Writing at Work

Introduction to Professional Writing

Meg McGuire

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MEG MCGUIRE

Contents

Contributors

Writing At Work: Introduction to Professional Writing

Edited by: Meg McGuire

Student Contributors:

Sydney Becker

Spencer Boyle

Alexis Dempsey

Daniela DiMirco

Corine Federer

Malini Gulati

Logan Harling

Laurel Hannigan

Jonathan Hezel

Gabriela Nieves

Nina Negrin

Tianna Patterson

Benjamin Rothstein

Ethan Saia

Lindsay Tabakman

Nicholas Torres

Noah Weintraub

Students from Fall 2022 ENGL 222: Introduction to Professional Writing class

PART ONE: INTRODUCTION TO PROFESSIONAL WRITING

Introduction

When many people think about English majors, they often assume that people with those majors have limited career options, that they will become a teacher or an editor and will likely not make much money. But the truth is that English majors are in high demand! English majors cultivate important skills that employers are looking for: critical and analytical thinking; information literacy and research skills; the ability to connect with a variety of audiences; and, of course, excellent written communication skills! In fact, according to a 2016 study by the National Association of Colleges and Employers, 73.4% of employers want candidates with strong writing skills.[1]

The high demand for those with excellent writing skills also means that people with English degrees can work in almost any industry. Hospitals need medical writers and editors to help doctors with their research papers. Most companies need content strategists and creators for their social media. And yes, English majors do become teachers and editors, but this book will help you see a wide variety of careers and writing an English major can engage in once they graduate. This book will also introduce you to writing skills that will be invaluable no matter what career you end up in, as well as to the critical issues that professional writers encounter, such as those stemming from ethical challenges and workplace cultures.

The first part of this book introduces fundamental principles of professional writing that provide insight into the opportunities for and responsibilities of a professional writer, including a brief overview of the "rhetorical situation"—deliverer, topic, audience, purpose, genre, and context. Chapter 1 focuses on what exactly technical and professional writing is and why it is necessary to communicate professionally no matter what subject you are writing about or mode you are writing in.

Part 2 provides a more detailed overview of the rhetorical situation. The rhetorical situation provides a lens to better understand the circumstances of any sort of writing, including various genres of professional writing. If these elements are understood properly, they can help you make smart writing choices in your work. Because professional and technical writing is so user/reader-centered, the rhetorical situation is an important starting point for any document. This section of the book will outline all the elements of the rhetorical situation and outline how it can be useful.

Part 3 overviews the most common characteristics of writing and communication in the professional writing workplace. Chapter 3 describes the importance of collaboration and approaches to doing it effectively. No writing is done in isolation and the ability to work well with others is an important skill to have. Chapter 4 discusses research, including the kind of research you may do and how to think about research in your professional writing work. Further, Chapter 5 examines design and layout. While the content of any document is important, it is just as important to consider how a writer organizes that information on the page in a way that is easy for readers to navigate. Next, Chapter 6 discusses approaches to editing and revising and explains what the difference is between the two. Lastly, Chapter 7 focuses on presentations as a practice of professional writing.

Part 4, Digital Culture, examines how we use technology, including phones and computers, as a means to produce and distribute messages and information. The chapters here demonstrate the importance of digital writing and how to make content consumption easier for the intended audience. Chapter 8 touches on everyday correspondence, such as emails and texts, in a professional environment. Chapter 9 looks to writing done specifically to be placed online and provides approaches to considering how to incorporate elements of the web, such as headlines, links, and organizational schemes for digital content, into your writing. This chapter also outlines the importance of

accessibility, one of the most vital aspects of digital communication, as not everyone may be using the same operating system and some may have issues related to disability. Making sure a text is easy to read and accessible needs to be prioritized.

In Part 5, Ethics of Professional Writing, we cover elements of professional and technical writing that encompass the ethos of the field. In Chapter 10, you will learn how both workplace ethics and ethics within your own writing are extremely important for a professional writer and cannot be overlooked. You will also learn what "ethics" means in the first place, as well as the various situations in which you will have to keep it in mind. This chapter also addresses ways to be a more ethical employee and colleague in the workplace, including the importance of implementing Diversity, Equity, and Inclusion (DEI) in the workplace. You will learn how equitable employers are able to outpace their competitors by including unique perspectives from diverse staff that can complete jobs effectively. Diversity in gender, race, nationality, creed, sexuality, and other areas translates to better representation of our present society.

Finally, in Part 6 you will learn all about entering the field of professional writing, including the importance of having an online presence, creating an online portfolio to represent you and your best work, as well as what samples of work to include in a portfolio and advice to potentially spark ideas of what those pieces of work would be. Chapter 11 also discusses how you can use LinkedIn to better your chances of getting the professional writing job you have always wanted. This chapter provides information to make your transition to the field of professional writing smoother and gives insider tips on how to increase your chances of landing your dream job. The book concludes with an appendix that showcases profiles of some careers that an English major would excel at. As this book was developed with students from the Fall 2022 Introduction to Professional Writing course, these profiles were created by students just like you! They were tasked with researching careers they were

interested in, and developing a unique profile highlighting the associated skills, education, salary information, and other resources that will help you learn more about these careers. This is why each profile has a different design. We hope these profiles give you a better understanding of the kind of careers available to students with an English degree!

The goal of this book is to help you, the students, understand the possibilities of a career in technical and professional writing, focusing on fundamental skills that will serve you no matter what industry your career is in. Each rhetorical situation will be different, but this book will help you learn ways to research and approach these situations and respond to them as confident professional writers.

Notes

1. Kaleigh Moore, "Study: 73% of Employers Want Candidates With This Skill, " Inc. Magazine, April 7, 2016, https://www.inc.com/kaleigh-moore/study-73-of-employers-want-candidates-with-this-skill.html.

Chapter One: What Is Technical and Professional Writing

Did you know that you probably read or create technical and professional 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 the large number of college graduates applying for jobs possess.[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 within modern organizations is documented in writing. 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. Along these lines, "technical" and "professional" are used interchangeably throughout this textbook when referring to writers and/or the writing produced by them. While we use these terms interchangeably throughout this book, we can consider the differences between them as well as how they relate to each other by looking at what technical and professional writing encompass:

Technical communication—or technical writing—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 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 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 briefer than technical writing and targets an individual or small group of readers who may or may not be experts in the field.

In this textbook, the word "document" refers to any of the many products of technical writing, whether a web page, an instruction manual, a lab report, or a travel brochure.

Professional and technical writing courses build on what you have learned in other writing courses as well as on your own work experience. 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.

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To see different professional writing careers, check out the Appendix of this book that describes several careers where writing and communication is key.

About Technical and Professional Writing

Taking an introductory technical and professional writing course is a good way to start if you are interested in a career in technical and professional communication, or any career in which writing is a component. Many students in technical and professional writing courses are not necessarily planning for careers as technical writers. That is why this book 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 that writing 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, good for the organizations you work in, and—most of all—good for you and your career.

Importance of Audience

A key component 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 any professional and technical writing; you are challenged to write about technical subjects but in a way that a beginner—a non-specialist—could understand.

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. The ability to "translate" technical information to non-specialists is therefore a key skill for any technical communicator.

What Does Technical and Professional Communication Look Like?

If you are a technical and/or professional writer, that 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 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 (Centers for Disease Control and Prevention) 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 may work with.

This chapter was derived from:

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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).
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PART TWO: RHETORICAL AWARENESS

Chapter Two: Rhetorical Situation

A "rhetorical situation" can sound like an academic invention, but every piece of writing, from restaurant menus to office emails to doctoral dissertations, has a rhetorical situation. This chapter breaks down the complex and interwoven factors that impact writing—who is delivering the rhetoric, what their purpose is, who their audience is, what genre they're writing in, and who the rhetoric is built around—as key elements that define every rhetorical situation. Whether you're the reader or the deliverer, understanding these contextual factors is crucial to understanding the work.

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.

Your understanding of the rhetorical situation will guide you as you employ various strategies to guide your readers/listeners as they perceive and interpret your message. 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. Several of the first questions audience members ask themselves are:

- "Why should I listen to you?"
- "What does what you are saying have to do with me?"
- "How does this help me?"

The rhetorical situation involves six elements that will be explored in greater depth throughout this section: topic, deliverer, purpose, genre/form, context, audience:[1]

Topic. The specific focus of a rhetorical situation. Both the deliverer and audience typically have a relationship with the topic, 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 topic, who 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.

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 the specific rhetorical interaction is situated.

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.

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.

Deliverer

"*Three men sitting while using laptops and watching man beside whiteboard*" *by* Austin Distel *is licensed under* *Unsplash*.

The deliverer engages the audience in communication. Deliverers are a key part to consider in any rhetorical situation, reflecting their perspective on a concept while also appealing to the audience's perspective and interests in that concept. The deliverer will change tone or content depending on who their audience is. If they are delivering a work presentation, their tone will probably be more respectful; if they are addressing their friends, their tone will be more informal.

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**." A consultant might identify themself as an expert on the topic of diversity in hiring. They might identify themself as someone with work experience on diversity in hiring 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. They might employ a combination of some or all of these strategies. Ultimately, when we are analyzing a rhetorical situation, focusing on deliverers 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. Deliverers can also build ethos for the companies they work for. For example, when someone writes a corporate mission statement that discusses the values of the company they work for, they are promoting their company's ethos.

Purpose

The purpose of your writing piece is what is being conveyed to the reader, and what the reader is meant to get out of it. This can be communicated through a variety of ways, such as through an informative or entertaining lens, and is dependent on the aspects of the writing itself. Incorporating different functions within a piece of writing, such as making it entertaining to help persuade readers, can help to enhance the overall effect of the document.

The purpose is dependent on multiple other factors, including the other rhetorical situation components. For example, if a document's purpose is to persuade or inform the reader, its ability to do so is largely dependent on the deliverer's ethos, or the persona they've taken on to enhance credibility, which impacts the credibility of the overall writing piece. No matter what the goal of a document is, the contents within the writing determine how this is communicated to readers, and how effectively the piece of writing serves its specific purpose to its readers.

"*People sitting on chair in front of table while holding pens during daytime*" *by Dylan Gillis licensed by Unsplash*

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 goals of the document. For example, your primary purpose may be to persuade, but the audience 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, as discussed above, 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, in our scenario, imagine that the company's management wants to email their employees about changes in their hiring practices, so the speaker's purpose is likely going to be informational. This purpose will 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.

Genre/Form

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 professional writers use the term "genre," they mean something a little different.

"*Person holding white printer paper*" *by* *Nienke Broeksema* *licensed by* *Unsplash*.

Genre in professional writing is how the writer delivers a message within a specific form of text. For example, many texts in one genre will often have a similar format that allows the audience and the writers to recognize it as said genre. This can include anything from a complaint letter to a restaurant menu. A writer needs to keep in mind what the audience expects from a text so they can decide on the best genre for it. In professional writing, genres are guided by principles but are not specific formulas. This means that texts in the same genre will not all necessarily look the same but will have similar properties. Due to this, it is essential that writers pay attention to these principles and how they are applied in their workplace. This will help the text connect with the audience as well as with the overall message of the business or workplace.

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. 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. In these examples, you can easily imagine who uses the text, where, when, and for what purposes.

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 for applicants. 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 potential 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 seeker 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 have 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 to these conventions, 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 and will perhaps be asked to provide further application materials of other genres, 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, then you can design documents anticipating the needs of those genres. The more you can anticipate the different rhetorical situations that might be impacted by the writing you do, the more quickly you will advance as a writing professional.

Table 2.1 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 2.1. 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	Care plans	Incident Reports
Handouts	Discharge Instructions	Inspection 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 the genres encountered in that workplace connect with each other, you will improve your writing skills in those genres.

Context

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, 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 draws on understanding the other five main elements of the rhetorical situation and many more issues in creating quality communication. Writers must consider the historical and social surroundings, but also the topic, audience, genre, and purpose of their work, as well as how readers might access the work—whether through digital formats, physical copies, or audio recordings. Other aspects affecting access to the work like paywalls or physical spaces inform the reader's experience as well. If the work might be read by many readers of various cultural backgrounds, or only by a small and homogeneous group of the writer's peers, this will make a crucial difference in the appropriate tone, jokes employed, and expectations for the audience's previous knowledge. And what is

the audience seeking to get or experience from this writing? Considering factors like these helps writers to create more appropriate tone and content.

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 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 are wide in scope, with broader layers like industry standards and culture influencing narrower ones like the deliverer-audience relationship. 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.

Audience

The audience is the intended potential readers or listeners receiving the deliverer's message. A writer needs to be able to adapt their writing to meet the interests and needs of the reader. Gaining insight into the audience before creating the text is very important. **Audience analysis** is when you look for the traits of your readers before writing the piece, which helps you to connect with the audience better and produce a piece that speaks to them. There are different types of audiences, such as experts, technicians, and non-specialists. Considering the background of the reader is important in building a connection with them. Audience analysis is a key factor in creating the proper piece of writing because it allows the writer to select the best genre and context for that piece in light of the audience, as choosing the wrong way to deliver information to an audience can lead to misunderstandings.

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 demographic 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 will find in professional and technical documents.

