WTNG 311: Technical Writing

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This book is an adaptation of Open Oregon Educational Resources *Technical Writing* (2016) by Allison Gross, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva.

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Preface

This book is an adaptation of Open Oregon Educational Resources *Technical Writing* (2016) by Allison Gross, Annemarie Hamlin, Billy Merck, Chris Rubio, Jodi Naas, Megan Savage, and Michele DeSilva. Only minor revisions have been made to update content and add more relevant examples.

Introduction

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

To learn how to write effectively for the professional world, you will study common types of reports, special format items such as lists and headings, simple techniques for creating and using graphics in reports, and some techniques for producing professional-looking final copy.

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

About technical writing

While technical communication is essential in a wide range of fields and occupations, technical writing is also a fully professional field of its own with degree programs, certifications, and—yes!—even theory. It is a good field with a lot of growth and income potential, and an introductory technical writing course is a good way to start if you are interested in a career in this field or will work in a career in which writing is a component.

Workplace writing

However, many students of technical writing courses are not necessarily planning for a career as a technical writer. That is why this course provides you with an introduction to the kinds of writing skills you need in practically any technically oriented professional job. No matter what sort of professional work you do, you are likely to do some writing—and much of it may be technical in nature. The more you know about some basic technical writing skills, the better job of writing you're likely to do. And that will be good for the projects you work on, for the organizations you work in, and—most of all—good for you and your career.

The meaning of "technical"

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

Importance of audience

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

Technical-writing and academic writing courses

You have probably taken at least one academic writing course before this one, so you will be familiar with some of the practices of writing for your college classes.

In technical-writing courses, the main focus is typically the technical report, due toward the end of the term. Just about everything you do in the course is aimed at developing skills needed to produce that report. Of course, some technical-writing courses begin with a resume and application letter (often known as the cover letter), but after that you plan the technical report, then write a proposal in which you propose to write that report. Then you write short documents (memos, emails, outlines, drafts) where you get accustomed to using things like headings, lists, graphics, and special notices—not to mention writing about technical subject matter in a clear, concise, understandable way that is appropriate for a specific audience.

Caution: You should be aware that technical-writing courses are writing-intensive. You will probably write more in your technical-writing course than in any other course you have ever taken. If you are taking a full load of classes, working full time, and juggling unique family obligations, please consider whether this is the right time for you to take technical writing. Consult with your professor about the workload for this class in order to make your decision.

PART I

1. PROFESSIONAL COMMUNICATION: RHETORICAL SITUATION, STRUCTURE, AND DESIGN

Professional written communication requires skill and expertise. From text messages to formal reports, how you represent yourself with the written word counts. Writing in an online environment requires tact, skill, and an awareness that what you write may be there forever. From memos to letters, from business proposals to press releases, your written business communication represents you and your company: your goal is to make it effective and professional.

A key distinction between academic writing and professional writing is that the latter is very highly contextual. The subject matter itself is only one factor in deciding on what and how to write. Equally important is the **context** in which you are writing, the circumstances surrounding any writing situation. This includes the **rhetorical situation,** that is, how difficult it is to persuade your audience to accept your proposal, recommendation, or assertion in a given context. What and how you write will depend on such questions as the following:

1. How familiar is your audience with the question or problem you're addressing?
2. What level of expertise does your audience have?
3. What are your audience's professional interests? How negative or adverse are those interests? That is, how likely is the audience to accept your position?
4. Does the document have multiple audiences, with different or even conflicting interests?
5. Will your document be read in a competitive context? That is, will it be read along with other documents competing for the same response, such as a job application letter, or a proposal for a government contract where other companies are competing for the same contract?

Answers to these questions will determine your structure, style, format, and even what topics you choose. Academic writing typically has a single, predictable audience (the professor, other students, the public). Professional audiences may be much more varied, complex, and challenging. Failures in professional documents most often arise from failures to take this into account.

1. Memorandums

Letters and memoranda are two common formats for professional documents.

A memo (or memorandum, meaning "reminder") is often used for reporting on progress, policies, procedures, or other official business within an organization (an "in-house" document).

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

One effective way to address informal, unofficial speculation is to spell out clearly for all employees what is going on with a particular issue. If budget cuts are a concern, then it may be wise to send a memo explaining the changes that are imminent. If a company wants employees to take action, they may also issue a memorandum. For example, on February 13, 2009, upper management at the Panasonic Corporation issued a declaration that all employees should buy at least $1,600 worth of Panasonic products. The company president noted that if everyone supported the company with purchases, it would benefit all.[1]Lewis, L. (2009, February 13). Panasonic orders staff to buy £1,000 in products.

Memo format

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

In a standard writing format, we might expect to see an introduction, a body, and a conclusion. All these are present in a memo, and each part has a clear purpose. The declaration in the opening uses a declarative sentence to announce the main topic. The discussion elaborates or lists major points associated with the topic, and the conclusion serves as a summary. Figure 2 provides a sample memo using the format explained above.

Figure 2. Sample memo (click image for an accessible PDF)

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

Memos are often announcements, and the person sending the memo speaks for a part or all of the organization. While it may contain a request for feedback, the announcement itself is linear, from the organization to the employees. The

1.

memo may have legal standing as it often reflects policies or procedures, and may reference an existing or new policy in the employee manual, for example.

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

2. Letters

Letters are usually sent to recipients outside the organization. Like memos, they may be used for shorter professional reports. They are often printed on letterhead paper and represent the business or organization. While e-mail and text messages may be used more frequently today, the effective business letter remains a common form of written communication. It can serve to introduce you to a potential employer, announce a product or service, or even serve to communicate feelings and emotions. We'll examine the basic outline of a letter and then focus on specific products or, if for a college course, writing assignments.

