that you have determined as a result of your research. Conclusions may be formed on the basis of research from one, two, or even several tasks. Your conclusions should clearly show a bridge between the findings in the Results section to the recommendations in the next section.

Descriptive Sentence or Phrase for First Conclusion
Analysis and explanation of how the first conclusion was drawn.

Descriptive Sentence or Phrase for Second Conclusion
Analysis and explanation of how the second conclusion was drawn.

Descriptive Sentence or Phrase for X Conclusion
Repeat structure for all conclusions. There are no minimum or maximum number of conclusions required.

RECOMMENDATION(S)

This final section states any recommendations that the writer(s) of the report have for the recipients. What the recommendations look like will vary based on the project.

If you are offering one recommendation, provide the recommendation and explain the rationale behind it in 1-2 paragraphs.

If you are offering more than one option or recommendation, consider including a Level 2 heading that states the recommendation in a sentence or phrase, and then explain the rationale behind the recommendation in 1-2 paragraphs.

REFERENCES

Bibliographic citations for all items explicitly mentioned in the text are included here. In APA, personal surveys and interviews are only included in the text and are thus not included in the References list.

Figure 20.13. Template for ENGL 210 Recommendation Report. (Alternative PDF version: Figure

20.13.)

When you are writing a recommendation or feasibility report, you can use what you have learned about analyzing rhetorical situations to focus your efforts specifically in framing content and structure. Some points you might reflect on include the following:

- The scope and purpose of your project.

Example

Conducting research and deriving potential solutions from your data (a recommendation report) vs. testing a number of predetermined solutions to see which one is most viable (a feasibility report).

- The audience(s) you are writing for, what they will find most interesting, and what section(s) they are most likely to read.

Example

A non-profit organization's president may be most interested in your final recommendation, while a scientist who wants to replicate your research will likely be more interested in your data collection design.

- The genre and design conventions of recommendation reports in your field.

Example

If you are writing a recommendation report for a company you work for, you need to pay attention to how reports in the organization are typically formatted. This will help your coworkers and your boss understand how to read your document for their respective purposes.

- The part of the report you draft first.

Example

Waiting to write the Executive Summary until after you are satisfied with the sections that are more detail specific, such as Methods or Recommendations.

- The specific differences between each section's purpose, so that sections repeating information are easier to distinguish from one another.

Example

Executive Summaries and Introductions both describe the issue or topic being investigated, but Introductions provide much more detail and contextual information on this, since it's their only focus. By contrast, Executive Summaries also review other sections of the report, with a functional emphasis on results and recommendations.

- The level of detail you are using to showcase your thought process to the reader. (Hint: be generous.)

Example

A thorough Methods section helps the reader understand why the researcher's forms of data collection are well-suited to addressing the issue, any logistics regarding data collection, and how forms of data will be triangulated.

- The incorporation of visuals into your document to facilitate reader comprehension of key findings and conclusions.

Example

Using a decision matrix to offer a criteria-based side-by-side comparison of multiple options vs. Using a decision tree to help the reader see the processes entailed in executing different options, as well as how those processes overlap and diverge.

Despite the challenges crafting a recommendation or feasibility report can present, the strategies for doing so apply to most complex documents: understand what is expected of you, break up the task as much as possible, and spend as much time or more prewriting and revising as you do drafting.

Notes

1. Nicole Hagstrom-Schmidt and Kalani Pattison, "Template for ENGL 210 Recommendation Report," 2021. This

APPENDIX: SEARCH STRATEGIES

Search Strategies

Sarah LeMire

You probably search for information almost every day. You look up where to order food, video game strategies, Wikipedia entries, medical symptoms, and more in day-to-day life. You probably also have extensive experience in looking for information in an academic context, and commonly use books and articles for both educational and research purposes.

Finding information on specialized topics can mean searching specialized information sources, like library **databases**. Library databases operate differently than open-web searches like Google. Unlike searching the open web, which typically involves searching through the full-text of an information source, searching a library database often involves searching through more limited sets of information such as abstracts and subject headings. This more limited set of information adheres to some specific principles, and understanding those principles can help you search more successfully.

Controlled Vocabularies

Libraries use very specific terminology to describe information. That terminology is standardized across libraries in the form of a **controlled vocabulary**. The Library of Congress maintains a list of terms, called **subject headings**, used by libraries around the world.[1] These subject headings are carefully organized in a hierarchy intended to help researchers both broaden and narrow their search terms, but they are not always intuitive to use.

For example, you may be looking for information about the health effects of drinking soda. You might try searching for *soda* AND *health effects* in a library database, but you'd get very few results. That's because *soda* isn't the controlled vocabulary term that libraries use. Using the term *carbonated beverages* would get you better results.

Carbonated beverages is not a term that we commonly use; terms like soda, pop, or Coke are much more commonly used. But terms like *soda* and *pop* are regional terms. Texans may use soda or Coke depending on the part of Texas they grew up in. People who live in some northern states, like Michigan, commonly use the term pop. Libraries use terms like *carbonated beverages* because they are not tied to a specific region. Carbonated beverages is also specific and descriptive; it distinguishes a soda from other types of beverages, like bottled lemonade.

While *carbonated beverages* is not the first term that you may think to search, because it is specific, descriptive, and used across regions, it is one that you're likely to recognize when you see it. When searching, be sure to take a look at the subject terms listed in your search results. Look for terms that are synonyms for the terms you searched. You can modify your database search by switching to more specific search terms or by adding synonyms as alternate terms in your database search.

For example, maybe you are searching for information about the death penalty; you would want to add *capital punishment* as an alternate term. If you try searching for *resume*, you might get information relevant to job applications, but you might also get results that are about the economy *resuming* growth after a recession. Switching to *job resumes* would get you more specific results.

One important limitation of library subject headings is that, unlike colloquial language, they change infrequently. This means that sometimes the term used in the database can seem out-of-date or archaic. Remember that an out-of-date subject term doesn't necessarily mean that the source itself is out-of-date.

Umbrella Terms

When searching library databases, it is also important to understand that libraries try to describe information in the most specific way possible. That's because people often do research on very specific topics, and libraries describe that research to help others find and build upon that research. Overly-generalized descriptions make finding very specific research difficult. For example, if Professor Jones is doing research on COVID-19, they need to find articles already published on this topic that they can build upon in their own research. When searching databases for information on COVID-19, Professor Jones needs to be able to limit their results to articles on that specific topic. If those articles are listed under broader subject headings, like viruses or science, instead of the more specific topic of COVID-19, it would dramatically increase the amount of time Professor Jones has to spend looking through their search results to find articles on COVID-19 that they could use for their own research.

Sometimes students and other researchers are looking for information that is more general than the library's specific descriptions. This can require adjusting your search strategies. To continue our example from above, you might try searching for *carbonated beverages* AND *health effects*. Switching *soda* for *carbonated beverages* will improve your search results, but you may still have trouble because people generally are not doing research on all of the possible health effects of drinking carbonated beverages. Instead, researchers are more likely to be doing research on the relationship between drinking carbonated beverages and a specific health effect, such as diabetes or tooth decay. This makes *health effects* an **umbrella term**. When searching for health effects, it's natural to think that you're asking the database to include all of the possible health effects that fall underneath the umbrella of that term. Instead, you're only asking the database to bring back articles that are specifically about health effects, in the plural. It will skip over an article about *carbonated beverages* AND *diabetes*, because that article is filed under *diabetes* rather than *health effects*.

In order to find articles about *carbonated beverages* AND *health effects*, you need to tell the database that you want to see articles that are about specific health effects. You can brainstorm the possible health effects: diabetes, heart disease, tooth decay, high blood pressure, etc. Then add those to your search as alternate terms. It's important to understand that you don't have to limit your results to these more specific terms. Instead, you're telling the database to bring you sources that talk about *carbonated beverages* AND *health effects*, even if that source uses the term *tooth decay* instead of *health effects*.

Developing Search Terms

Before you start searching, it is important to spend a few minutes brainstorming your search terms. These few minutes can save you time later by:

- Reducing the likelihood that you run into the problem of retrieving few, or no, results.
- Documenting your search strategies so you can retrace your steps later if you need to search for additional information.

When thinking of your search, it's often helpful to conceptualize it in the terms of a **Venn diagram**, like the one in Figure 21.1.[2] Each circle of your Venn diagram is a concept, and when you search for those concepts in the database, you're asking the database to find where those concepts overlap. It's important to note that what this looks like will vary; sometimes you'll have only two overlapping concepts, while other times you'll have three, four, five, or even more.

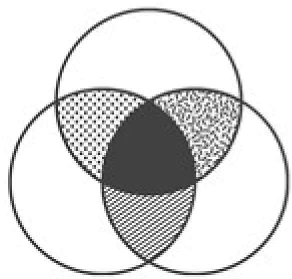

Figure 21.1: Venn Diagram

When thinking about each concept of your Venn diagram, also think about alternate terms for each concept. Trying a few different search terms helps your search in two ways:

1. It increases the likelihood that you'll come up with an official subject heading. For example, in the process of brainstorming alternate terms for soda, you might think of the term *carbonated beverage*.
2. It helps you think about what could be underneath those umbrella terms. For example, in the process of brainstorming alternate terms for *health effects*, you may think of more specific terms such as *tooth decay* and *diabetes*.

For example, let's say that in your ENGL 210 recommendation report, you decide to research recommendations to reduce concussions for the Texas A&M University football team. As a first step to your research, you want to better understand the current situation around concussions in college sports. Your initial Venn diagram might look something like Figure 21.2[3] below.