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 in professional writing:

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 experts 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, want to understand the new technology enough to know whether to vote for or against it, 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 your readers to have. If you expect some of your readers to lack 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 on 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 the background 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, then 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 the question of whether to include background information—part of the solution may involve just how small or large a segment of the audience needs that 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 the readers want to read about, and equally important, what do they not want to read about in that report?

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.

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.

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.

Wide Variability in an Audience

You may realize that although you have an audience that fits into only one category, the backgrounds of its members vary 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 supplemental information in appendices or insert cross-references to beginners' books.

Reader-Centered Writing

In professional writing, it is important to take a more reader-centered approach. Reader-centered writing keeps in mind the demographics of its audience and how the information can best be relayed. This means thinking through all of the elements of the rhetorical situation. It is important to know who the target audience is, what their goal is in reading your document, the genre they will expect, what they already know about the subject, and what other elements or context will influence how the text is understood.

To craft an easily comprehensible text, it is essential that only relevant, need-to-know information is included. Leave out any information that the readers will not need to comprehend the text. It is also helpful to include examples and graphics that support

the subject matter. Also, make sure to maintain a professional tone that is straightforward, and use positive phrasing. This means using words such as "understood," "pleased," and "empowered." Furthermore, be sure to remain genuine and apologize for any mistakes you have made. Maintaining a reader-centered way of writing is important in professional writing because it allows the reader to better understand and connect with the text.

Consider the following questions:

Who is your target audience? Are they internal or external readers? Are they your manager or supervisor? Are they your subordinate? Or are they 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 is accessible for their level of knowledge. You can also use the information on their background 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?

Reader-Centered Approach: 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; definitions of key terms.

Omit information your readers do not need. Unnecessary information can confuse and frustrate readers. After all, if something is present in a document, 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 provide. 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.

Reader-Centered Approach: 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.

Reorganize 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 placed 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 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 clear information quickly, and who may need to take action on it.

Additional Resources:

"Rhetorical Situation," YouTube Video, University of Jamestown Writing Center.

"Rhetorical Analysis," University of Illinois Writing Workshop.

"Genre and Medium," Purdue University Online Writing Lab.

This chapter was derived from:

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PART THREE: PRACTICES OF PROFESSIONAL WRITING

Chapter Three: Collaborative Writing Process

Collaborative projects are common in many fields and disciplines, as individuals with various realms of expertise work together to accomplish goals and create products. 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 member writes less content than they would for an individual project. 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 in any field. Many people don't realize how much writing their job entails. However, as you will see in this section, such perceptions are often misinformed.

The writing process at work, 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 related communications tasks.

Most professionals 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 3.1 indicate that collaborative writing makes up a significant portion of overall writing tasks.

Table 3.1. Percentage of total work week that engineers 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

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."[3] The collaborative writing process is iterative and social, meaning the team works together and communicates 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 in the writing process.

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 in 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 3.2[4] for a detailed breakdown of these strategies, their advantages, and disadvantages. Can you think of any other benefits or limitations?

Table 3.2 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.	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
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 a document and describe who is responsible for it. Four main control modes (centralized, relay, independent, and shared) are listed in Table 3.3, along with their pros and cons. Can you think of any more, based on your experience?

Table 3.3. 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. In addition to whatever roles and responsibilities that individual team members perform throughout other stages of their project, the actual stages of composing and revising their document may require writing-specific roles. Members of small teams must fill multiple roles when prewriting, drafting, and revising a document collaboratively. The list below describes several roles within a collaborative writing team. 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?

- **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 their processes through such activities as planning, rewarding, and motivating.
- **Facilitator.** A person external to the team who leads the team through processes but doesn't give content-related feedback.

Documents and Tools to Improve Team Effectiveness

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

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 own schedules, strengths, and weaknesses better than those of 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 (such as members alternating secretarial and management roles) to avoid an overly rigid hierarchy.

Group member expectations. These are expectations both for 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.[5]

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 beginning in 2020, nearly all meetings went virtual.

Meeting Agenda

Regardless of how you meet as a team, group, or committee, you will need to define your purpose in advance with an agenda.[6] 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 discussing 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 3.4.

Table 3.4. Meeting agenda elements.

Term	Definition
Title Header	Title, time, date, location, phone number, email contact, and any other information necessary to get all participants together
Participants	Expected participants
Subject Line	Purpose statement
Call to Order	Who will call the meeting to order?
Introductions	If everyone is new, this is optional. If even one person is new, everyone should briefly introduce themselves with their name and respective roles.

Roll Call	A group recorder reviews who is in attendance at the meeting. This may quietly take place while introductions are made.
Reading of the Minutes	Notes from the last meeting are read (if applicable) with an opportunity to correct them. 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 the last meeting 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.

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. 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 one example, if team members volunteer for a specific task during a meeting, then creating and distributing minutes helps everyone involved remember what they are supposed to do and when.

Strategies for Effective Meetings

You want to have an efficient and effective meeting, but you should recognize that group communication by definition can be chaotic and unpredictable. Here are strategies to mitigate that.

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 roles and responsibilities prior to the meeting.

Effective Meeting Strategies:

- Start and end your meetings on time.
- Make sure all participants know one another before discussion starts.
- Refer to the meeting agenda to reinforce time frames 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 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.[7] Parliamentary procedure is a set of rules and procedures that organizations and groups can use to run meetings and make decisions.

A Note for Group Projects

One of the most common differences between **school-based teams** and **work-based teams** is that school-based teams approach teamwork assuming that the fairest option is for each team member to contribute equally to the overall project. School-based teams are generally concerned about making the contribution weights for team members 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. It is not a bad thing to expect school teams to distribute work equally, but this distinction is important to help you have clearer expectations when you move into working with teams in the workplace.

Additional Resources:

"Collaboration and Group Work," Writing Space.

"Collaborative Writing Resources," University of Connecticut.

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5. See Roger K. Mosvick and Robert B. Nelson, *We've Got to Start Meeting Like This: A Guide to Successful Meeting Management* (New York: Park Avenue Productions, 1996).
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Chapter Four: Research

Research Terminology

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 the related information. 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 conduct 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 of 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 4.1 distinguishes between these two types of data.

Table 4.1. 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 a site, touring a 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, commitee reports, survey results, ect.

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, which 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, use both data types.

Research Methods and Methodologies

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 methods. 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 entail gathering 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.

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, unlike the potentially biased viewpoint reflected in 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 generate reliable data that can be generalized.

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 with it. 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.

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 wait 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 questions, 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 questions (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 questions (Quantitative). These questions allow for pre-set answers and are particularly useful for collecting demographic data. For example, a multiple choice question might be phrased like this: "How many years have you attended your university?" Depending on the question and potential answers provided, 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, provide 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 your 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, 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 do not get addressed. When designing interview questions, you will want not only to consider the content of those questions but also in what order they appear.

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 feel odd to college and university students. You will also want to prepare any equipment (such as a recorder or smartphone, but request permission first before recording!), questions, and IRB approval, if applicable.

Carter McNamara offers the following suggestions for wording interview questions:

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 follow-up questions rather than as part of the initial query.

Questions should be worded clearly. This includes using any terms particular to your context or to 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 how the interviewee might dress. 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.

Field Research

When conducting field research, or research that takes you outside of a lab or simulation, you will need to do 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 to use. 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 in the class 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 on whether the students are doing things that don't involve electronics, 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. Reviewing transcripts of interview data and assigning specific labels and categories to the data. A common social science method.

Cost/benefit analysis. Determining how much something will cost versus what measurable benefits it will create.

Life Cycle analysis. Determining the 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. Comparing two or more options to determine which is the "best" given specific problem criteria such as goals, objectives, and constraints.

Process analysis. Studying each aspect of a process to determine if all parts and steps work efficiently together to create the desired outcome.

Sustainability analysis. Using 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 (resulting in 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.

A Note About Not Citing

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 likely spent

considerable time and effort to give you a sophisticated understanding of how and why to avoid plagiarizing, as well as the consequences of plagiarizing.

Human Research Ethics

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 federal government's Belmont Report: respect for persons, beneficence, and justice.[2]

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."[3] 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,"[4] along with committing a number of other serious ethical violations.[5] Respect for persons, beneficence, and justice guide researchers in ethical research practices.

There are a number of federal agencies that have guidelines and requirements governing human subjects research in addition to the Belmont Report.[6] 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 have institutional review boards, or IRBs, that review research plans to ensure compliance with government regulations and ethical guidelines.[7] 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 defines research as "a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge."[8] 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 IRB approval is required for a course research assignment.

Regardless of whether any 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 guidance 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 the 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 of participation, 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 human subjects research 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. These other methods are generally not recommended because they involve additional ethical considerations.[9]

Finding and Evaluating Research Sources

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, such as magazines, as shown in Table 4.2. 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 whereby each article is evaluated by other experts in the field before it is published.

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 by others 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.

Image of magazines by [crookoo](#) licensed under [Pixabay license](#).

Research article | Open access | Published: 22 October 2012

Anatomy of open access publishing: a study of longitudinal development and internal structure

Mikael Laakso & Bo-Christer Björk

BMC Medicine **10**, Article number: 124 (2012) | Cite this article

57k Accesses | **188** Citations | **398** Altmetric | Metrics

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.

Image of "[Anatomy of Open Access Publishing](#)..." by Laakso and Björk licensed under [CC by 2.0](#).

Scholarly articles published in academic journals are usually required sources in academic research essays; they are also an integral source for engineering projects and technical reports. Furthermore, many projects require a literature review that collects, summarizes, and sometimes evaluates the work of researchers whose work has been recognized in a field as a valuable contribution to that field. Scholarly sources such as journal articles are usually cited as the major sources, 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 to your work. Since you are preparing for the workplace and for researching in a professional field, there are many credible kinds of sources you will draw on in a professional context. Table 4.2 lists several types of sources you may find useful in researching your projects.

Table 4.2. 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. For example, *Designing Engineers* by Susan McCahan, et al. has an excellent chapter on effective teamwork. When selecting books, look at the publisher. Publishers affiliated with a university tend to be more credible than popular presses.
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 what is "state of the art" or "cutting edge" at the moment, or in finding out what current issues or controversies are affecting an 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 an 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 from them 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, cost estimates, etc.

Government Publications and Public Sector Websites (.gov/.edu)	A vast array of .org, .gov, and .edu 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 agendas, so keep that context in mind when reviewing them.
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	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 of sources 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.

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. 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 their whole context, and don't dismiss a valuable source because it is popular, crowdsourced, or from a nonprofit blog.

A 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 analyze the authority, content, and purpose of the material, using questions such as those in Table 4.3. When evaluating sources for use in a document, consider how they will affect your own credibility or ethos.

Table 4.3. Evaluating authority, content, and purpose of information.

Authority	**Researchers, Creators, Authors** • 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 from it? • 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 the purpose of entertaining or promoting a product; this evidence is anecdotal.
Content	**Methods** • What are the methods used in the study? How has the evidence presented been collected? • Is the methodology (the system or collection of methods) sound? Can you find obvious flaws? • What is the scope of the content? 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 presented to support the claims or hypotheses? • Does the study 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 a source and why. There are several reasons why you might 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.

Confirmation bias refers to when you (unintentionally or otherwise) only consult sources that you know will support your idea. Cherry-picking is the actual use of inadequate or unrepresentative data that only supports your position and ignores substantial amounts of data that contradict it. Comprehensive research instead addresses contradictory evidence from credible sources and uses all data to inform its conclusions.

Finally, you will 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 may realize that the writer was describing an outlier or critiquing an incorrect point. A 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.

Additional Resources:

"Research in Professional Writing and Communication," by Dr. Teresa Henning. Southwest Minnesota State University.

This chapter was derived from:

Last, Suzan; and Nicole Hagstrom-Schmidt. *Howdy or Hello: Technical and Professional Communication*. 2nd Edition. College Station, TX: Texas A&M University Libraries, n.d.

https://pressbooks.library.tamu.edu/howdyorhello/front-matter/introduction/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

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.

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Chapter Five: Basic Design and Readability in Publications

The way a text looks matters to a reader, so it should matter to a writer. Letters, reports, and blogs are more than just words on a page or a screen. How ideas are arranged and delivered in physical form, whether electronically or on paper, can make reading seem intimidating, confusing, or downright unfriendly, even if the content itself is perfect.

Your text is like a room for your ideas. Sometimes you want readers to get in and get out quickly, but often, you want them to sit down and make themselves comfortable, to put their feet up and stay awhile. Whatever the case, you should be in control of the reader's experience.

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

Good document design is both a science and an art. The particular design of a document—what it contains, what **color scheme** it follows, what **alignment strategy** it reflects, and so on—is the result of a series of choices made by the designer. It takes a long time to master the finer points of design, and this chapter won't turn you

into a designer, but it will offer some simple ways of thinking that will help you strategize about how to make your document intuitive and reader-friendly—easy to scan, search, and read.

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

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

The Times.

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Image of [London Times December 4, 1788](), *from London Times,* [Public Domain]()

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

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

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

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

C is for Contrast: Use difference to draw readers' eyes to and through your text or publication

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

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

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

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

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

Contrast Element I: Size

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

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

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

Contrast II: Font size/style/weight

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

It's important to choose a **font** (a particular size, style, and weight within a typeface) that fits our purpose. Some, like script and handwriting typefaces, are too hard to read and so aren't appropriate for body text, for example. Some typefaces work well as headlines: Franklin Gothic Condensed and Caslon are two typefaces often used for newspaper headlines. The font chosen is the designer's choice.

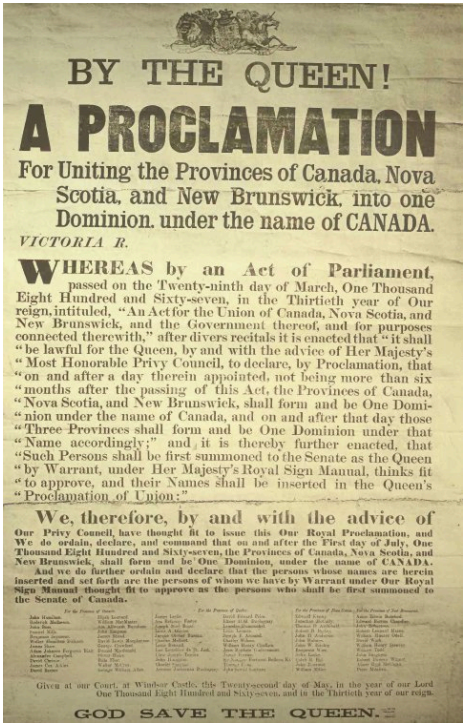
What's important to most people is that we all have a huge variety of typefaces, or font families, to choose from: Times New Roman, Arial, Bookman, Georgia, and Garamond are familiar to many of us. It's important to distinguish between serif and sans serif fonts. Sans serif fonts, like Helvetica or Futura, are simple and smooth; the letters don't display the "feet" and ornamentation (serifs) that serif fonts do. Sans serif fonts are often used for headlines, but serif fonts are more likely to be used for body text. Many typographers think serif fonts (also called Roman fonts) make large blocks of body text easier to read. Some of the preference is really just about tradition.

Gill Sans

Helvetica

Futura

Image of Typefaces San Serif by *Roger Koslowski*, CC BY-SA 3.0



BY THE QUEEN!

A PROCLAMATION

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

VICTORIA R.

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

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

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

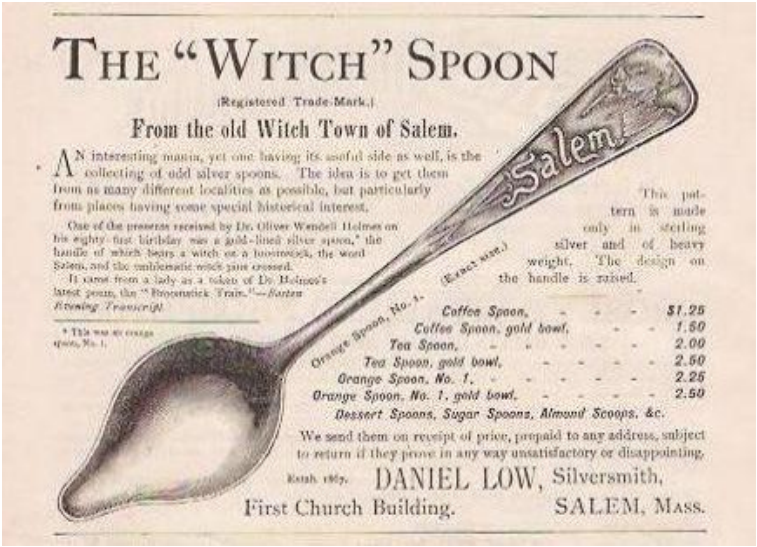
Given at our Court, at Windsor Castle, this Twenty-second day of May, in the year of our Lord One Thousand Eight Hundred and Sixty-seven, and in the Thirtieth year of our reign.

GOD SAVE THE QUEEN.

"*Proclamation Canadian Confederation*", *Public Domain*

Contrast III: Direction (vertical, horizontal, circular, etc.) or position (top, bottom, side)

Changing the direction or orientation of text, using graphic elements like lines, banners, or screens (such as smaller transparent or opaque boxes, often in a color that contrasts with the background) can add contrast and pull the audience's eye to important information and can add visual appeal while still helping the audience gain the information they need.



"*The Witch Spoon*" *by Daniel Low*, *Public Domain*

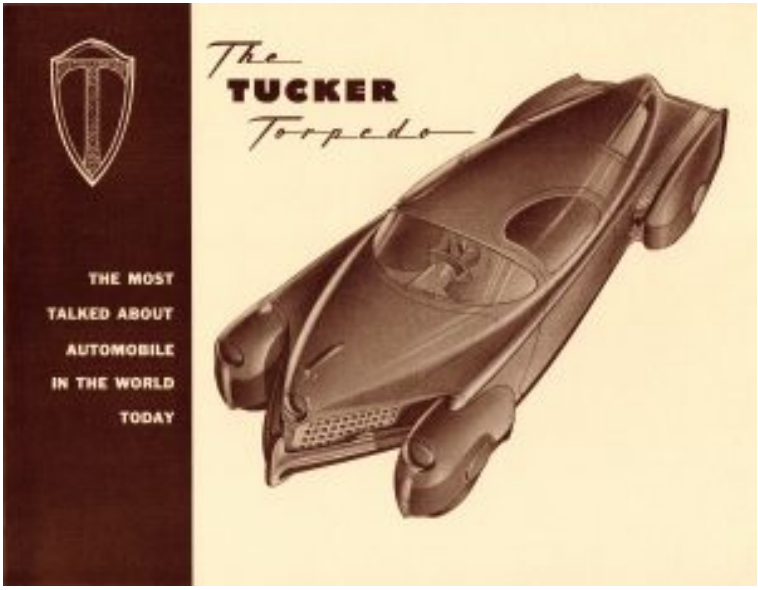


Image by *Alden Jewell*. *CC BY-SA 2.0*

Contrast IV: Alignment (center, left, right, justified)

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

Image by *Word Draw*. *CC BY 2.0*.

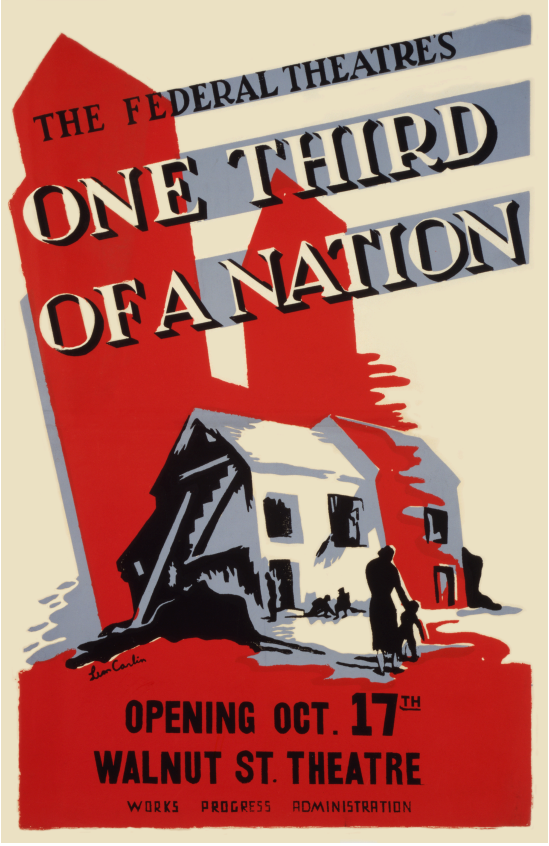
Images are often placed in a particular location on a page (or slide) to draw readers' attention in one direction or another. Consistent alignment with slight variations to provide interest is particularly important in PowerPoint presentations. You will be flipping from one slide to another, and if the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

Contrast V: Graphic elements (photos, banners/bands, pull quotes, or logos)

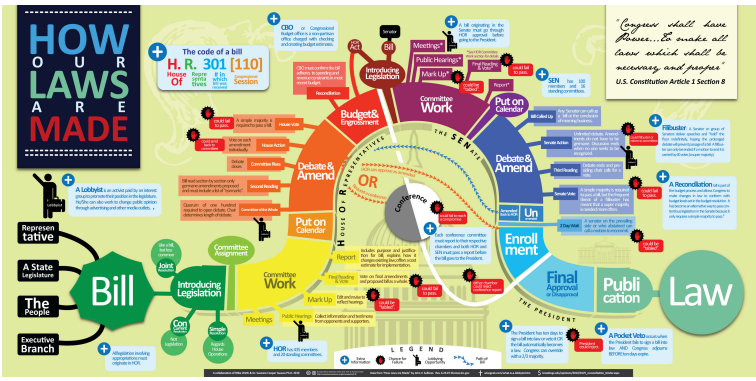
Remember, we're trying to create contrast, or difference. Breaking up huge blocks of text with a variety of graphic elements can really add visual appeal and interest.

Just remember—as with the examples below, less is more. Think of all the publications and websites you've seen whose designers thought it was awesome to make text bold AND underlined AND multicolored AND flashing. With a bright yellow background. And too many animated GIFs. This repels readers rather than attracting them. I know you know what I mean.

Image by Aamir Raza. [CC BY 2.0.](#)



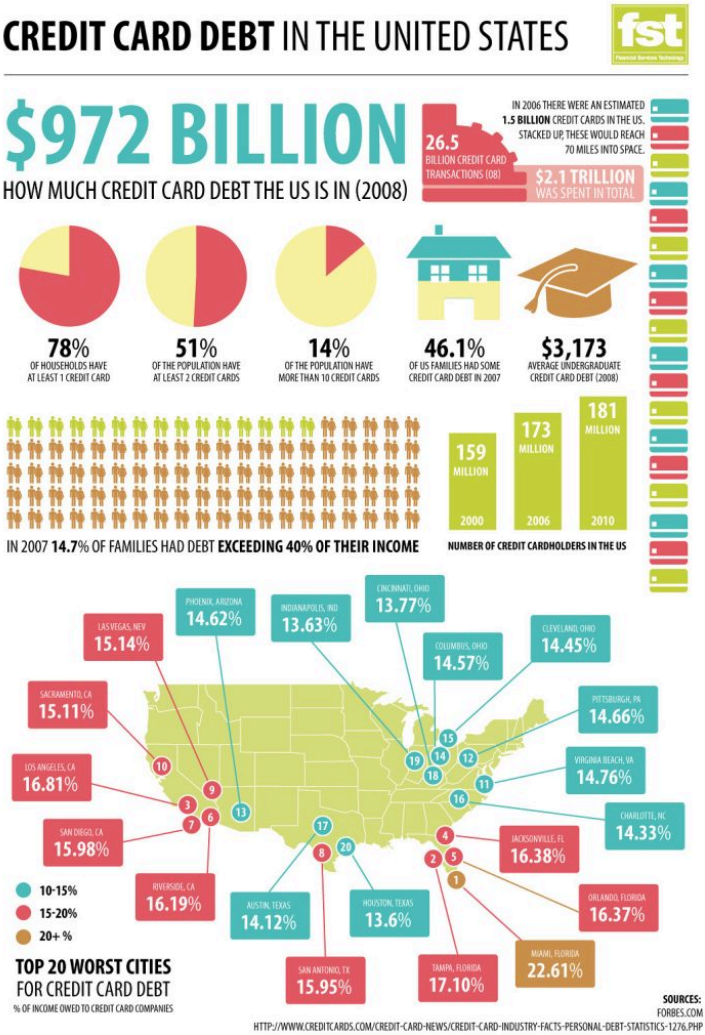
"*One Third of a Nation*" *design by Leon Carlin, Public Domain*



"*How our Laws are Made*" *by Mike Wirth and Dr. Suzanne Cooper-Guasco,* CC BY 3.0,

Contrast VI: Color (of background, text, graphic elements, etc.)

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



"*Credit Card Debt in the United states*" *by Tiffany Farrant.* CC BY 2.0.

Contrast VII: Use of negative or "white" space

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

THE FRENCH LAUNDRY

TASTING OF VEGETABLES

DECEMBER 4, 2005

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

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

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

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

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

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

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

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

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

"MIGNARDISES"

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"*French laundry Carte*" *uploaded by EncMstr, Public domain.*

"*Pizza Restaurant Menu*" *by* *Hotel Kaesong*, *CC BY-SA 2.0*.

R is for Repetition: Repeat design strategies throughout your document to provide a sense of connection

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

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

On a smaller scale, in a résumé, most applicants use bullet-pointed sections to list their job duties. "Repetition" in this context means that all these bullet points should be formatted identically, with the same font, size, line spacing, and indentation. Each group of bullet-

pointed items should be the same distance from the text above and below. The bullet points themselves should be exactly the same shape and size. This can be a lot of things to keep track of!

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

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

Templates for newsletters, résumés, and PowerPoint presentations ensure that basic design elements like font size/style, color, image size, and alignment are consistent from page to page. Templates provide a quick, easy way to solve repetition issues.

A is for Alignment: There should be a clear, deliberate arrangement of items on a page

Alignment can refer to the placement of text, as in the left-aligned body text required in MLA style. But in document design, it means much more; it refers to how the entire document is arranged.