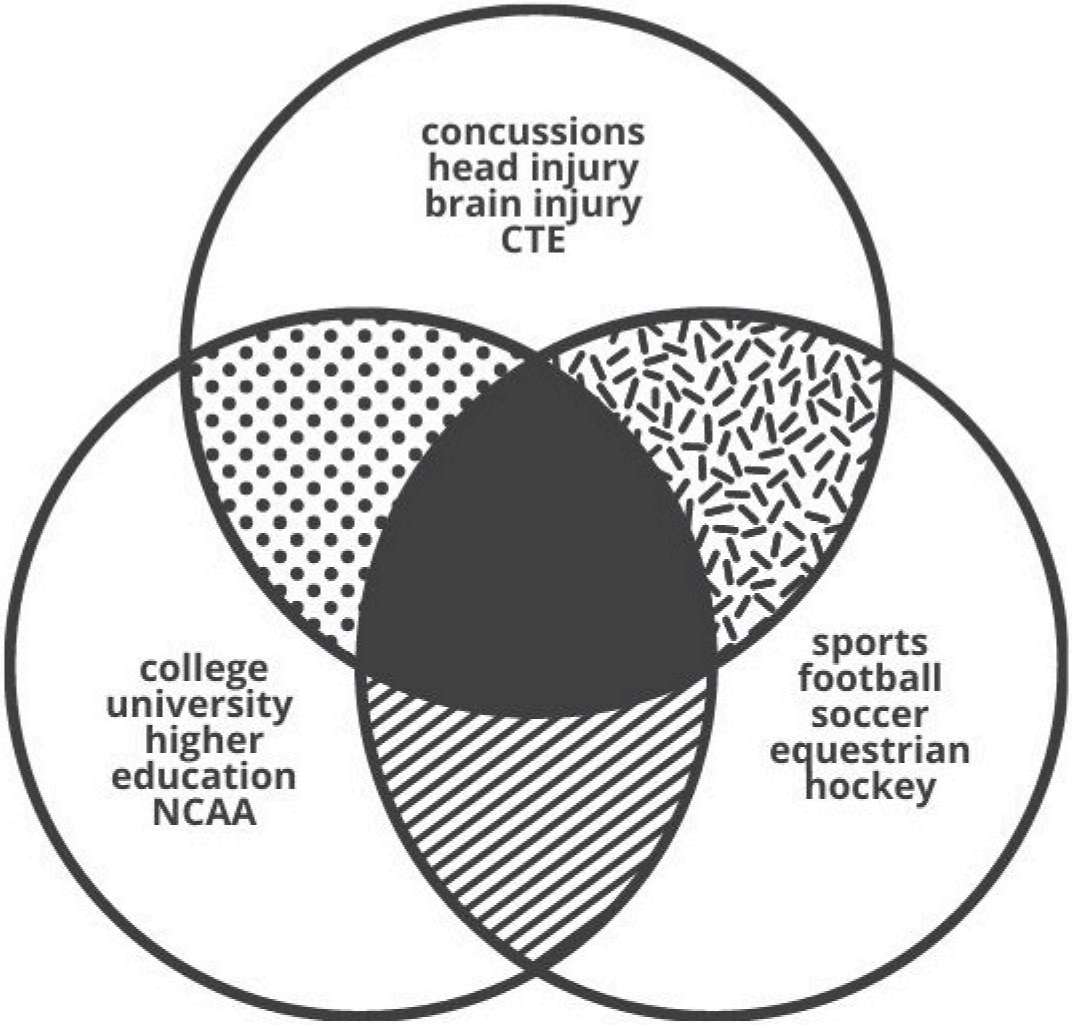

Figure 21.2: Football Venn Diagram

As your search continues, you can strike out results that don't work well. You can also add new terms, often derived from the subject terms of promising articles from your search results.

Boolean Operators

When searching in a database, there are three key terms to be aware of: AND, OR, and NOT. These terms, often referred to as **Boolean Operators**, tell the library database what to do with the terms you've entered.

> **AND.** Entering AND between two search terms tells the database to bring back results that include *both* search terms. When conceptualizing your search as a Venn diagram, the AND operator is what tells the database to look for the overlap between each concept.

Example

concussions AND *football*

will bring back sources that talk about both concussions and football.

OR. Entering OR between two search terms tells the database to bring back results that include *either* search term. You'll use the term OR between alternate search terms for the same concept.

Example

carbonated beverages OR *soft drinks*

will bring back sources that talk about either carbonated beverages or soft drinks.

NOT. Entering NOT before a search term tells the database to exclude any results that include that search term. Use this Boolean Operator cautiously, as it is very easy to accidentally exclude relevant results using the NOT operator.

Example

trafficking NOT *firearms*

will bring back results about trafficking but exclude sources about firearms trafficking.

It is important to note that some, but not all, databases require that you enter the operators AND, OR, and NOT in ALL CAPS in order to search correctly. If you receive a very small or very large number of search results, a key troubleshooting tactic is to check to make sure that your Boolean Operators are in all caps.

Notes

1. "Library of Congress Subject Headings," Library of Congress, accessed August 12, 2020, http://id.loc.gov/authorities/subjects.html.
2. Sarah LeMire, "Venn Diagram," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
3. Sarah LeMire, "Football Venn Diagram," 2020. This image is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

ENTERING SEARCH TERMS

Sarah LeMire

Once you have brainstormed your search terms, you're ready to start searching. The Texas A&M University Libraries has over 1,000 **databases** that you can use to search for information. The best database to use depends on your project and your topic; a librarian can help you select the best resource.

One good place to get started is with the Quick Search on the library homepage. The Quick Search, depicted in Figure 21.3,[1] searches through dozens of library databases and has information on a whole variety of topics. To make it easier to enter your Venn diagram of brainstormed search terms, use the Advanced Search link beneath the Quick Search box.

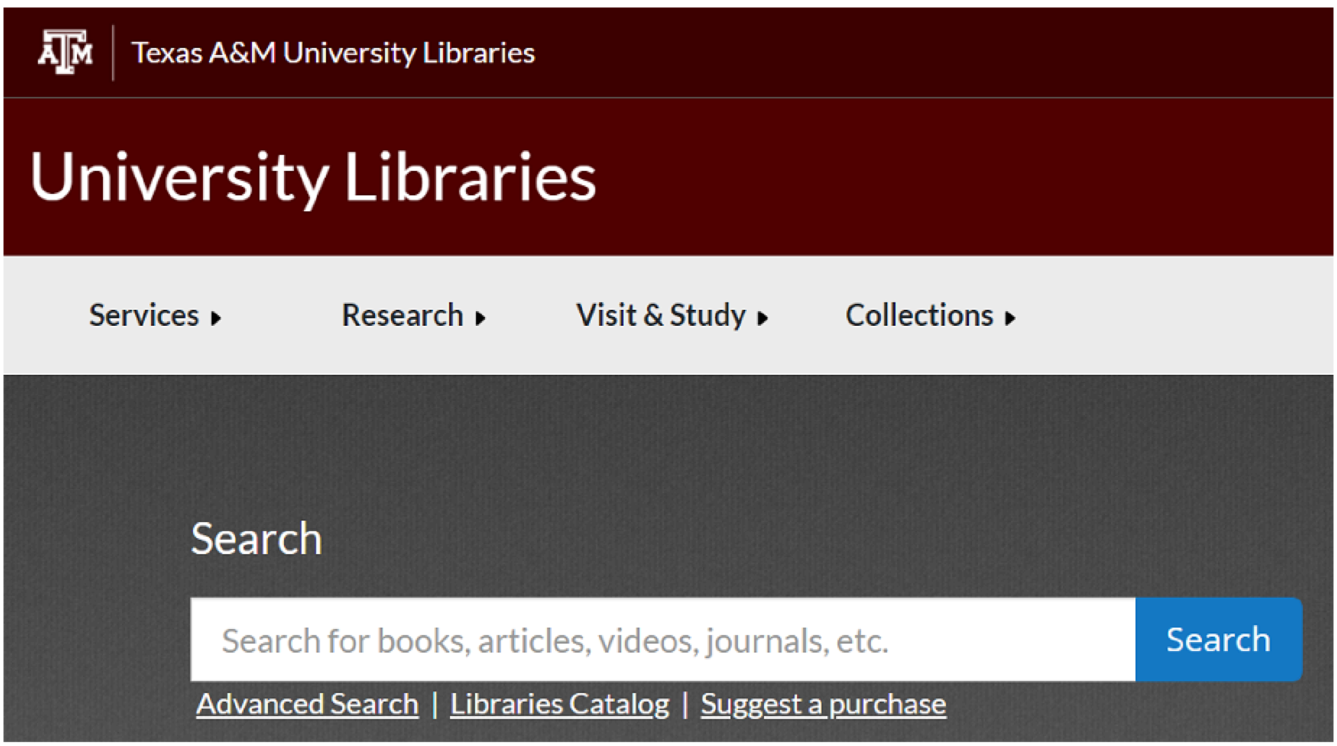

Figure 21.3. Texas A&M University Libraries Quick Search

The Advanced Search searches the same databases as the Quick Search, but instead of a single search box, it gives you three search boxes, pictured in Figure 21.4.[2] This corresponds neatly to the Venn diagram approach. Like the Venn diagram, you can fill out all three boxes, fewer boxes, or more boxes (click the plus sign to get more boxes).

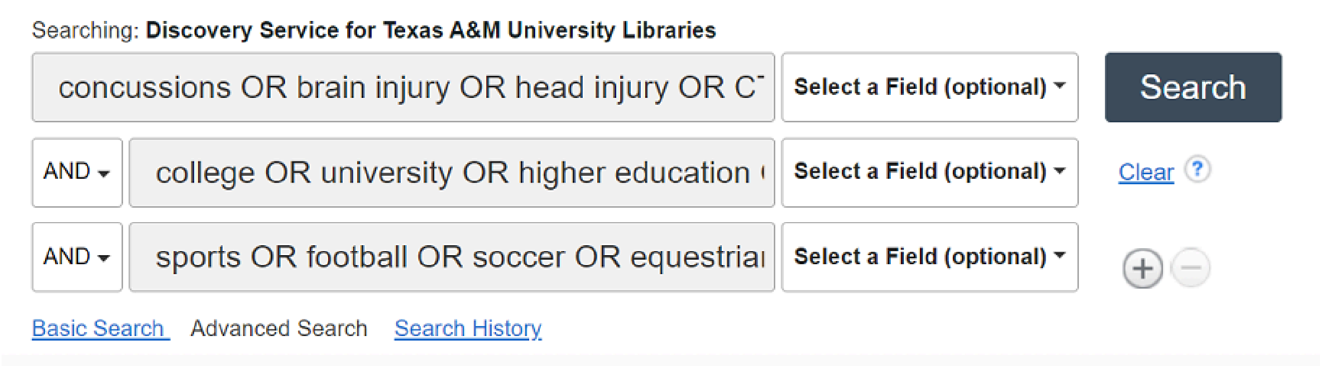

Figure 21.4. Entering search terms.

When entering your search terms, be sure to keep all of the terms describing the same concept in the same box. In other words, everything that was in one circle in the Venn diagram should be in the same search box, even if there are dozens of terms. Connect each alternate term with the word OR in all caps.

The database connects the search boxes with the word AND by default. In most cases, this will be the correct configuration, as it tells the database to find sources that include all three concepts. In the example in Figure 22.4, the database will look for the overlap between the major concepts *concussions* AND *college* AND *sports*. This would be appropriate if you want to find information about concussions in college sports.