Most designers align all their content into some sort of a grid or pattern, creating a distinct, intentional arrangement of items on a page or screen. They use plenty of white space to cushion the items, which makes higher-contrast items "pop."

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

Photo by [homestilo](), [CC BY 2.0.]()

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

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

Learning how to arrange text and images artfully on a page takes tons of time, not to mention collaboration, thought, hard work, and a whole email inbox full of user feedback.

P is for Proximity: Items that have similar functions or purposes should be grouped together

Is this a rock formation or just a random collection of boulders?

Image by Linnaea Mallette. Public Domain.

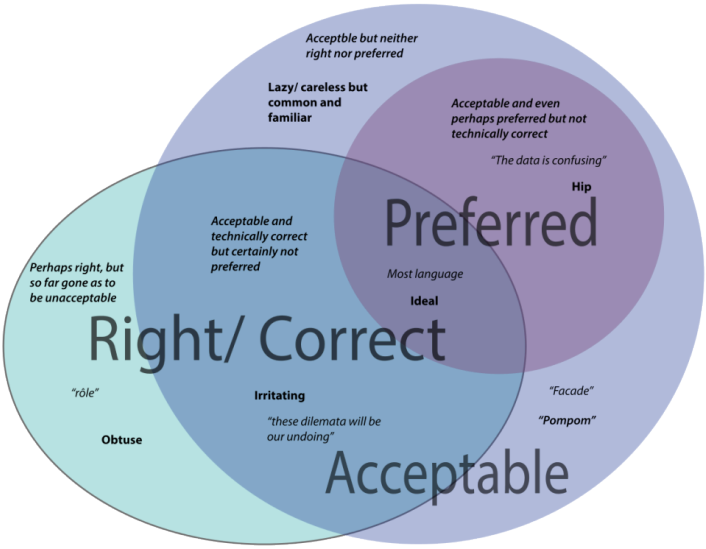
Image by Gaius Cornelius, CC BY-SA 3.0.

The second photo depicts a deliberate grouping, though it probably wasn't hard to figure that out. When we work with pictures and blocks of text and not stones, think of this: when design and text elements are placed next to each other in certain ways, readers or viewers can see that they are meant to be considered together and have some sort of relationship. For example, photos and figures have captions that explain their contents. Nearby images often illustrate the content found in the body text. Headlines are placed above body text whose content and focus they describe in briefer form.

Proximity can be especially critical in booklets, newsletters, and brochures, in which certain pages or panels might be grouped together under a subheading. Individual pages can be designed to reflect a larger relationship with the overall theme or subject matter of the piece. For example, the themes provided by blogging platforms like WordPress take care of this for you—every page has a recognizable layout, and though individual pages might be slightly different, they are recognizably related to the blog's main page. Websites work the same way, as do book chapters.

"Atlantic & Pacific Tea Company" *from Allentown Morning Call Newspaper, Public Domain.*

The principle of proximity even affects white space: equal amounts of white space and equal line spacing between items indicate that they are related or should be considered as parts of a whole. If headlines, captions, or body text blocks aren't close enough to the image or text to which they are related, the reader could be confused about what actually is—and is not—related.



"Venn Diagram of Language Issue Space" *image by* KDS4444, Public Domain.

The Venn diagram above is very confusing. Why are there different font weights, sizes, and quotation marks setting off the words? Note that entries for the "Acceptable" lavender category are in both the top left and bottom right of the circle. Their relatively distant position (proximity) makes the relationship between these terms unclear. There are no headlines or labels here to help us understand, and the design strategy isn't doing readers any favors.

Planning and adjusting how items are grouped on a page helps you design your text, graphics, and images so that readers can see what's related, what's different, and what is similar. What is close together will be seen to have a relationship. Moving items further away decreases the strength of that relationship in the minds of your readers. The same is true with headlines and body text, groups of bullet points, images and captions, and a whole lot more.

This chapter has only acquainted you with some of the most basic elements of design. Perhaps after reading the chapter, you'll start seeing CRAP wherever you look.

Additional Resources:

"Information Design Rules," The Visual Communication Guy.

"Principles of Design," YouTube video, Ashley Holst.

This chapter was derived from:

Naas, Jodi. *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.

Chapter Six: Revising and Editing

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.

Image by Bret Gosselin. CC BY-NC-SA 2.0.

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, such as paragraph length and tone, accumulate to impact a document's overall content and structure.

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 little point in checking for comma placement in a paragraph that might be removed from the piece 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 6.1 offers a step-by-step process for revising your document to achieve a readable style. 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 various 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 6.1. 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 elements. • 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 information that is unnecessary or irrelevant 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 the ratio of verbs to number of words per sentence. Generally, the higher the 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, then you will want to do an additional "pass" to make sure that all sources are cited properly and that they all appear in your References or Works Cited section at the end of the document. You also should make sure all sources in your References or Works Cited are actually used and appropriately cited or referenced within the body text.

Revision Techniques

When you look at the many ways you can review (look for potential problems) and then revise (fix those problems) a document, 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, then 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.

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 in it, 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 it 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 of the report 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 to understand 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 is or isn't appropriate for your audience, then 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, then 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—for both individual paragraphs and the whole document.

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 subordinate elements of the second type. 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.

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. Reverse outlining, or the practice of creating an outline based off of an already-written document, can also help you visualize the document's 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 in which 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 document's internal sequence of information to the document's audience, context, and purpose. Here are some examples of common informational sequences:

General → specific. Arrange information from general to specific. For example, listing categories of evidence is more general than defining specific examples of evidence. This pattern is illustrated in Table 6.2.

Table 6.2. 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 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 non-specialists.)

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 the many possibilities for sequencing information in your writing. 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 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. 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, but 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 category it belongs to, and describes its distinguishing characteristics. The sentence 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 the general subject at hand or reminds the readers about it. This sentence 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, then a traditional topic sentence up front may be inappropriate.

In addition to using 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.

Moving Between 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, 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 document needs a great deal of expository writing and will be printed in hard copy, then you can probably use relatively long paragraphs. A single-spaced page full of text will probably contain one to four paragraph breaks.
- If your document does not require long blocks of text, then consider breaking it up into very short paragraphs. Three sentences per paragraph is a widely accepted average.
- If your document will be posted online, then use short paragraphs. People generally find it easier to read short paragraphs than 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 begin with 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 by introducing a related 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 your document's sequence of information. 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 will 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, then 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 will be whether to use it or to substitute a more common, easily understood word. If you choose to use the unfamiliar word, then you will need to decide how to convey its

meaning to your audience. 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—by its due date. If you have done your preparation, know your assignment goal and desired results, have learned about your audience, and have tailored your 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 your 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 revision and completion 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 of 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 some of most common sentence-level problems and show you ways of fixing them. Knowing these eight things to watch for will enable you to spot other problems.

1. 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 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 incorporate 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** through 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, then 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, then make sure you conclude the clause with a comma.

2. 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 6.3 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 you intend.

Table 6.3. 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.

3. 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 sentences containing these stacks and "unstack" their long noun strings by separating them and transforming them into multiple verbs, clauses, and phrases.

The following examples in Table 6.4 demonstrate this problem and how to fix it. In each revised version, notice how a long string of nouns has been broken apart.

Table 6.4. 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, as well as the best pedagogical practices to apply in hyflex learning environments, will be analyzed.
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.

4. 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 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 6.5 presents some classic examples of wordy phrases and their revised versions.

Table 6.5. 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
At this point in time	Now, then
In the 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
Insomuch as	Since, because
In connection with	Related to
It has come to my attention that	I have learned that
In close proximity to	Near, close
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

5. 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 are more often redundant and weaken a sentence's impact. If you can, delete them from technical documents.

Table 6.6 presents some examples of sentences with expletives and their revised versions without expletives.

Table 6.6. 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.

6. 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 6.7.

Table 6.7. 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 6.7. However, the passive voice allows for the actor to be concealed, as Table 6.8 shows.

Table 6.8. Passive-voice concealment.

Passive Voice	What is Unclear	Active Voice
The paper was graded.	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.

Note: *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 6.9 shows how the passive voice can cause wordiness, indirectness, and comprehension problems.

Table 6.9. 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?)	Most doctoral students complete their programs in five to seven years. Between costs of living and tuition, and generally low stipends, it is difficult for these students to avoid accumulating debt without receiving 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 indicates 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 face masks. (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 face mask 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?)	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.

7. 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, then your subject and verb match. Table 6.10 provides some examples and their revisions.

Table 6.10. 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 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.

8. Commonly Confused Words

As with most languages, English contains many words that sound similar but have different spellings and distinct meanings. Table 6.11 below identifies many commonly confused words and their correct usage.

Table 6.11. 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)
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).
There, their, they're	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, 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")
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")

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.

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, Microsoft Word has a built-in readability tool that will tell you the number of words per sentence and provide an estimate of the text's grade level. To use this tool,

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 your document contains a string of sentences that are close to the same length (for example, six sentences of exactly fifteen words each), then 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.

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, then 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 6.12 presents some examples of overly long, complex sentences and their revised versions.

Table 6.12. 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, who can engage their students through experiential learning and critical dialogue exercises. **Length:** 45 words **Grade Level:** 26.4	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:** 16.2

Note: *Readability scores and grade levels are those determined by Microsoft Word's readability statistics.*

Additional Resources:

"How to Become an Editor: A Guide for Beginners," reedsyblog.

"How to Edit Your Own Writing," by Harry Guinness, *The New York Times*.

This chapter was derived from:

McMurray, David and Jonathan Arnett, "Power-Revision Techniques," in *Open Technical Communication*, eds. Tiffani Reardon, 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. 4th Edition. Athens, GA: Affordable Learning Georgia, n.d. https://alg.manifoldapp.org/projects/open-tc. Licensed under a Creative Commons Attribution 4.0 International License.

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.

McMurray, David; Jonathan Arnett; Anonymous; Nicole Hagstrom-Schmidt; Kalani Pattison; Matt McKinney; Claire Carly-Miles; and Kathy Anders. *Howdy or Hello: Technical and Professional Communication.* 2nd Edition. College Station, TX: Texas A&M University Libraries, n.d. https://pressbooks.library.tamu.edu/howdyorhello/front-matter/introduction/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Chapter Seven: Slides and PowerPoint Presentations

To PowerPoint or Not to PowerPoint?

Microsoft introduced PowerPoint in 1990, and the conference room has never been the same. Millions were amazed by the speed with which a marketing professional or an academic could put together a consistent, professional-looking slide presentation. And then…

At some point, somebody with critical thinking skills asked a great question: "Do we really need all these slideshows?" The stock images of arrows, businesspeople in suits, and stick figures scratching their heads, and the glowing, jewel-toned backgrounds eventually looked tired and failed to evoke the "wow" reaction presenters desired.

Microsoft is attempting to refresh the design options for PowerPoint, and there are dozens of good alternatives, some of which are free (Keynote, Slide Bureau, Prezi, SlideRocket, Easel.ly, Emaze, Slidedog). But the fundamental problem remains—text-heavy, unfocused, overlong presentations are the problem, not the software. If you are sure that a visual presentation will provide something necessary to your audience, then keep the number of slides and the amount of text on each slide to a bare minimum. Think of a slide presentation as a way of supporting or augmenting the content in your talk; don't let the slides replace your content.

If you had planned to read your slides to the audience, don't. It's considered one of the single most annoying things a presenter can do. Excessively small text and complex visuals (including distracting animations) are frequently cited as annoyances.

Try to design your slides so that they contain information that your viewers might want to write down. For example, good presentations often contain data points that speakers can't just rattle off or quick summaries of key concepts that viewers won't be able to make up on the fly. If you can't explain how the slides add value to your presentation, then don't use them.

To get a feel for what may annoy your audience, try Googling "annoying PowerPoint presentations." You'll get a million hits containing helpful feedback and good examples of what *not* to do. And, finally, consider designing your presentation to allow for audience participation instead of passive viewing of a slideshow—a good group activity or a two-way discussion is a far better way to keep an audience engaged than viewing a stale, repetitive set of slides.

Tips for Good Slides

All of the design guidelines in this book—CRAP in particular (see Chapter 5)—will help you create consistent, useful, 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 readable. Slides overloaded with text and/or images will strain your audience's capacity to identify important information. Using complex, distracting transitions or confusing (or boring) graphics that aren't consistent with your content are worse than having no transitions or graphics at all. Here are some general tips:

- Simplicity is best: use a small number of high-quality graphics and limit bullet points and text. Don't think of a slide as a page that your audience should read.
- Break your information up into small chunks for your audience, and make sure your presentation flows well. Think of a slide as a way of reminding you and the audience of the topic at hand.

- Slides should have a consistent visual theme; some pros advise that you avoid using the stock PowerPoint templates, but the "Repetition" and "Alignment" aspects of CRAP are so important that if you don't have considerable design skill, templates are your best bet. You can even buy more original-looking templates online if you don't like the ones provided with the software.
- Choose your fonts carefully. Make sure the text is readable from a distance in a darkened room. Practice good "Repetition" and keep fonts consistent.
- Practice your presentation as often as you can. Software is only a tool, and the slide projector is not presenting—*you* are. Realizing this is half the battle.

Additional Resources:

"You Suck at PowerPoint: 5 Shocking Design Mistakes You Need to Avoid," Jesse Desjardins.