Notes

1. "Texas A&M University Libraries Quick Search" is a screen capture of the Texas A&M University Libraries website at https://library.tamu.edu/.
2. "Entering Search Terms" is a screen capture of the Texas A&M University Libraries catalog search at https://libcat.tamu.edu/vwebv/searchAdvanced.

REFINING RESULTS

Sarah LeMire

Once you've entered your search, take a look at your results. Do you have fewer than 10 results? Check that your **Boolean Operators** are in all caps and that you don't have any typos in your search results. Do you have fewer than 1,000,000 results? Check that you didn't switch one of the AND buttons to an OR and that you don't have the same search term in two different boxes.

After you've checked to make sure your search was constructed correctly, you can determine whether you need to revise your search terms.

Narrowing

In many cases, you'll have a large set of results. That's ok! Using alternate terms is a strategy that makes it likely that you'll get a lot of results. That's by design, because it's often easier to narrow back down than it is to figure out what's missing.

When starting to narrow, a good strategy is to look through the first couple of pages of results for something that looks interesting or potentially relevant. What are the subject terms that the sources use? In Figure 21.5[1] below, the subject terms brain concussion and brain concussion diagnosis look interesting.

Figure 21.5. Reviewing subject terms.

Also take a look at any sources that seem completely irrelevant. What are the subject terms listed for those sources? Are they terms that you used? Sometimes a broader term can bring back results that don't fit your topic and that you could cut out easily. For example, a term like *injury* could be related to concussions, but will also bring back articles about knee injuries. Dropping *injury* from your search terms can reduce the number of irrelevant results.

After you have refined your search terms, if you still have a large number of results, you may want to consider narrowing your topic. A topic that is overly broad is unlikely to result in a successful research paper or project. Look at your search results and see what piques your interest. Maybe an article specifically related to a new type of helmet technology jumps out at you, and you could add another circle to your Venn diagram to focus your topic on *concussions* AND *college* AND *sports* AND *helmets*.

Note

A quick tip: try adding quotation marks around phrases in your search. Searching for *"brain concussion"* tells the database to search for those two words together, and will help you filter out less-relevant results. Be careful not to overuse this strategy, though, as you can inadvertently filter out relevant results. For example, if you search for *"concussion effects,"* you would miss results about *"effects of concussions,"* just because the words were found in a different order.

Broadening

Sometimes you'll search for a topic and find that you have very few results, even after checking to make sure everything is constructed and spelled correctly. In this case, often it means that you need to change how you conceptualize your search.

For example, you might be looking for information about how to increase the number of pledges for your Greek organization. You might try searching for something like (*pledges* OR *pledging)* AND (*Greek* OR *fraternity* OR *sorority)*, and although you found lots of information and news about Greek organizations, you didn't find a whole lot about increasing the number of pledges.

To improve your search results, you'll need to think more about your search terms. You could replace *pledges* OR *pledging* with *recruit* OR *recruitment*, and you'll get more targeted search results. If you still don't find the type of information you need, you could think about whether you could use information from other types of organizations. You could try searching for *recruitment* AND *student organizations* to see if strategies used by other types of student organizations could be used for your Greek organization. Or you could even search more broadly, for *recruitment* AND *nonprofit organizations*, to see if organizations outside of higher education have strategies that could be adopted for your Greek organization.

Effectively searching in library databases requires a bit of trial and error. Try out a term and see if it works; you can always take it out if it doesn't work. Be sure to budget some time for exploring! The information you find should guide you as you develop your ideas and your recommendations, and it will take some time to find, read, and process that information.

Note

One trick: You can use a truncating symbol (*) when searching for multiple variations from the same base word. For example, instead of *recruit* OR *recruitment*, you could just search *recruit**. Take care, though—truncating *catastrophe* OR *catastrophic* to *cat** would also bring you results for *catalogue*, *category*, etc.

If you need help or just aren't quite sure where to get started, talk to one of the librarians at the Texas A&M University Libraries.

Notes

1. "Reviewing Subject Terms" is a screen capture of the Texas A&M University Libraries catalog search results listing at https://libcat.tamu.edu/vwebv/searchAdvanced.

APPENDIX: QUALITATIVE INTERVIEW DESIGN

Daniel W. Turner III and Nicole Hagstrom-Schmidt

Qualitative Interview Design: A Practical Guide for Novice Investigators

Qualitative research design can be complicated depending upon the level of experience a researcher may have with a particular type of methodology. As researchers, many aspire to grow and expand their knowledge and experiences with qualitative design in order to better utilize a variety of research paradigms. One of the more popular areas of interest in qualitative research design is that of the interview protocol. Interviews provide in-depth information pertaining to participants' experiences and viewpoints of a particular topic. Oftentimes, interviews are coupled with other forms of data collection in order to provide the researcher with a well-rounded collection of information for analyses. This paper explores the effective ways to conduct in-depth, qualitative interviews for novice investigators by expanding upon the practical components of each interview design.

Categories of Qualitative Interview Design

As common with quantitative analyses, there are various forms of interview design that can be developed to obtain thick, rich data utilizing a qualitative investigational perspective.[1] For the purpose of this examination, there are three formats for interview design that will be explored which are summarized by Gall, Gall, and Borg:

1. Informal conversational interview,
2. General interview guide approach,
3. Standardized open-ended interview.[2]

In addition, I will expand on some suggestions for conducting qualitative interviews which includes the construction of research questions as well as the analysis of interview data. These suggestions come from both my personal experiences with interviewing as well as the recommendations from the literature to assist novice interviewers.

Informal Conversational Interview

The informal conversational interview is outlined by Gall, Gall, and Borg for the purpose of relying "…entirely on the spontaneous generation of questions in a natural interaction, typically one that occurs as part of ongoing participant observation fieldwork."[3] I am curious when it comes to other cultures or religions and I enjoy immersing myself in these environments as an active participant. I ask questions in order to learn more about these social settings without having a predetermined set of structured questions. Primarily the questions come from "in the moment experiences" as a means for further understanding or clarification of what I am witnessing or experiencing at a particular moment. With the informal conversational approach, the researcher does not ask any specific types of questions, but rather relies on the interaction with the participants to guide the interview process.[4] Think of this type of interview as an "off the top of your head" style of interview where you really construct questions as you move forward. Many consider this type of interview beneficial because of the lack of structure, which allows for flexibility in the nature of the interview. However, many researchers view this type of interview as unstable or unreliable because of the inconsistency in the interview questions, thus making it difficult to code data.[5] If you choose to conduct an informal conversational interview, it is critical to understand the need for flexibility and originality in the questioning as a key for success.

General Interview Guide Approach

The general interview guide approach is more structured than the informal conversational interview although there is still quite a bit of flexibility in its composition.[6] The ways that questions are potentially worded depend upon the researcher who is conducting the interview. Therefore, one of the obvious issues with this type of interview is the lack of consistency in the way research questions are posed because researchers can interchange the way he or she poses them. With that in mind, the respondents may not consistently answer the same question(s) based on how they were posed by the interviewer.[7] During research for my doctoral dissertation, I was able to interact with alumni participants in a relaxed and informal manner where I had the opportunity to learn more about the in-depth experiences of the participants through structured interviews. This informal environment allowed me the opportunity to develop rapport with the participants so that I was able to ask follow-up or probing questions based on their responses to pre-constructed questions. I found this quite useful in my interviews because I could ask questions or change questions based on participant responses to previous questions. The questions were structured, but adapting them allowed me to explore a more personal approach to each alumni interview.

According to McNamara, the strength of the general interview guide approach is the ability of the researcher "…to ensure that the same general areas of information are collected from each interviewee; this provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting information from the interviewee."[8] The researcher remains in the driver's seat with this type of interview approach, but flexibility takes precedence based on perceived prompts from the participants.

You might ask, "What does this mean anyway?" The easiest way to answer that question is to think about your own personal experiences at a job interview. When you were invited to a job interview in the past, you might have prepared for all sorts of curve ball-style questions to come your way. You desired an answer for every potential question. If the interviewer were asking you questions using a general interview guide approach, he or she would ask questions using their own unique style, which might differ from the way the questions were originally created. You as the interviewee would then respond to those questions in the manner in which the interviewer asked which would dictate how the interview continued. Based on how the interviewer asked the question(s), you might have been able to answer more information or less information than that of other job candidates. Therefore, it is easy to see how this could positively or negatively influence a job candidate if the interviewer were using a general interview guide approach.

Standardized Open-Ended Interviews

The standardized open-ended interview is extremely structured in terms of the wording of the questions. Participants are always asked identical questions, but the questions are worded so that responses are open-ended.[9] This open-endedness allows the participants to contribute as much detailed information as they desire and it also allows the researcher to ask probing questions as a means of follow-up. Standardized open-ended interviews are likely the most popular form of interviewing utilized in research studies because of the nature of the open-ended questions, allowing the participants to fully express their viewpoints and experiences. If one were to identify weaknesses with open-ended interviewing, they would likely identify the difficulty with coding the data.[10] Since open-ended interviews in composition call for participants to fully express their responses in as much detail as desired, it can be quite difficult for researchers to extract similar themes or codes from the interview transcripts as they would with less open-ended responses. Although the data provided by participants are rich and thick with qualitative data, it can be a more cumbersome process for the researcher to sift through the narrative responses in order to fully and accurately reflect an overall perspective of all interview responses through the coding process. However, according to Gall, Gall, and Borg, this reduces researcher biases within the study, particularly when the interviewing process involves many participants.[11]

Suggestions for Conducting Qualitative Interviews

Now that we know a few of the more popular interview designs that are available to qualitative researchers, we can more closely examine various suggestions for conducting qualitative interviews based on the available research. These suggestions are designed to provide the researcher with the tools needed to conduct a well constructed, professional interview with their participants. Some of the most common information found within the literature relating to interviews, according to Creswell[12]:

1. The preparation for the interview,
2. The constructing effective research questions,
3. The actual implementation of the interview(s). [13]

Preparation for the Interview

Probably the most helpful tip with the interview process is that of interview preparation. This process can help make or break the process and can either alleviate or exacerbate the problematic circumstances that could potentially occur once the research is implemented. McNamara suggests the importance of the preparation stage in order to maintain an unambiguous focus as to how the interviews will be erected in order to provide maximum benefit to the proposed research study.[14] Along these lines Chenail provides a number of pre-interview exercises researchers can use to improve their instrumentality and address potential biases.[15] McNamara applies eight principles to the preparation stage of interviewing which includes the following ingredients:

1. Choose a setting with little distraction;
2. Explain the purpose of the interview;
3. Address terms of confidentiality;
4. Explain the format of the interview;
5. Indicate how long the interview usually takes;
6. Tell them how to get in touch with you later if they want to;
7. Ask them if they have any questions before you both get started with the interview;
8. Don’t count on your memory to recall their answers.[16]

Selecting Participants

Creswell discusses the importance of selecting the appropriate candidates for interviews. He asserts that the researcher should utilize one of the various types of sampling strategies such as criterion based sampling or critical case sampling (among many others) in order to obtain qualified candidates that will provide the most credible information to the study.[17] Creswell also suggests the importance of acquiring participants who will be willing to openly and honestly share information or "their story."[18] It might be easier to conduct the interviews with participants in a comfortable environment where the participants do not feel restricted or uncomfortable to share information.