"How to Give a Killer Presentation," *Harvard Business Review*.

This chapter was derived from:

Naas, Jodi. *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.

PART FOUR: DIGITAL COMMUNICATION

Chapter Eight: Text Messages and Emails

Text messaging, emailing, and posting on social media in a professional context requires that you be familiar with "**netiquette**," or proper etiquette for using the Internet. We have all heard the news stories about people who have been fired[1] and companies that have been boycotted for making offensive or inappropriate social media posts.[2] People have even gone to prison for illegal use of private messaging.[3] The digital world may *seem* like a free-for-all, "Wild Wild West" with no clear rules or regulations. However, this is clearly a dangerous perspective for a professional to take, as the consequences for breaking tacit rules, expectations, and guidelines for professional communications can be very costly.

The way that you represent yourself in writing carries significant weight. Writing in an online environment requires tact, skill, and an awareness that what you write may be there for a very long time and may be seen by people you never considered as your intended audience. From text messages to memos to letters, from business proposals to press releases, your written business communication represents you and your company—your goal is to make it clear, concise, constructive, and professional.

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 Instagram page or Twitter feed may have been seen by your potential employer, or that insensitive remark in a Facebook post may come back to haunt you later.

Guidelines for Communicating Online

Following several guidelines for online postings, as detailed below, can help you avoid embarrassment later:

- **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

- **Remember the human**
  - Remember there is a person behind the words posted; ask for clarification before making judgment
  - Check your tone before you publish; avoid jokes, sarcasm, and irony as these can often be misinterpreted and get "lost in translation" in the online environment
  - Respond to people using their names
  - Remember that culture, age, and 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 a communication rather than responding to it

- **Recognize that text is permanent**
  - Be judicious and diplomatic; what you say online may be difficult or even impossible to retract later
  - Consider your responsibility to the group and to the working environment
  - Agree on ground rules for text communication either formally or informally and seek clarification whenever needed if you are working collaboratively

- **Avoid flaming: research before you react**
    - Accept and forgive mistakes
    - Seek clarification before reacting; what you heard is not always what was said
    - Ask your supervisor for guidance*

- **Respect privacy and original ideas**
    - Quote the original author if you are responding with a specific point made by someone else
    - Ask the author of an email for permission before forwarding the communication.

** 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 for help.*

Messaging

On digital devices, written communication in the form of brief messages has become a common way to connect. This is particularly true with team chat applications such as Slack and Microsoft Teams, which are becoming increasingly popular with companies as a means for employees to quickly communicate with each other. On these platforms, short exchanges are common, as they are a convenient way to stay connected with others when talking on the phone, or sending an email, would be cumbersome. If you need a quick, brief answer right away, messaging is often the best choice.

However, it's also important to be mindful of the company culture and what is deemed "appropriate" on these platforms. For example, when people message their friends and family, they often send gifs as a way to communicate their reactions. Should you also do this at

your company? It depends. Some companies are okay with it, some are not. Even if they are okay with you using gifs, there may be rules around the types of gifs that are sent. Pay attention to how others are communicating in these spaces and use that as a guide for your own communication style.

In summary, messaging is not useful for long or complicated messages. When deciding whether a text or email is better, careful consideration should be given to the audience. Wouldn't it seem strange if someone sent you a text that was like an email?

When messaging, always consider your audience and your company, and choose words, terms, or abbreviations that will deliver your message appropriately and effectively.

Guidelines for Effective Business Texting

If your work situation allows or requires you to communicate via text messages, keep the following tips in mind:

- **Know your recipient:** "? % 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?"
- **Anticipate unintentional misinterpretation:** when texting, you often use 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.
- **Use appropriately:** contacting someone too frequently can border on harassment. Texting is a tool. Use it when appropriate but don't abuse it.
- **Don't text and drive:** research shows that the likelihood of a car accident increases dramatically if the driver is texting behind the wheel.[4] Being in an accident while conducting company business would reflect poorly on your judgment as well as on your employer.

Email

Photo by Annie Spratt's. Licensed by Unsplash.

Email is familiar to most students and workers. In business, it has largely replaced print hard copy letters for external (outside the company) correspondence, and in many cases, it has taken the place of memorandums for internal (within the company) communication.[5]

Email can be very useful for messages that have slightly more content than a text or chat 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 upon you and your company, and a professional tone so that it may be forwarded to any third party if needed. Email often serves for exchanging information within organizations, but never write or send anything that you wouldn't want read in public or in front of your company president.

As with all writing, professional communications require attention to the specific 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.

Guidelines for Effective Business Emails

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 Ms. X" (external) or "Hi Barry" (internal).

Include a clear, brief, and specific subject line: this helps the recipient understand the essence of the message. For example, "Proposal attached" or "Electrical specs for project Y."

Close with a signature: identify yourself by creating a signature block that automatically contains your name and business contact information.

Avoid abbreviations: an email is not a text message, and the audience may not find your wit cause to ROTFLOL (roll on the floor laughing out loud).

Be brief: omit unnecessary words.

Use a good format: 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 take the time to get it right the first time.

Reply promptly: watch out for an emotional response. Never reply in anger, but make a habit of replying to all emails within twenty-four hours, even if only to say that you will provide the requested information in forty-eight or seventy-two hours.

Use "Reply All" sparingly: do not send your reply to everyone who received the initial email unless your message absolutely needs to be read by the entire group.

Avoid using all caps: capital letters are used on the Internet to communicate emphatic emotion or yelling and are considered rude.

Test links: if you include a link, test it to make sure it is working.

Email ahead of time if you are going to attach large files: audio and visual files are often quite large; be careful to avoid exceeding the recipient's mailbox limit or triggering the spam filter.

Give feedback or follow up: if you don't get a response in twenty-four hours, email or call. Spam filters may have intercepted your message, so your recipient may never have received it.

Tip: *Add the address of the recipient last to avoid sending prematurely. This will give you time to do a last review of what you've written, make sure links work, make sure you've added any attachments, etc., before adding the sender's address and hitting send.*

The sample email below demonstrates the principles listed above:

From: Steve Jobs <sjobs@apple.com>

To: Human Resources Division <hr@apple.com>

Date: September 12, 2021

Subject: Safe Zone Training

Dear Colleagues:

Please consider signing up for the next available Safe Zone workshop offered by the College. As you know, our department is working toward increasing the number of Safe Zone volunteers in our area, and I hope several of you may be available for the next workshop scheduled for Friday, October 9.

For more information on the Safe Zone program, please visit http://www.cocc.edu/multicultural/safe-zone-training/.

Please let me know if you will attend.

Steve Jobs
CEO, Apple Computing
sjobs@apple.com

Additional Resource:

"Why is Email Etiquette Important," Husnain Raza.

This chapter is derived from:

Suzan Last. *Technical Writing Essentials*. Open Oregon Educational Materials, n.d. https://pressbooks.bccampus.ca/technicalwriting/chapter/correspondence/. Licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

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Chapter Nine: Writing for the Web

Writing for the Web: What's Different?

Web and print documents offer different affordances for how the audience will navigate through information. Below are different considerations web writers must think about:

Use **links** to direct readers to related articles, background information, and the source of your information. Why settle for including only a small quotation when you can send your readers to the entire article? Clicking a link is a lot easier than driving down to the library to find the book or article in question. You can also use internal links, which make it easier to jump around inside a single document or connect to other pages within your website. Google Docs, for instance, has a table of contents feature that will link together all the parts of your document. If you have a blog, then you can link to earlier posts that are relevant to what you're talking about.

Writing for the web means thinking about all of the different contexts in which your work can be found. That's why it's important to always **title** your work. In addition, once people arrive at your pages, you should have broken big chunks of text into smaller sections, with section headings, so they can find what they want quickly. Anything that takes longer than 10 minutes for the average person to read should be broken up into multiple posts or sections. Instead of thinking in terms of articles or essays, try to think more about paragraphs (**blogs**) and sentences (**tweets**).

Writing for the web also means that you are part of an information ecology. Other people may find your writing through a search engine or an RSS feed. They can easily search your text for keywords or zip instantly to a specific chapter or section.

Writing for the web also has built-in **community features**—it's a lot faster and easier to get feedback from your readers and have discussions about your texts when you put them online. Communities are what make writing for the web so much fun! Before, authors had to wait weeks, if not months (or even years!), to get feedback on their work. By that time, it was old news. Now, writers can post a blog and get comments in only a few hours or less. Interacting with your audience members will help you tailor your writing style and topics to better suit them, so pay attention to what they say.

Writing for the web also means writing with media. You can include **color**, **images**, and**videos** with your texts. You can include animation and sound. You can write in the white space around words and play with designs to better show off your work. You can create videos or podcasts. You are no longer turning in grey pages of text to a professor; you are writing to a real audience, and you need to use all the tools available to connect with that audience and show them that you share their values.

In addition, the web is no longer accessed only on desktop computers and laptops. Visitors to your online work may be using a mobile phone's small screen, which means those readers will have different needs than readers using a full-size monitor. Conversely, Internet TVs are becoming more common, and many people use iPads or Android tablets as their primary device for reading the web. With such variety in screen sizes and resolution, the challenge becomes making sure your content looks good across multiple web browsers, platforms, and devices. Since you can't be sure how people will access your work, keep the design elements simple so

that browsers can accommodate it. Flash movies, for instance—once the standard for animations on the Internet—are not compatible with iPhones and iPads.

What's the Same When Writing for the Web?

Coherence, clear organization, good grammar, solid mechanics, appropriate punctuation, and correct spelling—these are the rules by which you are expected to play when writing. Although people might tell you that nobody cares about this stuff online, unless you're talking to your closest friends and family, your audience will expect or at least appreciate it if you put some effort into your writing.

Think of it this way: it takes time for someone to read what you write. Why not respect your readers' time and intelligence by making sure your text is clear and free of obvious errors? You will look smarter, worth taking seriously. This is your **ethos**, the way you come across to your reader, the face you put forward to the virtual world. Better this be good than bad, better thoughtful than thoughtless.

If readers know that you respect their time and attention, they'll be a lot more likely to read your work carefully and respond to it. Don't waste their time, and they'll be more likely to give it to you.

The Rhetorics of Web Pages

When you write and design web pages, whether you code using HTML and CSS or you use an online platform such as WordPress or Weebly, you are still making meaningful rhetorical decisions in thinking about audience, purpose, genre, and context. This chapter

section outlines some of the rhetorical affordances websites can offer that are important in thinking about how audiences get their information. Keep in mind, this section is not a how-to guide on how to create a website; you will not find step-by-step directions or software tutorials. There are plenty of other sources for such tutorials on the web. You are encouraged to consider your overall strategy and purpose in writing before getting down to specifics. Once you know the best ways to appeal to your audience, the rest is easy.

Hyperlinks Are the "Tubes" of the Internet

While former U.S. Senator Ted Stevens' metaphor of the Internet as a series of tubes is inaccurate, we can reasonably think of hyperlinks as the paths (or if you want to get sci-fi geeky: wormholes) through which we travel across the World Wide Web. Click a link and almost instantaneously you will move to a new page within a website or—seemingly magically—to some new website hosted halfway around the globe. In fact, the importance of hyperlinks cannot be overstated: there is no web without hyperlinks connecting one text to another (or more often, one text to many).

Thus, understanding how to create effective hyperlinks is important because, when you create hyperlinks, you are adding your pages to the World Wide Web. The following sections will help you to effectively use hyperlinks in your web writing.

Click Here to Learn More about Hyperlinks

One of the most common mistakes that people make is using the "click here to . . ." hyperlink. Consider the following example:

"As reported at *Engadget*, the buzz this week on tech news sites is Apple's 'iPhone tracking software.' Using data from cell phone towers and wifi networks, iOS constantly stores the phone owner's location in an unencrypted file on the phone. Click here to learn more."

Well, duh! Because Internet users know that that if they click links, the browser will take them to another web page, it's redundant to say "click here." That's why the words are underlined and a different color than the rest of the text. Here's a quick fix:

"As reported at *Engadget*, the buzz this week on tech news sites is Apple's 'iPhone tracking software.' Using data from cell phone towers and wifi networks, iOS constantly stores the phone owner's location in an unencrypted file on the phone. Learn more."

Setting your links to open into new windows is not recommended. Your readers can be confused by this action and often do not realize that the browser has opened a new window—they will try clicking on their back buttons, only to find they no longer work. Web-savvy users can always force content to open in a new window anyway, so it's not like you're eliminating the option for anyone who wants it. Sven Lennartz's article "Should Links Open in New Windows?" from *Smashing Magazine*[1] has an excellent discussion of this issue. For now, though, just remember to have your links open in the same window.

Use Contextual Hyperlinks

Most people won't click on a link unless you let them know why they should bother doing so. Let's consider the example above of the post about the iPhone. Where you put the link can let the reader know whether you're just citing the article mentioned as a source. If you put it at the very end of your text, this usually signifies that it's your main source of information and that users should click the link to it to learn more.

For example, a company who puts a press release on the web featuring a new product might add a "learn more" link at the end pointing to the product page on their website. The company wants you to read the press release first, then follow the link.