Pilot Testing

Another important element to the interview preparation is the implementation of a pilot test. The pilot test will assist the research in determining if there are flaws, limitations, or other weaknesses within the interview design and will allow him or her to make necessary revisions prior to the implementation of the study.[19] A pilot test should be conducted with participants that have similar interests as those that will participate in the implemented study. The pilot test will also assist the researchers with the refinement of research questions, which will be discussed in the next section.

Constructing Effective Research Questions

Creating effective research questions for the interview process is one of the most crucial components to interview design. Researchers desiring to conduct such an investigation should be careful that each of the questions will allow the examiner to dig deep into the experiences and/or knowledge of the participants in order to gain maximum data from the interviews. McNamara suggests several recommendations for creating effective research questions for interviews which includes the following elements:

1. Wording should be open-ended (respondents should be able to choose their own terms when answering questions);
2. Questions should be as neutral as possible (avoid wording that might influence answers, e.g., evocative, judgmental wording);
3. Questions should be asked one at a time;
4. Questions should be worded clearly (this includes knowing any terms particular to the program or the respondents' culture); and
5. Be careful asking "why" questions.[20]

Examples of Useful and Not-So Useful Research Questions

To assist the novice interviewer with the preparation of research questions, I will propose a useful research question and a not so useful research question. Based on McNamara's suggestion, it is important to ask an open-ended question.[21] So for the useful question, I will propose the following: "How have your experiences as a kindergarten teacher influenced or not influenced you in the decisions that you have made in raising your children"? As you can see, the question allows the respondent to discuss how his or her experiences as a kindergarten teacher have or have not affected their decision-making with their own children without making the assumption that the experience has influenced their decision-making. On the other hand, if you were to ask a similar question, but from a less than useful perspective, you might construct the same question in this manner: "How has your experiences as a kindergarten teacher affected you as a parent"? As you can see, the question is still open-ended, but it makes the assumption that the experiences have indeed affected them as a parent. We as the researcher cannot make this assumption in the wording of our questions.

Follow-Up Questions

Creswell also makes the suggestion of being flexible with research questions being constructed.[22] He makes the assertion that respondents in an interview will not necessarily answer the question being asked by the researcher and, in fact, may answer a question that is asked in another question later in the interview. Creswell believes that the researcher must construct questions in such a manner to keep participants on focus with their responses to the questions. In addition, the researcher must be prepared with follow-up questions or prompts in order to ensure that they obtain optimal responses from participants. When I was an Assistant Director for a large division at my University a couple of years ago, I was tasked with the responsibility of hiring student affairs coordinators at our off-campus educational centers. Throughout the interviewing process, I found that interviewees did indeed get off topic with certain questions because they either misunderstood the question(s) being asked or did not wish to answer the question(s) directly. I was able to utilize Creswell's suggestion[23] by reconstructing questions so that they were clearly assembled in a manner to reduce misunderstanding and was able to erect effective follow-up prompts to further understanding. This alleviated many of the problems I had and assisted me in extracting the information I needed from the interview through my follow-up questioning.

Implementation of Interviews

As with other sections of interview design, McNamara makes some excellent recommendations for the implementation stage of the interview process. He includes the following tips for interview implementation:

1. Occasionally verify the tape recorder (if used) is working;
2. Ask one question at a time;
3. Attempt to remain as neutral as possible (that is, don't show strong emotional reactions to their responses;
4. Encourage responses with occasional nods of the head, "uh huh"s, etc.;
5. Be careful about the appearance when note taking (that is, if you jump to take a note, it may appear as if you're surprised or very pleased about an answer, which may influence answers to future questions);
6. Provide transition between major topics, e.g., "we've been talking about (some topic) and now I'd like to move on to (another topic);"
7. Don't lose control of the interview (this can occur when respondents stray to another topic, take so long to answer a question that times begins to run out, or even begin asking questions to the interviewer).[24]

Interpreting Data

The final constituent in the interview design process is that of interpreting the data that was gathered during the interview process. During this phase, the researcher must make "sense" out of what was just uncovered and compile the data into sections or groups of information, also known as themes or codes.[25] These themes or codes are consistent phrases, expressions, or ideas that were common among research participants.[26] How the researcher formulates themes or codes vary. Many researchers suggest the need to employ a third party consultant who can review codes or themes in order to determine the quality and effectiveness based on their evaluation of the interview transcripts.[27] This helps alleviate researcher biases or potentially eliminate where over-analyzing of data has occurred. Many researchers may choose to employ an iterative review process where a committee of nonparticipating researchers can provide constructive feedback and suggestions to the researcher(s) primarily involved with the study.

Conclusion

From choosing the appropriate type of interview design process through the interpretation of interview data, this guide for conducting qualitative research interviews proposes a practical way to perform an investigation based on the recommendations and experiences of qualified researchers in the field and through my own personal experiences. Although qualitative investigation provides a myriad of opportunities for conducting investigational research, interview design has remained one of the more popular forms of analyses. As the variety of qualitative research methods become more widely utilized across research institutions, we will continue to see more practical guides for protocol implementation outlined in peer reviewed journals across the world.

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It is edited and reformatted by Nicole Hagstrom-Schmidt.

Notes

1. John W. Creswell, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*, 2nd ed. (Thousand Oaks, CA: Sage, 2007).
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7. Carter McNamara, "General Guidelines for Conducting Interviews," *Free Management Library*, accessed January 11, 2010, https://managementhelp.org/businessresearch/interviews.htm.
8. Carter McNamara, "General Guidelines for Conducting Interviews," *Free Management Library*, "Types of Interviews" section, para. 1, accessed January 11, 2010, https://managementhelp.org/businessresearch/interviews.htm.

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APPENDIX: USING SAMPLE DOCUMENTS EFFECTIVELY

James Francis, Jr.

Writing Strategies

While constructing documents during the writing process, we often examine sample materials that can help us consider how to make our own writing more effective. Whether we are writing a research report, developing an analytical essay, creating a visual handout, crafting application materials for a job, or starting the next great novel, reviewing sample materials within the same genre of writing can be helpful in making decisions regarding the form and content for your text.

Although sample materials help writers, we have to be cognizant of how to use them effectively without falling into traps of basing our own work on them. When this situation occurs, writers may find themselves creating documents that are not appropriate for the intended audience, not unique to their own personal voice and style, and accidentally plagiarized by usurping someone else's work without credit (see Chapter 12: Avoiding Plagiarism and Citing Sources Properly for more information). In this section, we will review a few tips to ensure that sample materials remain helpful in developing your own documents effectively.

As always remember to contact your instructor for any clarification on how they may want you to utilize sample materials. If you have questions or concerns before and/or during the construction of your writing—in form and/or content–reach out to them!

Formatting

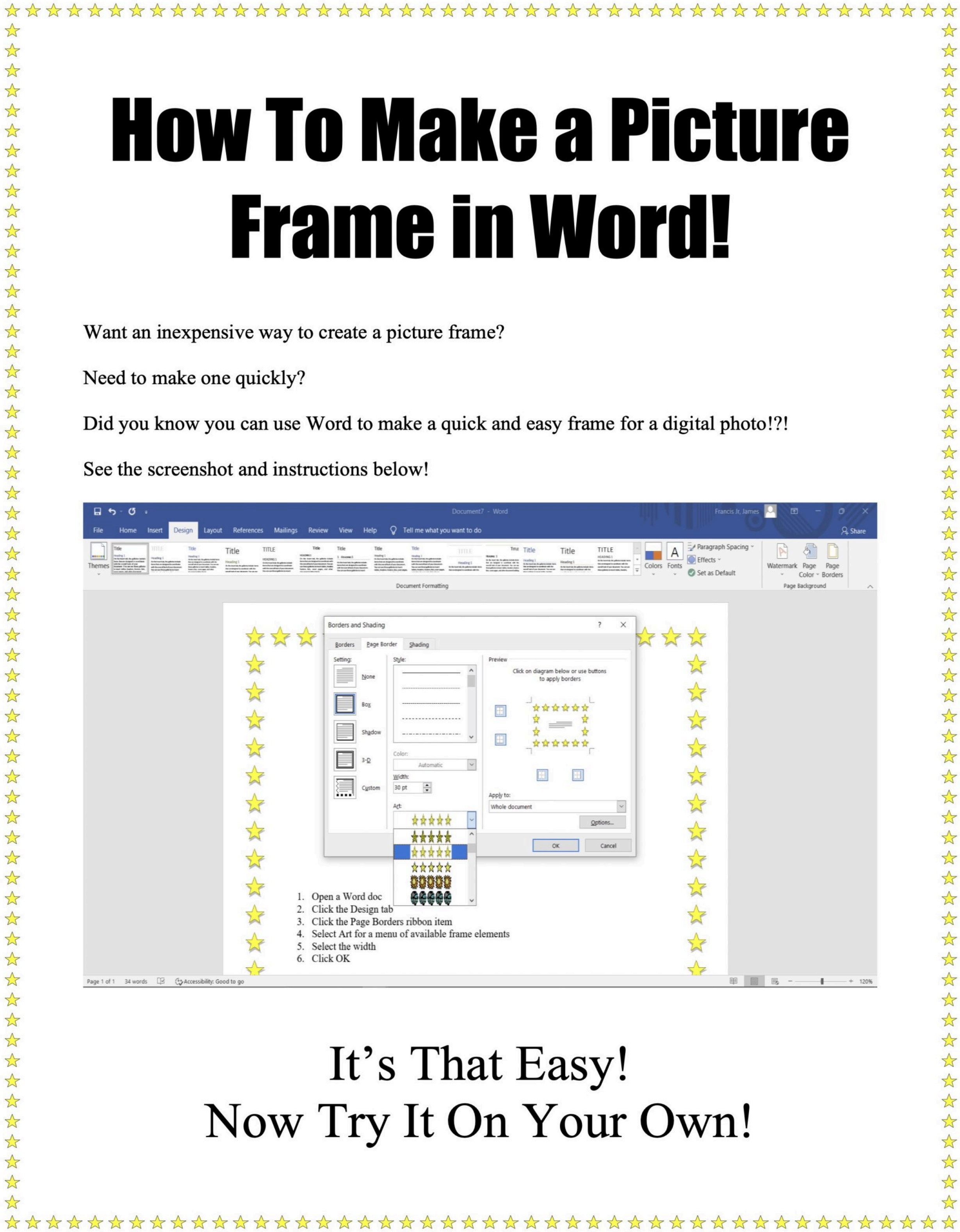
Sample materials help demonstrate proper formatting techniques, particularly by showcasing standard elements. These elements include the following:

- Style manual guidelines
  - Font selection and size
  - Spacing
  - Text alignment
    - Headers
    - Page Numbers
    - Titles
    - Paragraphs
    - Figures (Tables, Graphics, Illustrations, Images)
  - Documentation and Formatting
    - In-text citations
    - Figure labels
    - Proper Nouns (Names of people or places; Titles of works)
    - Source listing—for instance:
      - Works Cited (MLA)

        - References (APA)
        - Bibliography (Chicago)
        - Harvard (Reference List)
- Organization
    - Paragraph structure
    - Chronology of content
        - Linear (sequential)
        - Reverse (conclusion to beginning)
        - *In medias res* (starting in the middle)
- Visual Appeal
    - Color
    - Emphasis (Bold, Underline, Italics, Highlights)
    - Font selection and size
    - Text alignment
    - Figures
    - Spacing
    - Framing

This is not an exhaustive list, and depending on the type of document you are creating, some or all of these elements might require consideration in making your document the most effective for its intended audience and the assignment guidelines. The ways in which a document appeals to the reader help make a rhetorical connection to its content. When you examine any of these elements in sample materials, evaluate how they impact the content and the message conveyed to the intended audience. As you develop your materials, focus on the purpose, objective, and goal of the document(s) so that you may format the work as most appropriate to the rhetorical situation.

What you take away from reviewing the form of sample materials should be ideas to apply to your documents in unique ways that align with what you hope to accomplish—not a carbon copy of what someone has already produced for a sample, even if that sample represents one way to address the assignment guidelines. Let's take a look at an example for making an informational handout (Figure 24.1[1]) and a similar document created using the exact same formatting (Figure 24.2[2]):



How To Make a Picture Frame in Word!

Want an inexpensive way to create a picture frame?

Need to make one quickly?

Did you know you can use Word to make a quick and easy frame for a digital photo!?!

See the screenshot and instructions below!

1. Open a Word doc
2. Click the Design tab
3. Click the Page Borders ribbon item
4. Select Art for a menu of available frame elements
5. Select the width
6. Click OK

It's That Easy!
Now Try It On Your Own!

Figure 24.1. How to make a picture frame in Word informational handout. (Alternative pdf version: Figure 24.1.)

How To Process Grief!

Having trouble dealing with loss?
Need someone to talk to?

Did you know we have campus resources that can help!?!

Contact TAMU CAPS Today!

- Visit caps.tamu.edu
- Schedule an appointment

Student Services Building, 4th Floor
471 Houston St. | 1263 TAMU
College Station, TX 77843-1263

P: 979.845.4427
F: 979.862.4383
caps@caps.tamu.edu

You Are Not Alone!

*Figure 24.2. How To process grief informational handout. (Alternative pdf version: **Figure-24.2**.)*

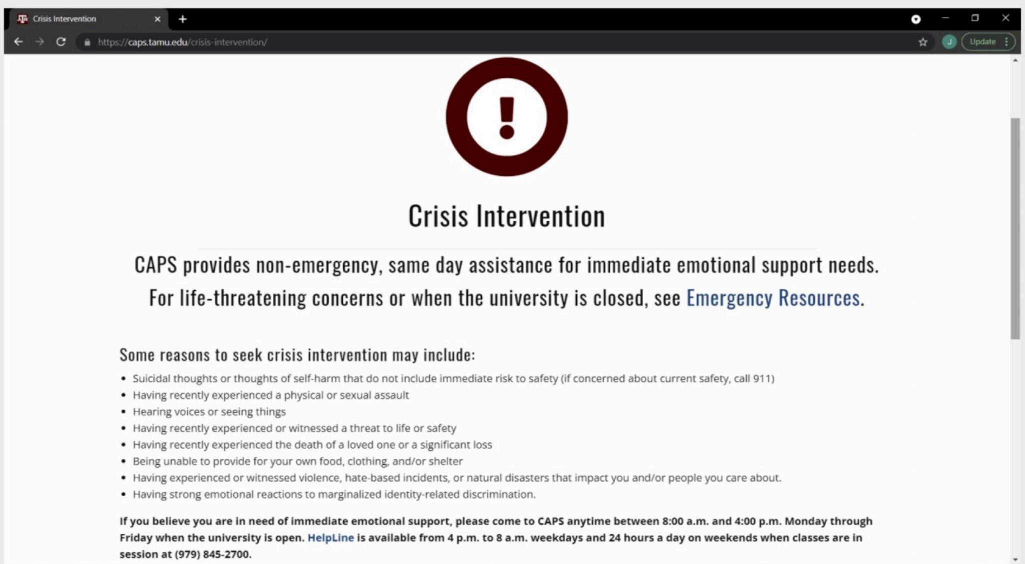
The student handout in Figure 24.2 assumes similar design elements of the sample without consideration of their specific subject matter. Because of this oversight, the handout is ineffective because the design elements are neither unique nor suitable for the subject matter; furthermore, the information and the tone of the content do not complement the subject matter. In order for the student to create a more effective handout, they should only use the sample to consider how it merged its form and content to relate to the topic and its intended audience. Evaluating the sample presents the student with the following question: How do I format my handout so that the design principles respond to the content and connect with the intended audience? Here is the revised student handout (Figure 24.3[3]):

Coping with Grief

We all face difficult situations at different times in life, and the loss of a friend or family member can be tough to manage while attempting to focus on school, work, and more. At Texas A&M, students can receive support from Counseling & Psychological Services – https://tamu.caps.edu

If you are processing the loss of a loved one and need immediate emotional support, you can visit the CAPS office on the 4th Floor of the Student Services Building, located at 471 Houston St. | 1263 TAMU, from the hours of 8am – 4pm on weekdays. A helpline is also available at (979) 845-2700.

The center offers a variety of support to students dealing with hardship. Please see the screenshot below for a list of services offered by CAPS:



If you do not require services offered by CAPS but know someone who might benefit from the center, please pass along this information.

Aggies support each other.
You are not alone.

*Figure 24.3. Coping with grief informational handout. (Alternative pdf version: **Figure-24.3**.)*

In the revised handout we can recognize principles of effective design (See Chapter 7: Design) that the sample handout demonstrates, as well as that the student's work represents an original document that benefitted from reviewing sample materials. They have created a document that is now balanced in its form and content to deliver information to its audience in an appropriate tone. But as illustrated above, let's not forget that formatting represents only half of what we need to examine to create effective materials.

Content

Organization of content is slightly different from the technical aspects of formatting, but it still follows the same understanding that a sample document can help you consider how to arrange your writing without following the exact structure of the sample. When organizing content within a document, the writer should ensure that the text flows (i.e., includes transitions from one point to the next) and achieves clarity of communication. If you follow a sample document's organization and general setup too closely without concern for how your writing needs to be original, the content might not seem logical, fluid, or relevant to the assignment guidelines. Here is an example that demonstrates a report of findings from primary research (*note: all sources and in-text citations have been created for sample use only*):

Sample Report Text

Once the survey period concluded, we tallied the final numbers and discovered more people liked the design with the blue background as opposed to the orange background. The color selection follows what Hinojosa mentioned in her article about orange causing a soporific effect (a tendency toward sleepiness and often boredom). As a result—from the surveys and research experts—we propose that the new team uniforms use the selected design with a blue background for the next season.

Student Report Text

When our survey period ended, we counted the final numbers and discovered more people liked the garlic toppings instead of the cinnamon toppings. The more-savory food topping selection agrees with what Pham detailed in their source about people having an aversion to mixing toppings—like cinnamon—that cause effluvia. In conclusion, we recommend that the pizza restaurant make the cinnamon topping a specialty item instead of a main-menu offering for patrons.

By reproducing the same organization and delivery of the sample report text, the student's work leaves out important, vital elements—documentation for the source, along with details and description to clarify the writing—and they inadvertently plagiarize content. Always remember that samples are not examples of perfect writing because that concept does not exist; you must ask yourself what is and is not effective about the sample writing in order to consider how to avoid missteps—like not crediting a source—and how to translate a helpful writing strategy—such as providing a definition for transparency—into your own materials. Here is the revised student report:

Student Report Text (revised)

We counted the final numbers at the close of the survey period and the results showed that patrons of the pizza restaurant favored the garlic toppings over the cinnamon toppings, 72 to 28 (Figure 2.3). Supporting this finding, Pham (2019) claims, "Foodies prefer foods that taste and smell good because both senses have to be satisfied in the eating process" (p. 62). Based on our research, we recommend Pop's Pizzeria making the cinnamon topping a specialty item instead of a main-menu offering, which will allow the establishment to simultaneously reduce the amount of product purchased each season and therefore reduce spending.

The revised content provides much more detailed, specific content to present the research findings; the survey results and academic source are properly documented; and the content offers a reason behind the recommendation. The student reviewed the effectiveness of the sample's organization and content, and then they constructed their own report writing relevant to their project. And if you find yourself working with analysis instead of reporting, we can find similar ways to avoid replicating sample material organization and content delivery. Here is an example that demonstrates film analysis; the sample covers the text the student has been tasked to analyze:

Sample Analysis Text

Dee Rees' *Pariah* contains symbols for the audience to unlock. One of those symbols is coded in the attire of the characters. Alike rejects stereotypical engendered clothing articles like dresses and the color pink for young girls. Instead, she prefers a do-rag, a ball cap, and baggy, comfortable clothes. She does this to access and present a more recognized masculine aesthetic to attract a potential love interest. De Santos writes, "People often use clothing to create a conversation concerning gender that they cannot put into words for fear of being ostracized" (37).