However, in many texts, we can better assist readers by putting the links in context, which can be done by linking to something meaningful in the text. Using **contextual links**, we can create effective transitions for the reader to the next web text, and better connect the texts we write to those on other web pages. Here are two different revisions of the previous example that illustrate this concept:

"As reported at *Engadget*, the buzz this week on tech news sites is Apple's 'iPhone tracking software.' Using data from cell phone towers and wifi networks, iOS constantly stores the phone owner's location in an unencrypted file on the phone."

"As reported at *Engadget*, the buzz this week on tech news sites is Apple's 'iPhone tracking software.' Using data from cell phone towers and wifi networks, iOS constantly stores the phone owners location in an unencrypted file on the phone."

In the first example, the link is emphasizing where you got the information and where readers should go to learn more about it. The second example emphasizes what the link is about. Since you mentioned *Engadget* earlier in the sentence, users will probably realize the link will go there. But it could also go to a Wikipedia definition or to a link on Apple's app store. In any case, the meaning of the two examples is slightly different. The first provides direct indication of where the reader will go on the web, and the other indicates to the reader what will be learned. If you're reporting news or items from another blog or website, it's typical to put a link to the original source in the text.

Yes. There Are Punctuation Rules for Hyperlinks

Just as with other types of writing, punctuation has a role in creating hyperlinks:

Exclude ending punctuation from hyperlinks. When hyperlinking text that has punctuation immediately following it, do not include the punctuation in the hyperlink. Consider again this example:

"As reported at *Engadget*, the buzz this week on tech news sites is Apple's 'iPhone tracking software.' Using data from cell phone towers and wifi networks, iOS constantly stores the phone owner's location in an unencrypted file on the phone."

See how the comma following Engadget is not included in the hyperlink? Do the same thing if hyperlinking text at the end of a sentence followed by a period; don't include the period in the hyperlink either.

Leave off quotes and italics from titles in hyperlinked text in prose. Another style rule involves hyperlinked titles. Bloggers and other social media writers will often include the title of another post or web page in their writing, and then link that title to the original web page. When doing so, be sure to capitalize the title, but do not include quotations as you would in print with smaller works (e.g., a blog post title or news article) or italics as you would with larger works (e.g., a website title). Here's an example using a modified version of the *Engadget* post:

"As reported in The iPhone Tracking Fiasco and What You Can Do About It, the buzz this week on tech news sites is Apple's 'iPhone tracking software.' Using data from cell phone towers and wifi networks, iOS constantly stores the phone owner's location in an unencrypted file on the phone."

Yes, this is contrary to what writers do in print, where quotations and italics are added to emphasize that the text is a title of a work, whether it is a small or large work. In web writing, the formatting for the hyperlink will emphasize the title that you have already capitalized. The reader can click the link and immediately see what kind of work it is; adding quotes or italics adds unnecessary additional emphasis.

EXCEPTION: if you include a bibliography in your web writing, then you should follow the conventions for punctuating titles of the citation format you adopt for your references, whether or not you choose to hyperlink the title of a reference that is also available online.

Headlines

The one thing that you never want to see in your web pages—whether on your blog or your own website—are grey pages with nothing but text: no links, no headlines, no images. People like to scan and skim on the web. This is no surprise. Readers have skimmed and scanned ever since newspapers started cramming their pages with information centuries ago. We are hunters and gatherers searching for information, as web content strategist Ginny Redish likes to say in her book, *Letting Go of Words*.[2] We don't read, we hunt. If we do not think your page offers the information we want, we move on. Quickly.

Consider the image below that uses an eye-tracking heatmap to show where a person's eyes go to first on a web page and where they look the longest. The dark orange circles—where the eye looks first and longest—are at the headings and images on the page, visual elements that stick out. This helps us understand how a user gathers information on a web page.

"*Eyetracking Heat Map*" *by Tschneidr*, CC BY-SA 4.0.

Consider the times that you have used a search engine to look for information on a particular topic. You type in your keywords and Google shows you 150,234 results. How do you choose what to read? The page title that is displayed to you in the search engine results influences you on whether or not to visit that web page. And then once you visit a web page from your search results, you often skim the headings (when available) to find what you need. If the headings aren't yielding fruitful indications that you are in the right place, then you may leave and try another search result—even though the information you seek is actually there.

Or think about the times you have jumped on your favorite news site (e.g., CNN, ESPN, *Wired*, etc.). Much like when reading newspapers, the first thing most readers do is skim the headlines looking for something to catch their interest. Readers do the same thing when they visit a blog that they haven't been to before. As *Copyblogger* points out,[3] at the beginning of his tutorial about writing headlines for the web, "Your headline is the first, and perhaps only, impression you make on a prospective reader. Without a compelling promise

that turns a browser into a reader, the rest of your words may as well not even exist… . On average, 8 out of 10 people will read headline copy, but only 2 out of 10 will read the rest."

Editors of professional news publications and serious bloggers know this, and they typically spend significant amounts of time coming up with the right headline to attract readers. Whether you are keeping your own weblog, creating an informational page for a client, working on a wiki page, or building a personal portfolio website, you'll need to take some time, too, to create page titles, headings, and subheadings that invite your reader to explore and understand the content you have created.

Can I Use Catchy Titles and Headings?

Catchy titles and headings can be helpful in some writing contexts, such as in news publications or a blog, where the goal is to attract a loyal following of readers. They might not be such a good choice for a business website or other more formal professional writing situations, depending on the overall tone that is being set for the site.

Think about the purpose of your text. Are you trying to help users locate specific bits of information or answer specific questions they may have? If so, then simple direct headlines and subheadings are probably the best choice. But if you are trying to encourage web users to stop and read your content, then a catchy title can be a good idea, especially if it leads to catchy, engaging writing.

If you choose to use catchy titles for your web pages, beware of making them enigmatic. They should at least hint at the focus of the content. Otherwise, readers who are actually interested in the specific focus of the page may not realize what it's about. Over at

Econsultancy, a community for digital media marketing specialists, Chris Lake suggests using awesome adjectives[4] as an easy tip for creating catchy headlines:

Headlines that include awesome adjectives tend to attract a lot more interest/clicks/retweets/links than those that avoid them. For example, "16 bitchin' shortcuts and commands for Twitter" beats "16 shortcuts and commands for Twitter." Adjectives can be highly persuasive. Try to incorporate them into your headlines.

But Lake also talks about using important keyword phrases in headlines. The best advice? Make your titles and headings catchy AND informative if you are trying to attract attention.

Don't Forget About Your Other Audience: The Search Engine

There's a computer audience that will be important for your website: search engines. How often do you use a search engine to find new content? Most web surfers use them all the time.

When you use a search engine, you aren't actually searching the web; you are searching a database of website content information selected and maintained by the search engine provider. Search engine companies employ computer programs known as "**bots**" to surf the web and gather that information. They then employ a ranking algorithm that uses various factors to determine where (and if) a web page should show up in a search for specific keywords.

The good news is that the advice for writing good titles and headings for human readers will generally work well for search engines. Informative titles and headings help search engines to index your content. Like your readers, search engines predict that the titles and headings reveal the main content of your web page,

and they use the keywords from within them in indexing your content. Better titles and headings equal better search engine ranking results for your web pages. The practice of "writing" for search engines is known as **search engine optimization (SEO)**.

Dammit, Jim, I'm a Writer, Not a Graphic Designer! (Or, Who Gives a CRAP?)

It's easy to get by in most college writing without thinking about visual design or graphics. About the most visual design college writing asks for is that you emulate the MLA or APA document format, pretty barebones visual designs in themselves. Create your text with letters and numbers, and plug it in.

The web, though, is a different place. To be a web writer, you have to expand your definition of "text" beyond merely copy (the alphanumeric symbols on the page you might have previously thought exclusively constituted all writing) to include visual design as well as the use of fonts, images, layout, video, and other media.

A good starting point is to learn some basic design principles. To think about the visual design of your pages, you need a design vocabulary: a set of terms you can use to talk about what you like and don't like in a web page.

While there are many different sets of terms you could learn, returning to Chapter 5 to familiarize yourself with **contrast**, **repetition**, **alignment**, and **proximity** (CRAP) is a good place to start. It's going to be hard to make progress with visual design without understanding CRAP.

You Can't Write for the Web without Working with Visuals

What would the web be without images? Pretty boring, right? Consider using relevant visuals on your web pages to enhance the meaning of the copy that you have written. Here are a few important tips to follow:

There are three main file formats for images that you can currently use on the web: GIF, JPG, and PNG. GIFs work well for icons and other graphics with large areas of simple colors, but because GIFs are limited to 256 colors, they are a poor choice for photographs. JPEG (or JPG, as they are commonly called) is a lossy format[5] (like MP3s) that supports millions of colors and can work well for photographs. In fact, JPG is likely the default file format that your digital camera uses, but beware. The more JPGs are compressed to reduce file size, the more image quality (information) they lose. PNG is a lossless format that can support both a small range of colors, like GIFs do, and millions of colors in photographs, like JPGs do, only without any visual quality loss. However, these have larger file sizes. Given all these considerations, you may need to experiment saving your images in the different image file formats to determine which provides the quality you need at the lowest file size.

Make sure your visuals are appropriate and relevant to what the rest of the text says on the page. Don't pick a visual just because it looked "cool" when you found it. Visuals should enhance your meaning.

Make sure your images are of good quality. JPG "artifacts" and pixelated images (caused by making a very small original image larger) look unprofessional and sloppy. A good rule of thumb is to stick with the "high" setting when saving JPGs.

Crop images to remove unnecessary information (e.g., when creating screenshots, remove the browser window) and to focus the reader's attention on what is important in the visual. Cropping an image to exclude extraneous detail can dramatically improve the image's effectiveness.

Beware of stretching images out of proportion if you prepare them in an image manipulation program. Don't make your images look like they came from a distorted reflection in a fun house mirror.

Provide captions when using multiple visuals in longer web texts. Captions will orient the reader to your reason for including the visual. Otherwise, readers have to guess your intentions in doing so.

Reduce very large images using a graphics program. While HTML provides a method for defining the width and height of an image, this method does not change the file size. You don't want your reader to have to wait for that 5MB image file to load when you could have easily resized and resampled the image to 50KB or less. Almost any standalone or web-based image program can be used to reduce your image file sizes, and the results can dramatically increase the speed at which your pages load.

Alt-text should be used to provide image descriptions for those who cannot see the image, offering better accessibility.

Accessibility

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 Optical Character Recognition (OCR) text, alternative (or alt-) descriptions of images or content that is not screen readable, and formatted headings to

organize the document. Beyond formatting, and instead of bold or italic text, such a document would use punctuation and signal phrases to convey emphasis, and employ 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 clarity for all readers. Accessibility is helpful 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, 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 their accessibility and ultimate readability. Furthermore, websites and e-learning documents must meet Americans with Disabilities Act (ADA) requirements for accessibility. The ADA National Network provides additional information about the ADA.

Accessibility is extremely important in digital communication, as everyone may not be using the same operating system or may have different needs in accessing information.[6] It's very important to accommodate others in your writing. Whether this be those with poor vision, hearing, or mobility, or any neurological disorder, it is important to make sure your content is easy to access for all. Although many people with disabilities use devices or software to assist them, there are still things you can do as a professional writer to improve their reading experience.

Making sure the text is easy to read and accessible is what needs to be prioritized. Including nicely sized words and a readable font is a great place to start. For instance, minimally, any images should have captions or alt-text (an attribute added to image tags with HTML), as previously mentioned, to describe the image for those

that cannot see it. Alt-text not only provides a description for an image, but should also provide context the audience needs to understand the image in its setting.[7] This can also help with SEO.

While communication is key, good communication is even more important, and the way we package it is what drives the point home. An automated assessment tool like WAVE: Web Accessibility Evaluation helps HTML coders determine the accessibility of their web pages for all those who experience barriers to inclusivity, including auditory, mobility, and cognitive impairments, or neurodivergence. And the Web Accessibility Initiative provides a useful overview of how to be accessible for everyone. Still, WAVE is only going to get you so far if you don't understand the principles of how to design for accessibility.

Additional Resources:

"The Beginner's Guide to SEO," Moz.

"Graphic File Formats," Web Style Guide.

This chapter is derived from:

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Notes

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PART FIVE: ETHICS AND CULTURES

Chapter Ten: Ethics of Professional Writing

Applying Ethics in Technical and Professional Communication

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 as it 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 those of 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 overview how important ethics are for a professional writer, what ethics means, as well as various situations for which you will have to think about the ethical implications.

Presentation of Information

How a writer presents information in a document can affect a reader's understanding of the relative weight or seriousness of that information. On one hand, hiding a critical point in the middle of a long paragraph deep in a long document seriously deemphasizes that 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 deemphasizing crucial information can lead to disastrous consequences. A classic example of this occurring is in the way NASA engineers wrote about the problem with O-ring seals in a memorandum report on the space shuttle *Challenger*, which exploded seconds after takeoff due to faulty engineering.[1] The crucial information about the O-rings was buried in a middle paragraph of the report, while information approving the launch was prominent in the beginning and ending. Presumably, the engineers were trying to present a full report, including identifying problematic components on the *Challenger*, but the memo's audience of non-technical managers mistakenly believed the O-

ring problem to be inconsequential, even if it was a real threat. The position of information in this document did not help them understand that the problem could be fatal.