Student Analysis Text

In *Pariah*, we are provided symbolism throughout the film. The main character's preferred name serves as a reminder that she exists as the "other" in the story. Alike prefers "Lee" instead of the name she was assigned at birth. This is ironic because she is completely unlike any of her immediate family members. She uses "Lee" to help demonstrate her masculine identity to attract other girls. Nakai is quoted as saying, "Some LGBTQ youth, upon coming into adulthood, disclose that their assigned names do not complement their self-identities" (70).

The student's text mimics the exact sentence arrangement, presentation of discussion elements, and tone of the sample. Following the sample's arrangement so closely makes the content sound choppy; the sentences are properly formatted, but they don't seem to connect to each other to create a fluid discussion. Mirroring the sample analysis too closely also robs the student's work of having a unique voice to set up the analysis, and furthermore, the sample incorporates secondary source material without fully integrating the quote. In the end, the writing becomes ineffective in communicating its message to the reader. Here is the revised student analysis:

Student Analysis Text (revised)

In *Pariah* (2011), the main character's preferred name serves as a symbol that she exists as the "other" against additional characters in the film. Unlike her mother, father, and sister, Alike prefers "Lee" (the pronunciation of the second syllable in her name) instead of the name she was assigned at birth. The spelling of her assigned name is ironic because she is completely unlike her family members, and she prefers "Lee" because it feels more suitable to her understanding of butch-lesbian identity to attract other girls. The importance of naming and its connection to identity is further explored in "Nomenclature and the Self" by Dakoda Nakai. The writer claims, "Some LGBTQ youth, upon coming into adulthood, disclose that their assigned names do not complement their self-identities" (Nakai 70). As a coming-of-age film, *Pariah* demonstrates the disparate nature of naming and identity through Lee/Alike.

The revised content reveals analysis that is more connected structurally, which allows the student's voice to clearly communicate its message and develop a full conversation with the incorporated secondary source. The content of your document, whether it be a handout, report, essay, novel, or other, needs to be unique—written from your perspective to respond to what the assignment requires and what the rhetorical situation demands. Organize your writing according to what the assignment guidelines stipulate, how you feel the text would be best represented, and in a manner that it connects clearly with your intended audience. When the organization is effective, the content of the document can equally accomplish its goals of communicating to the audience in the appropriate rhetorical mode.

Creative Writing: A Brief Note

Creative writing is all about invention: world-building, characterization, unique dialogue, story pacing, traditional vs. innovative narrative structure, and personal style for the author. Although many new and working writers revere the work of recognized, published authors, the goal is to establish your own voice in the field. Inspiration can veer close to imitation if a writer finds themself copying techniques—story structure, wording, setting, etc.—that another author has already established as their own. Without making any effort to distinguish between the two styles, the writer creates unoriginal work that—depending on the wording—could place them in a situation involving plagiarism.

Similar to crafting an instructions handout, researched report, or a literary analysis, the development of a creative writing piece—poetry, prose, stage play, and even film—can be aided by reviewing sample materials, but the work should avoid resembling an impersonation of another's intellectual property. Experiment with different writing strategies, techniques, and forms to discover what methods work best for what you want to accomplish with the writing. Focus on form and content with regard to your intended audience and get creative!

Note

Using sample materials effectively takes a lot more consideration than we often think about when viewing and reading them. Always keep in mind that these materials are meant to help get us started in creating our own documents, to help us develop ideas unique to the assignment, and to act as a bridge to connect how form and content rely upon each other to resonate with the intended audience.

Seek the guidance of your instructor for any clarification needs about how to use the sample materials in your course. You might also utilize helpful services like the University Writing Center to develop your documents from their inception to their completion with the aid of a writing tutor and/or access the Writing & Speaking Guides to review handouts, podcasts, and videos to self-assist the specific needs of your document-creation.

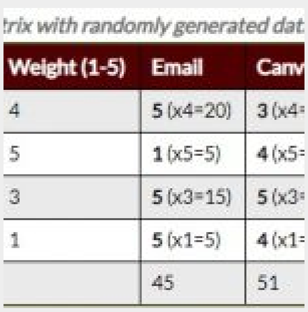
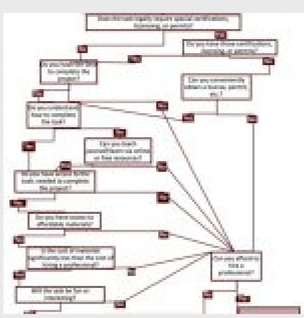
Notes

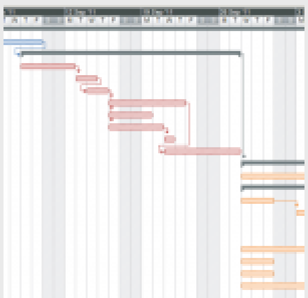
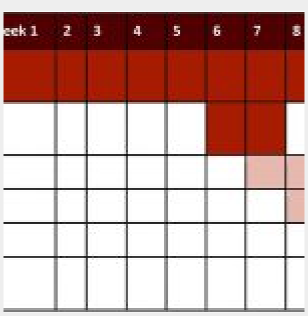
1. James Francis, Jr., "How to Make a Picture Frame in Word," 2021. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
2. James Francis, Jr., "How to Process Grief!," 2021. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.
3. James Francis, Jr., "Coping with Grief," 2021. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

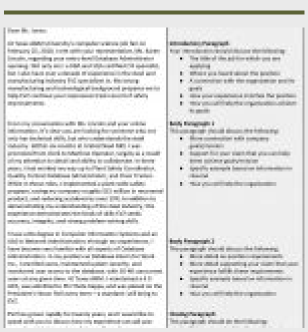
APPENDIX: SAMPLE COLLECTION

Document Samples

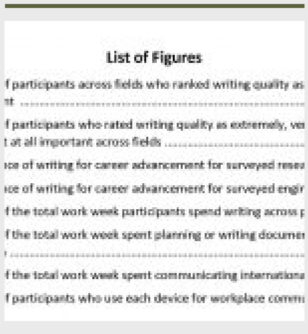
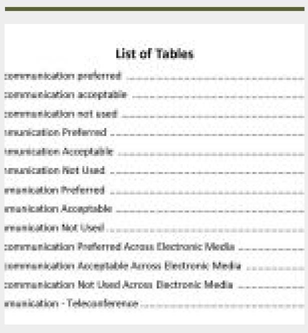
The following samples are also found embedded in the relevant portions of the textbook. The figure numbers below each sample correspond to where the figure can be found in the original text. They are collected here for convenience. Please see Appendix: Using Sample Documents Effectively for helpful considerations to keep in mind when consulting samples such as these. Please see the original chapter (linked in column 4) for full attributions and source information.

Sample Type (Alphabetical Order)	Thumbnail (Click to Enlarge)	Accessible PDF, Page with Screen-readable Text, or Page with Image with Alt-Text	Link to Chapter for Context
Agenda	 *Figure 13.1*	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"
Decision Matrix	 *Table 20.3*	Chapter 20: Recommendation Reports, "Decision-Making and Criteria"	Chapter 20: Recommendation Reports, "Decision-Making and Criteria"
Decision Tree	 *Figure 20.12*	Chapter 20: Recommendation Reports, "Decision-Making and Criteria"	Chapter 20: Recommendation Reports, "Decision-Making and Criteria"

Email	 *Figure 15.1. Sample email.*	Figure 15.1	Chapter 15: Correspondence, "Email"
Gantt Chart (Complex)	 *Figure 18.2. Illustration of a more complex Gantt chart.*	Chapter 18: Proposals, "Designing and Formatting Proposals"	Chapter 18: Proposals, "Designing and Formatting Proposals"
Gantt Chart (Simple)	 *Figure 18.1. Simple Example of a Gantt Chart*	Figure 18.1	Chapter 18: Proposals, "Designing and Formatting Proposals"

Instructions	Page one (see PDF in next column for complete instructions): 	Figure 17.1	Chapter 17: Instructions, "Illustrating Your Instructions"
Letter (Cover for Application)	 *Figure 16.5. Cover letter template.*	Figure 16.5	Chapter 16: Applications, "Cover Letters"
Letter (Cover for Application) Parts	 *Figure 16.6. Parts of a cover letter.*	Figure 16.6	Chapter 16: Applications, "Cover Letters"

Letter (Cover for Report)	 *Figure 15.2. Sample cover letter.*	Figure 15.2	Chapter 15: Correspondence, "Letters"
Letter (Transmittal – Template)	 *Figure 20.1. Template for letter of transmittal.*	Figure 20.1	Chapter 20: Recommendation Reports: "Front Matter"
Letter (Transmittal) Example	 *Figure 20.2. An example of a letter of transmittal.*	Figure 20.2	Chapter 20: Recommendation Reports: "Front Matter"

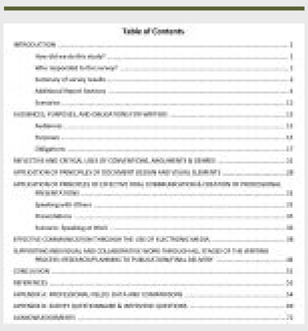
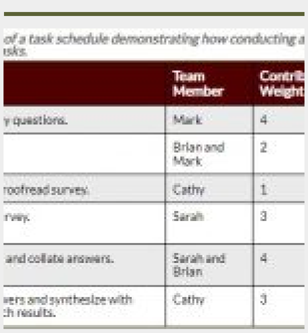
List of Figures	 List of Figures f participants across fields who ranked writing quality as nt f participants who rated writing quality as extremely, ver t at all important across fields ce of writing for career advancement for surveyed resea ce of writing for career advancement for surveyed engir f the total work week participants spend writing across p f the total work week spent planning or writing documer f the total work week spent communicating internationa f participants who use each device for workplace comm *Figure 20.5. List of Figures.*	Figure 20.5	Chapter 20: Recommendation Reports: "Front Matter"
List of Tables	 List of Tables communication preferred communication acceptable communication not used nunication Preferred nunication Acceptable nunication Not Used nunication Preferred nunication Acceptable nunication Not Used communication Preferred Across Electronic Media communication Acceptable Across Electronic Media communication Not Used Across Electronic Media nunication - Teleconference *Figure 20.6. List of tables.*	Figure 20.6	Chapter 20: Recommendation Reports: "Front Matter"
Meeting Minutes	 *Figure 13.2*	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"

Memo (Memorandum)	 *Figure 15.3. An example of a memo with explanatory content.*	Figure 15.3	Chapter 15: Correspondence, "Memorandums"
Outline (2-Level)	 Outline *Figure 9.2*	Chapter 9: The Writing Process, "Outlining"	Chapter 9: The Writing Process, "Outlining"
Outline (3-Level)	 *Figure 9.3*	Chapter 9: The Writing Process, "Outlining"	Chapter 9: The Writing Process, "Outlining"

Proposal	 *Figure 18.3. 210 proposal template.*	Figure 18.3	Chapter 18: Proposals, "Proposals in ENGL 210"
Recommendation Report (ENGL 210 Parts)	 *Figure 20.13. Template for ENGL 210 Recommendation Report.*	Figure 20.13	Chapter 20: Recommendation Reports, "Crafting Recommendation and Feasibility Reports: What to Remember"
Recommendation Report Body (Introduction)	 *Figure 20.6. Introduction to a recommendation report template.*	Figure 20.7	Chapter 20: Recommendation Reports, "Introduction"

References (APA)		Figure 20.11	Chapter 20: Recommendation Reports, "References"

Résumé (Chronological)	 *Figure 16.1. Example of the chronological resume format.*	Figure 16.1	Chapter 16: Applications, "Resumes"
Résumé (Hybrid)	 *Figure 16.3. Example of the hybrid resume format.*	Figure 16.3	Chapter 16: Applications, "Resumes"
Résumé Parts	 *Figure 16.4. Sample of résumé parts.*	Figure 16.4	Chapter 16: Applications, "Resumes"

Résumé (Skills)	 *Figure 16.2. Example of the skills resume format.*	Figure 16.2	Chapter 16: Applications, "Resumes"
Table of Contents	 *Figure 20.4. Example Table of Contents.*	Figure 20.4	Chapter 20: Recommendation Reports: "Front Matter"
Task Schedule	 *Table 13.4*	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"

Thank You Letter (for Interview)	 *Figure 16.7. Interview thank-you letter sample.*	Figure 16.7	Chapter 16: Applications, "Thank You Letters"
Title Page of Report	 *Figure 20.3. Example of a report title page.*	Figure 20.3	Chapter 20: Recommendation Reports: "Front Matter"
Work Log	 *Figure 13.3*	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"	Chapter 13: Collaborative Writing, "Documents and Tools to Improve Team Effectiveness"

McKinney, Matt, Kalani Pattison, Sarah LeMire, Kathy Anders, and Nicole Hagstrom-Schmidt, eds. *Howdy or Hello?: Technical and Professional Communication*. College Station: Texas A&M

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Other samples derived from:

Swarts, Jason, Stacey Pigg, Jamie Larsen, Julia Helo Gonzalez, Rebecca De Haas, and Elizabeth Wagner. *Communication in the Workplace: What Can NC State Students Expect?* North Carolina State University Professional Writing Program, 2018. https://docs.google.com/document/d/1pMpVbDRWIN6HssQQQ4MeQ6U-oB-sGUrtRswD7feuRB0/edit#heading=h.n2a3udms5sd5. Licensed under a Creative Commons Attribution 4.0 International License.

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GLOSSARY

5WH Questions

Refers to six questions (five "w" questions and one "h" question: who, what, where, when, why, how?) used to generate writing and topic ideas.

Abstract

Typically found in scientific and academic articles, content tends to mirror IMRaD structure of paper. Summarizes important ideas using key terms which may be more easily found in database searches.

Active indicative

A strong verb form written in the present tense, has a subject carrying out the verb, and is true (rather than imagined). For instance, “They go to the park.”

Alignment

Principle of graphic design where elements, such as graphics and text blocks, are lined up, either by the edge of the element or through an invisible center line through the elements.

Analysis

Process of breaking something larger down into its smaller parts.

Animation

Illustration that uses movement to simulate a process, operation, or incident.

Appendix

A supplementary section to a document that provides information that a reader may wish to consult but is either not crucial enough or too large to be included in the body of the document.

Audience

Intended or potential consumer(s) of a text.

Authority

Perceived credibility of a document based on the creator(s) reputation, the research discussed in the document, and the document’s presentation. See also: ethos.

Bar graph

Two-dimensional graphic that uses horizontal bars to compare and contrast two or more subjects at the same point in time, or compares change over time. See also: column graph

Block format

Textual formatting style where text is left aligned and single spaced with a line space between paragraphs.

Boolean operators

Terms used when searching in a search engine or database, including AND, OR, and NOT, that expand or limit the search.

Bottom Line on Top (BLOT)

A useful acronym to help you remember how to structure a paragraph.

Box heads

Headings used at the top of each column in a table.

Brainstorming

Prewriting technique used to generate and organize ideas.

Bribery

Giving of something in return for an expected favor, consideration, or privilege.

Cells

Boxes created by intersecting rows and columns in a spreadsheet.

Cherry picking

Use of inadequate or unrepresentative data that only supports one position and ignores substantial amounts of data that contradicts it.

Chronological résumé

Traditional résumé format whose principal and most-developed section is the Employment Experience, where jobs are listed in reverse chronological order with most recent jobs listed first.

Chronology

Timeline or sequence of events.

Chunking

Organization process where a larger text is portioned into smaller “chunks” or focused paragraphs.

Citing a Source

Method of documenting a source by providing information on the creator(s) of the material and the publication in which it appears.

Coding

Method of data analysis common to the social sciences where a researcher reviews transcripts of interview data and assigns specific categories to it.

Coercion

Use of power or force to compel action.

Collaboration

Practice of working together at one or more stages of a project.

Column

Information or a group of cells arranged vertically in a table or spreadsheet.

Column graph

Graph that shows data in vertical columns. See also: bar graph.

Comparative analysis

Method of data analysis where two or more data sets, objects, texts, or processes are compared.

Complex sentence

Sentence that includes one independent clause and at least one dependent clause.

Compound sentence

Sentence that contains at least two independent clauses, either joined by a comma and a coordinating conjunction or a semicolon.

Compound-complex sentence

Sentence that contains at least two independent clauses and at least one dependent clause.

Concession

Persuasive strategy where a speaker or writer acknowledges (or concedes) that certain opposing arguments have some validity, but this acknowledgment does not negate the writer's argument.

Confirmation bias

Type of bias that occurs when someone seeks out and uses information that only confirms their current opinion.

Consultant

Person external to a project who has no ownership or responsibility for producing content, but who offers content and process-related feedback.

Content

Material, such as words or images, included within a text.

Context

Surrounding factors that impact a document's creation and presentation.

Contrast

Design principle where components of a document are formatted differently to visually reinforce relationships between sections, including the hierarchical importance of information.

Controlled vocabulary

Specified terminology to describe information.

Coordinating conjunction

Part of speech that combines grammatically and logically equivalent items. The seven major coordinating conjunctions in English are for, and, nor, but, or, yet, and so.

Coordination

In writing, when two or more grammatically alike items are joined together with a coordinating conjunction to make them of equal importance.

Corporate bias

Type of media bias that occurs when a news agency, media conglomerate, or accreditation agency privileges the interests of its ownership or financial backing, such as an employee, client, or advertiser.

Correspondence

Exchange of messages between two or more people.

Cost/benefit analysis

Method of data analysis that compares something's cost versus other measurable benefits it will create.

Criteria

The quantitative and qualitative categories and standards used to evaluate something. (singular: criterion)

Cybersecurity

Protection of web-based electronic information and infrastructure.

Database

In academic research, a curated collection of full text, abstracts, and/or bibliographic information of journals and journal articles.

Deception

Use of lies, partial truths, or the omission of relevant information to mislead an audience

Deliverable

Final product that a team can pass on to another team, to executives and administrators, to consumers, or to the public.

Deliverer

Person engaging the audience in communication.

Dependent/subordinate clauses

Group of words that contains a subject and predicate, but cannot function as a complete thought or sentence on its own.

Diagram

Graphic that identifies the parts of a subject and their spatial or functional relationship rather than showing how it looks in real life.

Diction

Word choice.

Document management

Approaches used to maintain version control of a document.

DOI (Digital Object Identifier)

An assigned alpha-numeric string that uniquely identifies a digital text.

Dunning-Kruger Effect

Tendency of those with low ability or knowledge of a topic to overestimate their competency in that topic.

Editing

Making changes focused on low-order concerns, such as grammar, word choice, and syntax.

Editor

Person responsible for the overall content production of the writer, who may make structure, style, and content changes.

Equipment

Tools used in a procedure.

Ethnic prejudice

Microaggressions and macroaggressions focused on a group's shared culture.

Ethos

The persona that a deliverer emphasizes in any communication. This emphasized persona typically consists of qualifications, experience, expertise, and wisdom (whether yours or others') in an attempt to build readers' confidence in you and your document.

Executive summary

Summarizes the key facts and conclusions contained in the report. Typically found in business reports, they provide some description of the subject and how it was investigated for the sake of context, but executive summaries emphasize results and recommendations above all else. Meant to be read instead of the full report by certain audiences.

Experiment

Scientific research method that tests hypotheses and verifies previous results.

Explicit bias

Conscious beliefs usually held or expressed about a group of people; can be positive or negative.

Facilitator

Person external to a team who leads the team through processes but doesn't give content-related feedback.

Fair use

Copyright principle that allows for certain public uses of works still under copyright.

Figures

Visual elements in a text, such as graphs, charts, diagrams, photos, that are not tables.

Film clip

Visual that depicts a process, operation, or incident using motion and realistic detail.

Flow chart

Graphic that uses connected boxes to show the sequence of steps in a process or procedure.

Fragment

Incomplete sentence that lacks an independent clause.

Freewriting

Brainstorming exercise in which a creator writes freely about a topic for a set amount of time to generate ideas.

Front Matter

Paratextual components of a document that appear before the content of that document. These components may include title pages, tables of contents, and copyright information.

Gantt chart

Graphic that visually depicts timelines of tasks within a planned project; commonly used in proposals and progress reports.

Gender bias

Bias that privileges words and experiences of a particular gender over others.

Genre system/set

Intersecting genres that facilitate a particular kind of work.

Genre/form

How the deliverer is transmitting the message and employing the conventions that accompany that textual form (text can refer to a variety of media, not just written forms)

Grapevine

Unofficial, informal communication network within an organization.

Hostile Media Effect

Tendency of those with strong opinions or beliefs to assume that the mass media is against them, in favor of the counter point of view

human subjects research

Research that involves data collection from other human beings. Methods of data collection include surveys, interviews, observations, and analyzing collected documents from human participants.