Ethical writing thus involves not only 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.

Typical Ethical Issues in Professional Writing

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 on the matter, thereby encouraging your employer to pursue an action that is not really 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 involve 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 a 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.[2] This case illustrates the ethical dubiousness of suppressing important contextual information for the sake of a sensational headline.

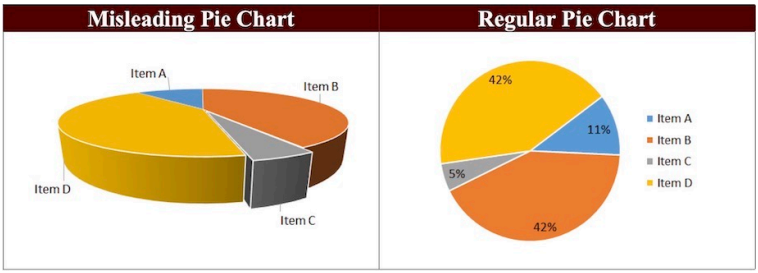
Not Verifying Sources Properly

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."[3] 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."[4] 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 both that your quote is, in fact, correct, and that it is not being taken out of context from the original source. Relatedly, the effective use of statistics can play a critical role in influencing public opinion, as well as in persuading in the workplace. However, as 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 efficiently communicating data and information for a reader. They provide data in a concentrated form, often illustrating key facts, statistics, or information from the text of a report. When writers present information visually, they have to be careful not to misrepresent or misreport the complete picture.

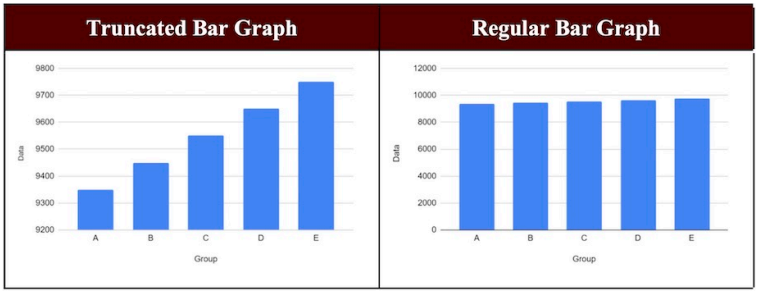
The image below shows information in a pie chart from two different perspectives. The data in each is identical, but the pie chart on the left presents the information in a misleading way. What do you notice about how that information is conveyed to the reader?



Original creator [Hamlin et al]. *Derived from* [McKinney et al]. [CC BY-NC-SA 4.0.]

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 the image below. What do you notice about their presentation?



Original creator Hamlin et al. Derived from McKinney et al. CC BY-NC-SA 4.0.

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 graphic 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 your 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 from 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, then you would not collect data from only one broker's office. While this office might have access to broader data on the real estate market, as a writer you run the risk of looking biased if you only choose materials from 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.

Information Inequity and Bias

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."[5] Bias does not always immediately indicate 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 long-standing 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 in an advertisement to sell soda.[6] 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."[7] Her tweet 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.

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.[8] 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.[9] The good news, though, is that our implicit biases can change and are often more a product of our environment than anything else.[10]

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 are very deliberative and think critically about information.[11] 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.[12] 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.

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.[13] Many biases stem from cognitive bias, and these biases have lasting effects on how we choose to consume information and news.

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 these forms of bias 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.

Filter Bubbles

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."[14]

The Dunning-Kruger Effect is the tendency of those with low ability in or knowledge of a topic to overestimate their competency in that topic, and/or underestimate the complexity of that topic.[15]

Confirmation bias occurs when we only seek out and trust sources of information that confirm our own opinions.[16] Have you ever chosen a topic for a research paper and sought out sources that only confirmed your thesis on that topic? That is an example of confirmation bias. Biases shape the 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 people of a particular gender over those of 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,"[17] or interchanging pronoun use throughout a 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 recommendation, 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."[18] 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.[19] Due to gender bias, certain words such as "assertive," which 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.[20] 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 part of an ongoing cycle of systemic sexual harassment involving Lauer at *NBC News*.[21] 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.[22] 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.

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 individual to 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 in 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.[23]

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 macroaggressions and more subtle microaggressions.[24]

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[25] defines it in "White Privilege: Unpacking the Invisible Knapsack."[26] 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 learned to mistrust. 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 selectively associating 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 non-executive roles, visually reinforces structures of white supremacy. In research reports, writers who gloss over key contributions of BIPOC (Black, Indigenous, and other People of Color) researchers while focusing solely on those of white researchers 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, one could see this in the media when it covers two domestic shooting cases. In one case, the white assailant, who had a history of domestic violence, might be described sympathetically, with media reports remarking on his mental illness and good-natured public personality. The Black assailant, however, might not receive such treatment. Media instead may focus on his past domestic violence and drug charges.

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 with their 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 racial 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 acts of micro- and macroaggressions. 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, even 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 of 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.[27] 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 them held by their non-Latinx classmates throughout their time on campus.[28]

Corporate Bias

Corporate bias occurs when a news agency, media conglomerate, or accreditation agency privileges the interests of its ownership or financial backers, 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.[29] Public Relations practitioners must be guided by the Public Relations Society of America's code of ethics.[30]

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 make Instagram posts of themselves with products, then you will have to remind them to clearly state that these are paid advertisements and not just cute photos, in order to adhere to the FTC's advertising regulations.[31]

Or if, for example, you are developing a health-themed ad campaign for Rice Krispies cereal claiming that the cereal will boost a child's immunity, then you should make certain that scientists have verified that claim. 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.[32]

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 numbers-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. 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."[33]

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 to mitigate the issue, 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 will require you to read widely and understand both 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 for conscious writers 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.

Work Toward Diversity, Equity, and Inclusion (DEI)

An increasingly important part of workplace culture is to seek to make people from various backgrounds feel welcome, safe, and supported to do their role to their fullest capabilities. **Diversity** is the presence of differences in a given setting. **Equity** ensures that every person has received fair, impartial, and equal opportunities. **Inclusion** provides a sense of belonging and support from one's

organization. Together, these principles provide a strong company ethic, shaped by an awareness of the diverse voices and values employees bring to the company.

There is a lot a professional writer can do to learn more about how they can promote DEI. This is extremely important because you will learn how equitable employers are able to outpace their competitors by including unique perspectives. Whether you are working on DEI materials to help others in the workplace or are working to educate yourself on DEI by looking at your own implicit bias, understanding the role a professional writer can have in DEI initiatives is critical.

"*Equity, Diversity, Inclusion*" *by* *Quinn Dombrowski*, *CC BY-SA 2.0*.

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 people of color, LGBTQ folks, immigrants, and individuals with disabilities.[34] LaFrance, meanwhile, revised her list of go-to sources and seeks out stories that focus on the achievements of women.[35]

In research, "diversifying your sources" also entails revising research methods and project design. When designing a research project that requires human subjects, be sure to directly include subjects of 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 often not immediately applicable to women, people of color, or individuals of lower socioeconomic 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.[36] 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 can turn to for guidance. For instance, the National Association of Black Journalists has its own style guide,[37] and the National Association of Hispanic Journalists offers points of guidance.[38] These are just a few examples.

Contribute to a Positive Workplace Culture

A workplace culture is the values, belief systems, and attitudes shared by people in a shared workplace. In a workplace, the culture is often shaped by the leadership and management. The culture of workplaces set forth the ethos and values of an organization. A positive workplace culture has been shown to foster an inclusive work environment, better communication and collaboration,[39] and employee engagement and satisfaction.[40]

With a growing focus on areas such as flexible hours, mental health support, and taking action based on employee feedback, workplace culture is now more important than ever. When employees truly feel that their company is a great place to work, they feel happier and more fulfilled in their jobs.

Acting Ethically & Responding to Unethical Situations

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 to them 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 scenarios when egregious unethical behavior can occur. 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. 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 would exclude 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. 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 those communities. Whenever possible, make sure that decisions that could affect a particular community are made by members of that community.

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.

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. However, members of some communities, such as deaf people and blind people, may prefer to be described as such.

Likewise, be sensitive to pronoun usage. 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 representing 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, it 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 A/V 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.

Additional Resources

"NAIWE Code of Ethics," National Association of Independent Writers and Editors.

"Integrated DEI for Written Materials: Make Your Written Words Mean More," Dr. Breeze H.

"Diversity, Equity, and Inclusion in Technical Communication," Wendy Ross, STC Rochester.

Hiring a Chief Diversity Officer Won't Fix Your Racist Company Culture," Nadia Owusu.

"15 Key Benefits of DEI to Communicate With Team Members," Forbes Human Resources Council.

"Employee Experience is as Strong as Ever at the 100 Best Companies," Michael Bush and Great Place to Work.

"Why 2022 is the Year of Workplace Culture," Caroline Castrillion.

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PART SIX: ENTERING PROFESSIONAL WRITING

Chapter Eleven: Professional Online Presence

In today's job market, recent college graduates or those looking to break into professional and technical writing need to demonstrate job preparedness beyond academic achievements. Excelling in the classroom is important, but many employers are just as interested in your **work experience**, **expertise**, and **job-related skills**.

Demonstrating your writing skills is especially important, and creating an online **portfolio** of samples will help you as you apply for jobs. Online writing portfolios supplement what you've learned in the classroom and are the best way to get your work noticed by potential employers because they give an employer the opportunity to view your previous work and understand your experience in more than just a one-page résumé.

Additionally, your portfolio is often the first impression a potential employer will have of you, so it is important to put your best foot forward. Portfolios provide an advantage in today's competitive market as they provide you the opportunity to illustrate and market your brand. Regardless of career level, professional and technical writers should have an online portfolio to showcase their work.

Photo by Betta Living. CC BY-NC-SA 2.0.

Online Writing Portfolio

When considering what to include in your writing portfolio, look at relevant class assignments or work produced in a previous or current role. Save everything in a file, especially work from a class that requires you to write common communication materials such as newsletters, press releases, brochures, and news articles. If you do not have internship or work experience, try to do volunteer writing for a nonprofit organization or a small project for a startup company. What matters is that you have writing samples to show, not whether you were paid to do the work. In addition to showcasing examples, online portfolios include an "About Me" section, which is a description or summary of your professional background.

From there, create clear sections and headings and arrange the content by article or document type. Tailor the portfolio to jobs or industries you're interested in and arrange it by chronological order, with the most recent work first or at the top of the online portfolio. For example, if you're applying for a job that requires proficiency in AP-style writing, include writing samples that use this style, such as press releases or feature articles. If you're applying for a job that requires social media writing skills, include social media posts that you've created for an organization. Here's a list of some of the materials you could include in your portfolio:

- Press releases
- Website copy
- Feature articles
- Media pitches
- Social media posts
- A sample RFP (request for proposal) for a campaign or a detailed public relations campaign proposal
- News media clippings of coverage you secured from pitches (it helps if you provide the original pitch that led to the media coverage)
- Design artifacts

It is important to provide context for each piece you include to give the audience a better understanding of how the document came to be. These summaries can be brief, but should include information such as the name of the organization (or class) it was created for, as well as the goals of the document, and your process in creating the document. Describing that process may include discussing ideation, challenges, and even limitations you encountered.

Be ready to discuss your writing samples during a job interview. You may explain why you created the material and the results that came from it, such as increased website traffic and social media followers. For more examples of writing portfolios, click on the following links:

- Gari Cruze, copywriter
- Rachel Curry, impact investment freelance writer
- Chris Johnson, web developer
- Brandi Uyemura, features writer

Other Important Points about the Online Writing Portfolio

As you work on more projects and articles, remember to include them in your portfolio. Constantly update the portfolio so that employers and professional contacts can see your most recent work. Include a minimum of two to three writing samples, although the quality of the portfolio materials matters more than the quantity.

Platforms for creating your online writing portfolio:

- WordPress
- Wix
- Weebly
- Google Sites
- SquareSpace

LinkedIn

LinkedIn, a professional social networking site, is an important space for connecting and networking with others in your field. LinkedIn profiles provide spaces for more traditional résumé content, such as education, work experience, skills, etc., but also

provide opportunities to share the work you have done and additional images, join groups with people in similar roles/professions, and begin to brand yourself overall.

Because LinkedIn is an online platform, your profile is not going to be a static document and should be updated. Many people use LinkedIn on a daily basis to network with others and find jobs. As a professional writer, it will be important to use LinkedIn as a space to share your skills. Here is an example of the LinkedIn profile of a freelance writer.

Additional Resources:

"Branding Essentials for the English Major: 4 Examples of How to Re-package Your Skills for Employers," Brooke Kile, *Dear English Major*.

"Meet Technical Writers at Google," YouTube video, Life at Google.

"How to Become a Professional Writer: Step-by-Step Career Guide," Best Accredited Colleges.

"Occupational Outlook Handbook," Bureau of Labor Statistics

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Appendix

Careers in Professional Writing

The skills professional writers have—research, critical thinking, design, editing, and yes, writing—are skills that are useful in any industry. This means that professional writers are in demand in many different fields and use many different skills. As you will learn throughout this appendix, professional writing can take many forms and apply to many different industries. In this chapter, several different careers a person interested in professional writing could go into are outlined. These profiles include the important skills, preparation, and day-to-day tasks that are part of those careers.