Hybrid/combination résumé

Résumé style that uses elements of both the chronological and skills resume styles.

Idea mapping

Brainstorming technique that uses circles, lines, and arrows to visualize ideas; also called clustering or webbing.

Implicit bias

Unconscious or underlying beliefs, associations, or stereotypes held about a group of people; can be positive or negative.

IMRaD

Acronym for a common scientific report structure: Introduction, Materials and Methods, Results, and Discussion.

In-text citation

Type of citation where a source's identifying information is included within the body text of a document. Common examples include parenthetical citations and signal phrases.

Independent clause

Group of words that contain both a subject and a predicate, and can function as an independent idea and sentence.

Intentional bias

Selection of information to support a position while framing negatively or ignoring any information that might challenge that belief.

Interviews

Research method involving data collection by asking questions one-on-one or in small groups.

Kairos

Particularly favorable moment for an action or decision to occur.

Known-New Principle

Also known as the Old/New Contract. When a writer starts with information that the audience knows and then adds on new information.

Lab reports

Scientific report that documents an experimental process conducted in a laboratory.

Letter of transmittal

Introductory letter at the beginning of a formal report signalling the movement of the report from the creators to a (usually administrative) reader.

Life-cycle analysis

Determines overall sustainability of a product or process, from manufacturing, through lifetime use, to disposal.

Line graph

Shows the degree and direction of change relative to two variables; compares items over time, shows frequency or distribution, or shows correlations.

List of figures, tables, and/or illustrations

Ordered list, similar to a table of contents, that provides page numbers for the graphics in a document.

Listing

Brainstorming technique where a writer creates a list or lists that include multiple examples of a topic or subject.

literature review

A comprehensive survey of scholarly literature (including books, peer-reviewed articles, and other documents based on the discipline) that evaluates and synthesizes key findings and developments related to a specific topic. Often included as part of report or study, but longer literature reviews may be published as articles on their own.

Logos (Logical Appeal)

Rhetorical appeal that uses reason, logic, and factual evidence to support claims; preferred method of persuasion in technical and professional communication.

Manipulation

Management of facts, ideas, or points of view in order to play upon inherent insecurities or emotional appeals to one's own advantage.

Meeting Agenda

Outlines main points for discussion at a meeting.

Mid-level revisions and editing

In editing and revising, refers to concerns that occur between large structural issues and small, detailed issues.

Minutes

Professional document that records topics, decisions, and other relevant information discussed in a meeting.

mixed method

Type of research that combines quantitative and qualitative research methods.

Nominalization

Noun form of a verb.

Nonverbal Communication

Communication that uses gestures rather than words to convey meaning. It can include gestures and facial expressions, tone of voice, timing, posture, and where you stand as you communicate.

Noun stacks

Group of nouns placed in close proximity to each other.

On-site research

Research method where data is collected at a primary physical location as opposed to in a laboratory or through documents.

Organization chart

Graphic that maps the divisions and levels of responsibility or hierarchy within an organization.

Outline

Prewriting technique where the structure of a document is presented in organized headings.

Page design

Arrangement of visual elements such as columns, typography, and graphics on a page.

Parallel writing: horizontal division

Method of collaborative writing where collaborators work in parallel but distribute writing assignments randomly.

Parallel writing: stratified division

Method of collaborative writing where collaborators work in parallel but distribute writing assignments based on talents or skills.

Paraphrasing

A significant rewording and syntactical reorganization of a specific passage from a source. Smaller in scope than summarizing.

Passive voice

Grammatical structure where the receiver of an action is the main subject.

Pathos (emotional appeal)

Rhetorical appeal where the deliverer rouses emotions such as fear, anger, sympathy, or pride to persuade the audience of a claim. In technical and professional writing, pathos may more commonly appear as an appeal to shared motivations, goals, or values.

Peer review

Editorial practice where at least one person of equal status to the creator reviews a text with the aim of recommending improvement.

Phase

Group of similar steps within a single-task procedure.

Photo

Graphic that shows what a subject looks like in realistic detail or shows it being used.

Pie chart

Circular graphic that uses “slices” to represent the number and relative size of the divisions of a subject and show relation of those divisions to the whole.

Plagiarism

Use of words, thoughts, or ideas that belong to someone else without attribution.

Predicate

Part of speech that conveys the action or state of being expressed in the sentence.

primary research

Primary sources

Data from research you conducted yourself in lab experiments and product testing, or through surveys, observations, measurements, interviews, site visits, prototype testing, or beta testing.

Primary sources can also be published statistical data, historical records, legal documents, firsthand historical accounts, and original creative works.

Procedure

Whole set of activities that instructions are intended to discuss.

Process analysis

Studies each aspect of a process to determine if all parts and steps work efficiently together to create the desired outcome.

Progress report

Report that updates the audience and relevant stakeholders on the status of a project.

Project manager

A person on a team who acts as the hub for communication and tasks. This person helps provide direction and guidance for the team.

Proximity

Design concept that states that elements more closely related to each other conceptually are more closely positioned to each other on the page.

Pure summary

Gives an overview of main points and information. Often used simply to introduce a larger document or speech and to provide some initial signposting to help the audience navigate it.

Purpose

In rhetoric, a deliverer's goal in relation to the topic and for addressing the audience.

Qualitative

Word-based data that is used to describe data collected.

Quantitative

Numerically-based data used to measure, make comparisons, examine relationships, and test hypotheses.

Racial bias

Bias that privileges words and experiences of a particular race over others. Racism can manifest in both macroaggressions and microaggressions.

Reactive writing strategy

Collaborative writing strategy where collaborators create, review, and revise a document in real time, without much pre planning or explicit coordination.

Readability

The formula whereby words, sentence length, and sentence complexity determine how hard or easy your sentences are to read.

Rebuttal

Response to a counterargument.

Reference list

Section of a research-based document that includes all bibliographic information for any sources used in the document.

Referencing

Method of incorporating sources in a document where just the source is mentioned as an example of a larger point or grouping.

Repetition

Technique of providing information in words or visuals again and again.

Request for proposals (RFP)

Professional document created by an organization or company that asks individuals for proposals in response to a specific situation or problem.

Research

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.

Reviewer

Person, internal or external, who provides specific content feedback but is not responsible for making changes.

Revision

Attention and changes made to higher-order concerns, such as purpose, content, and structure.

Rhetorical situation

Circumstances that surround and affect an instance of communication.

Roles

Different duties or responsibilities of members of a group or study.

Row

Horizontal line of cells in a spreadsheet, table, or graph.

Run-ons

Writing error that occurs when multiple independent clauses appear in one sentence without appropriate punctuation or conjunctions.

Secondary sources

Sources that discuss, interpret, analyze, consolidate, or otherwise rework information from primary sources.

Security

Considered to be a seventh ethical principle; certain information that needs to be encrypted (according to law or company policy).

Sentence case

Capitalization structure wherein the writer capitalizes only the first word, any proper nouns or adjectives, and the first word after a colon or period.

Sentence-level editing

In editing and revising, issues or concerns that appear at the sentence or word levels.

Sequential writing strategy

Each member is in charge of writing a specific part and write in sequence.

Signal phrases

Body text that introduces attribution information to quoted, paraphrased, and summarized material.

Signposts

Key words that alert the audience to a change in topic, a tangential explanation, an example, or a conclusion.

simple sentence

Sentence that includes one independent clause.

Simple sentences

Sentences that have one main clause (one subject + one verb) and any number of phrases.

Simulation

Experiment that tests hypotheses and solutions in a virtual setting that approximates the real world.

Single-author writing strategy

One member writes for the entire group.

Skills Résumé

Résumé style that organizes information by skills as opposed to paid employment history.

Spoken headings

Verbal signposts that indicate movement from one subtopic to the next, or announce new subtopic.

Stakeholders

People who are invested in the business/project/team and have an interest in the outcome.

Status Report or Status Update

Records the completed tasks and work left to complete (see Chapter 19).

Steps

Set of instructions to perform a task.

Structure-level revisions

Paying attention specifically to "big picture" items such as informational value, internal organization, and topic sentences.

Stubs

Headings used on the leftmost side of each row in a table.

Subject

Main topic or focus of a text.

Subject headings

Headings carefully organized in a hierarchy intended to help researchers both broaden and narrow their search terms.

Subordinating conjunction

Part of speech that opens a subordinate clause (examples: since, because, although, despite, etc.).

Subordination

Putting one item lower (or subordinating it) to another.

Summary

Consolidating large chunks of information from a source and expressing it in your own words. In certain contexts, a summary may also refer to a short overview of the main contents of a report. This overview is a front matter section usually intended for a different audience than the main body of the report. See also Pure Summary, Abstract, and Executive Summary.

Supplies

Items consumed or used in a procedure.

Surveys/Questionnaires

Surveys are a form of questioning that is less flexible than interviews, as the questions are set ahead of time and cannot be changed. Surveys can be in print format or delivered electronically. This method can reach much larger groups of people than interviews, but results in less detailed responses.

Sustainability analysis

Form of data analysis that focuses on whether a product or process is environmentally, economically, and socially sustainable.

Syntax

Word order.

Tables

Graphic composed of rows and columns, which in turn create boxes or cells.

Task

Semi-independent group of actions within a procedure.

Task approach

Instructions that focus on tasks.

Task schedule

Allows team members to plan tasks and their subtasks, as well as distribute responsibilities.

Team

Group of people who come together to work in an interrelated manner towards a common goal.

Team charter

Document that establishes rules and expectations for a group working together.

team intelligence

Refers to the way teams collectively have more knowledge and skill than the single individuals working separately.

Team writing

Also called collaborative writing; writing practice where multiple individuals work together to plan, write, and revise a writing project.

Tertiary sources

Reference sources that provide a consolidation of primary and secondary information such as dictionaries, encyclopedias, and handbooks.

Title case

Capitalization structure where all major words are capitalized.

Tools approach

Instructions focus on tools.

Topic

Subject of a deliverer's communication to the audience, as well as how the subject is framed and defined.

Transitions

Words or phrases that indicate the relationship between ideas, sentences, and paragraphs.

Umbrella term

Broad search term that includes a number of narrower concepts.

Venn diagram

Graphic that uses overlapping circles or ovals to illustrate overlapping concepts.

Whistleblowing

Occurs when a member of an organization (usually someone of lower rank) reports pervasive unethical activity (usually committed by someone of higher rank).

Work Log

Records the tasks and time spent for each team member.

Writer

Person who is responsible for writing a portion of the content.