Attorney

Web Designer

Graphic Designer

Editor (general)

Book Editor

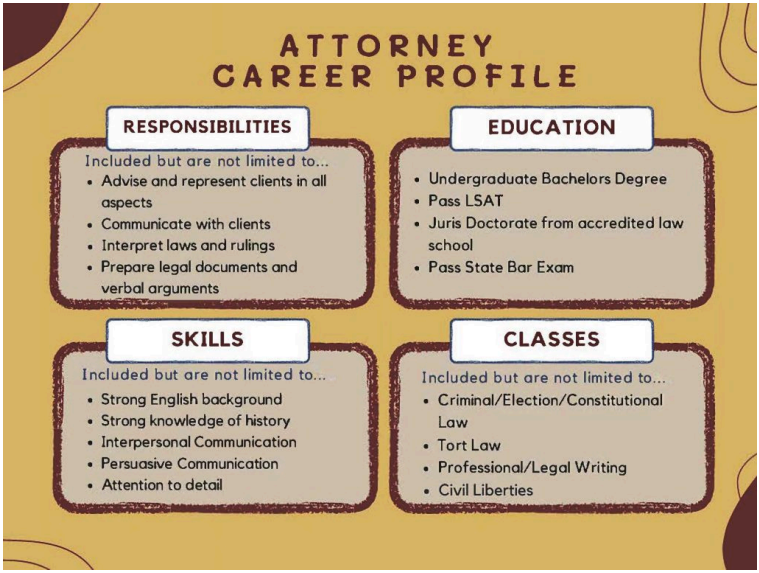
Journalist

Sports Journalist

Grant Writer

PR Practitioner

Attorney


ATTORNEY
CAREER PROFILE
RESPONSIBILITIES
Included but are not limited to...
• Advise and represent clients in all aspects
• Communicate with clients
• Interpret laws and rulings
• Prepare legal documents and verbal arguments
EDUCATION
• Undergraduate Bachelors Degree
• Pass LSAT
• Juris Doctorate from accredited law school
• Pass State Bar Exam
SKILLS
Included but are not limited to...
• Strong English background
• Strong knowledge of history
• Interpersonal Communication
• Persuasive Communication
• Attention to detail
CLASSES
Included but are not limited to...
• Criminal/Election/Constitutional Law
• Tort Law
• Professional/Legal Writing
• Civil Liberties

Web Designer

What does a Web Designer do?

- Determine a site's layout, such as fonts, colors, themes, and visuals
- Use programming and code such as JavaScript, HTML, and others to create cohesive sites
- Design and create websites that are easy to navigate and are user-friendly
- Keep up the appearance of websites according to present-day standards and user interaction
- Understand how to use code, but also have a creative eye to make good design choices--understand how fonts, color, and writing tie into one another

EDUCATION

Majors or Minors:

- Graphic Design
- Communications (public relations, media)
- English
- Computer Science

EXPERIENCE

- Experience in graphic design software
- Adobe Photoshop
- Adobe Illustrator
- Experience in coding (HTML, JavaScript, etc.)

---SKILLS:---

- Creativity
- Communication skills
  - Written & verbal
- Programming/ coding
- Visual design
- Software engineering skills
- Technology skills

RESOURCES:

- Apps like Canva, Adobe Photoshop & Illustrator for designing
- Web Designer classes online for beginning practice (Google Search)
- Search for Web Designer internships on Indeed, ZipRecruiter, etc.
- Practice with graphic design, get familiar with the technology & how to use the factors that go into web designing

Graphic Designer

A graphic designer's main job is to communicate through visual representation. Through the use of different elements they help convey ideas to an audience. As a graphic designer, you will be creating visual communications for websites, magazines, social media posts, and more. . .

Education:

Major Requirement – Graphic Design

Minor Recommendations – Web Design, Marketing

There are many classes you can take when studying to be a Graphic Designer: Graphic Arts and Printing, Web Page Design, 2D and 3D design, Digital Prepress, Color and Design, Multimedia & Animation, Desktop Publishing, and Digital Photography are just a few options. It is important to take a basic web design course in one of your first semesters.

Skills:

To succeed as a graphic designer, you will need proficiency in creativity, communication, understanding of interactive media, and typography.

Resources:

There are many free resources online for those striving to be a graphic designer. Pexels, Nappy, and StockSnap are just a few of the resources you can use. These are good programs to begin testing out your design skills. YouTube can also be helpful to look up tutorials on these programs.

For More Information:

Creative Boom: creativeboom.com

Monster: monster.com

New School of Architecture & Design: newschoolarch.edu

U.S. Bureau of Labor Statistics: bls.gov

BrainStation: brainstation.io

indeed: indeed.com

Workable: resources.workable.com

Editor (general)

Editing is a career essential to all forms of writing. Whether it be a favorite novel, a local newspaper, or even a favorite blog, all of the work one reads requires an editor.

The job title "editor" does not mean just one thing. There are numerous different types of editor positions and each one comes with a number of different responsibilities. Generally, editors read over content written by another person in order to correct spelling and grammar mistakes, assure comprehensible content, confirm information, and further develop ideas to understand the writer's intentions.

The difference in job titles often indicates exactly what an editor is editing. For example, a **copy editor** looks at grammar and spelling specifically. They may make suggestions on word choice, diction, and organization, but do not look at aspects such as purpose or content.

Publication assistants do a similar job, but in a different environment. They work for a publishing company and read over and proofread manuscripts, both revising and editing the content.

Assistant and executive editors often work together, the assistant editor being under the executive editor. An **assistant editor** typically works on one specific subject. They may work for companies or firms, or may edit feature stories in local newspapers or magazines. The **executive editor** at that same company or firm typically oversees their work. They have the final call on whether a piece should be published. Editors who are even higher up, a **managing editor** for example, are responsible for an entire department.

The main goal of any editor is to enhance the readability of a writer's work. Each of these positions enhance readability and determine how well a reader can understand a particular work.

To obtain a job as an editor, a Bachelor's degree is required. More likely than not, editors receive a BA in English, but other similar degrees such as Writing or Communications are common, as well. These individuals must have strong grammar, spelling, and punctuation skills, while also being proficient writers.

It is common for companies to provide a test to job candidates to prove their editing skills before being hired, but grammatical competence is not the only thing it takes to be an editor. Additional qualities that may boost chances of success include creativity, accurate judgment, and attention to detail. Although small errors are important to catch, editors also must understand style, tone, and format. It is their job to identify possible misconceptions in a piece of writing and make sure the correct audience is reached.

If someone wishes to work in a specific field of publishing, they may need further education and training. For example, editors of medical writing may need additional education in medicine. In addition, many editors often receive their master's degree in a specialized subject in order to obtain a certain position. This is not always necessary, but can be quite helpful.

Some schools may also offer helpful minors. Minors such as writing or literature may help one to further their English skills. Helpful classes may include editing, professional or technical writing, and any class whose intention is to build writing and reading skills.

Prior to beginning a career in editing, experience is important. Throughout one's schooling, different opportunities may be presented that help them to gain this necessary experience. Many schools offer a school newspaper or even smaller magazines and blogs specific to certain clubs and organizations. Simply working for a school newspaper can build confidence and expertise.

Furthermore, many students acquire internships, allowing them to work in an actual work environment.

Overall, the work that goes into being an editor is very tedious and typically requires a good deal of patience. These positions are extremely important and make reading experiences much more effortless.

Resources

https://www.bls.gov/ooh/media-and-communication/editors.htm?utm_source=pocket_mylist#tab-4

https://www.pce.uw.edu/news-features/articles/how-to-become-an-editor

https://learn.org/articles/How_Can_I_Become_an_Editor_for_a_Publishing_Company.html

Book Editor

Sources: "Editors," Occupational Outlook Handbook, U.S. Bureau of Labor Statistics; "11 Online Copy Editing Courses and Whether Certification is Right for You," By Kaelyn Barron; "Book Editors," Vault.com; "How to Become a Book Editor in 2023: A Complete Guide", By Dave Chesson.

Journalist

WHAT DO JOURNALISTS DO?

Journalists research and write about information and events for the public to understand, telling the stories of every topic. Some journalists report on breaking news, and others spend years investigating a single topic to write one long-form feature.

Dry research, interviewing sources, fact-checking, and, of course, a lot of writing and revising are common pieces of the job.

Many sub-specialties within journalism each entail their own skill sets; video and photojournalists, for example, create records and portraits of events. Foreign correspondents live abroad and report back. War journalists physically travel to witness and investigate wartime events. Some journalists even take on social media communications to better inform the public.

WHAT SKILLS DO JOURNALISTS USE?

It goes without saying that journalists must produce polished writing, but beyond neat grammar, journalists must research, fact-check, and pay attention to every detail of their piece. (And of course, the job requires doing all of this quickly and under pressure!) The more hats one reporter can wear, the better—video, photo, and audio editing abilities are greatly useful and at times expected on top of writing skills.

While ethically objective writing is key, critical and analytical thinking is necessary to put a story together for the reader. Patience, people skills, and courage are often required to build relationships with sources, get interviews, and publish the truest story.

WHAT EDUCATION DOES A JOURNALIST NEED?

Most papers are looking for writers with degrees in journalism, communications, or English. But these are pretty common degrees— political journalist Kent Klein says, "There's nothing wrong with a journalism degree, but I would prefer a content-based discipline— economics, politics or foreign relations, for example."

The best path forward, then, may be a double major in a writing-based discipline and a content discipline (ex. English + Global Studies, Communications + Political Science).

Of course, nothing replaces experience, especially in such a unique industry. Students should be looking to gain hands-on experience out of the classroom to really jump-start their careers.

HOW COULD A STUDENT GET STARTED IN THE FIELD?

1. Local and Campus Papers

Experience is king in this competitive industry, so starting sooner rather than later is key.

2. Networking

Journalism is a small industry, so creating professional connections— shadowing people, attending conferences, snagging informational interviews— is important.

3. Internships

Continuing to build experience by stepping into the professional world is good.

RESOURCES

Journo Resources

"8 Great Online Resources for Journalists and Journalism Educators," Damien Radcliffe.

"Sites for Journalists," Eastern Washington University Libraries Research Guide.

"SPJ Toolbox," Society of Professional Journalists

Sports Journalist

What is Sports Journalism?

Sports journalism is a lively profession largely based in the interviewing, writing, and reporting of amateur, collegiate, and professional sports. Sports journalists leverage media to bring real-time game statistics, coach and player interviews, post-game analytics, and constant threads of news to fans around the world.

Key Skills

As a sports journalist it is important to have a general knowledge of how the sports industry operates both on and off the fields. Additionally, strong verbal and written communication skills, as well as the ability to use critical and analytical skills are highly valued. Sports journalists also need to be adept at content creation and social media experience across platforms.

Responsibilities and Expectations

Because of the unpredictable nature of journalism, job descriptions in sports journalism vary. Generally, consistent responsibilities include conducting research and interviews, producing and editing content for different social media platforms, and preparing for play-by-play broadcasting and or post-game analysis. Because of the fast-changing pace of the sports industry, journalists should be flexible and adaptable to developments in the market. In addition to this, individuals can be expected to work on multiple projects simultaneously, following different teams, players, and or sports. In this field, deadlines are specifically important in order to keep pace with day-to-day changes and feed information to fans and readers.

Salary

Salaries can range from $29,000/year to $120,000/year.

The Road to Becoming a Sports Journalist

According to the U.S. Bureau of Labor Statistics, sports journalists are responsible for attaining a bachelor's degree, the most common degrees including Journalism, English, or Communications. During undergraduate education, prospective journalists are expected to acquire strong foundational skills in writing, editing, and content creation, in addition to interpersonal skills such as strong communication and ethics. While graduate master's programs are not usually required, they are encouraged to better enforce fundamental practices taught at the undergraduate level. There is also increased flexibility in specializations at the graduate level, allowing students to pursue specific sports-related programs. Additionally, there may be salary implications based on education. The long-term goals of sports journalists often point toward jobs with large broadcasting organizations such as ESPN and CBS Sports, but can also include contributing to newspapers, magazines, and blogs.

Top Sports Journalism Programs

- Pennsylvania State University
- Indiana University – Purdue University Indianapolis
- University of Florida

The Different Types of Sports Journalism

Under the umbrella term of Sports journalism, there are 3 main groups of occupations: photography, digital writing, and broadcasting. Each of these categories share many of the same responsibilities, skills, and work life, however they do offer unique opportunities. Sports Photographers capture live game action to supplement writing and other content. Digital writers largely focus on research, writing, and editing responsibilities. Lastly, sports broadcasters contribute to the production of live sports commentary, in-game interviews and updates, and post-game analysis.

Conclusion

Sports Journalism is an exciting field that largely targets individuals who are passionate about sports, find joy in writing and reporting, and are comfortable with the daily chaotic changes experienced across all sports leagues.

Grant Writer

Sources: "You're a What? Grant Writer," *U.S. bureau of Labor Statistics*; "How to Become a Grant Writer," *Instrumentl Blog*;

PR Practitioner

*Sources: "Public Relations Specialists", O*NET; "Occupational Outlook Handbook," U.S Bureau of Labor Statistics.*