All letters have expectations in terms of language and format. The audience or readers may have their own ideas of what constitutes a specific type of letter, and your organization may have its own format and requirements. This chapter outlines common elements across letters, and attention should be directed to the expectations associated with your particular writing assignment. There are many types of letters, and many adaptations in terms of form and content, but in this chapter, we discuss the fifteen elements of a traditional block-style letter. Letters may serve to introduce your skills and qualifications to prospective employers, deliver important or specific information, or serve as documentation of an event or decision. Figure 3 demonstrates a cover letter that might introduce a technical report to its recipient.

Figure 3. Sample cover letter (click image for an accessible PDF)

A letter has five main areas:

1. The heading, with your organization name and address
2. The name and address of the recipient
3. The date
4. The greeting ("Dear Vice President Jones")
5. The text (introduction, body, conclusion)
6. The closing and signature lines

3. Report structure and design

REPORT STRUCTURE AND PAGE DESIGN

An important set of writing strategies may be grouped under the concept of structure. The success or failure of a report turns on structure. How you order a report, how clear you make that order, and how you develop each part in that order, are as important as you're the subject matter. Think of structure as a group of rhetorical devices that contributes to a report's persuasiveness. Clear and comprehensible structure is crucial to the reader's ability to understand and retain information, to be persuaded, and to respond.

Guidelines: Overall structure

Structure a report to focus on the report's purpose and the audience's interest in it. As you already know, writing structure should be clear and logical. That's important, but it's not sufficient. Structure must also focus clearly on purpose and audience interest, so that it is meaningful to the reader, and it must keep to that focus consistently and thoroughly. Here are guidelines to help you do so.

First, select and chunk content around audience and purpose. You can't structure a report around audience and purpose unless the content itself is relevant. Take the case we looked at before, on problems in Acme's billing department. To accomplish the purpose of the report (to secure funding immediately, outside of the regular budget process, for a new billing system), you'd need to select (or "invent") the arguments, evidence, and other information that in your judgment would appeal to your readers' interest in approving your request. Since your readers have, or should have, a professional interest (that is, a duty) to help you solve serious problems caused by the old system, you could decide that you should *first* (a structure decision) persuade your readers about how serious the problems are (interest), serious enough, remember, to justify funding before the time for normal budget requests (purpose). Hence you decide to have a separate section, a chunk of the report, to focus on the seriousness of the problems. As billing department manager you're aware of three problems that your readers should have an interest in: customer complaints, increased costs of downtime and overtime, and decreasing productivity. The problem section, then, will have three subsections (three chunks), each developed enough to persuade your readers of the need for quick funding to solve the problem.

Second, focus each section and subsection by beginning with a clear statement that connects the section or subsection to purpose and audience. Good professional report writing is emphatically top-down. The main, important points always go first. What follows them are the specifics—the evidence, the examples, and so on, that support the main points. The structure rule here is always the same—*main points first*. Let's say that in the billing department report you would begin the section on the seriousness of the problem with a sentence something like this. "The billing department requires funding immediately rather than in July because immediate funding is the only way to solve three very serious problems before they get much worse: the growing number of customer complaints, the increasing costs of downtime and overtime, and declining productivity." That section, as we noted, would therefore have three distinct subsections.

Let's say that in the first subsection you decide to show the seriousness of the customer complaint problem through two arguments. First is that the number of complaints owing to billing errors and delays has been growing so much and so fast, the company can't wait until July to deal with it. Second is that the number is already much higher than the norms in your industry. Hence the subsection on customer complaints will have two parts, one on growth of complaints and one on industry norms. That complaint subsection would begin like this. "That the customer complaint problem is too serious to wait until July to solve is shown by the sharp and growing rise in complaint numbers, and by the fact that the complaint rate at Acme is much higher than industry norms."

This indicates that the complaint subsection would itself be chunked into two parts, one on complaint growth and one on industry norms. The part on complaint growth, then, would begin something like this. "The first reason the customer complaint problem is too serious to wait until July to solve it is the relentless rate at which the complaints are growing." The rest of that part would be specific evidence, data, examples, and so on. Note that the first sentence in each section, subsection, or other part of a report begins with the whole main point of that sections, subsection or part.

We can clearly outline (since outlines show structure) what we have so far of the billing department report.

I. Introduction

II. Problems with the present billing system

(A) Customer complaints

(1) Sharp growth

(2) Contrast to industry norms

(B) Rise in downtime and overtime

(C) Decline in productivity

III Recommended system to replace current system.

IV Costs of replacement

V Conclusion

Third, develop each topic sufficiently for your audience and purpose. As we noted, audience familiarity with your subject and audience attitude toward your purpose are key points in your decision on how much to say. That is, length, like all other writing considerations, are determined by audience and purpose.

Guidelines for introductions

Introductions are absolutely crucial in professional documents. Readers do not merely absorb all the words passively and decide how to respond after they're done reading. They begin deciding within seconds of reading, constantly judging what they are reading. Hence an effective introduction to a professional report should always include the following elements.

(1) State the purpose clearly and precisely. The purpose is the reason the reader is (or should be) reading, the reason the document exists. It should be clear early on.

(2) Connect the purpose to the audience's interests. To the extent needed, make clear, even emphasize, the reader's interest in accomplishing the purpose. Relate the purpose, in other words, to the reader's duty to help you reduce customer complaints, avoid a lawsuit, increase sales, improve employee relations, comply with regulatory requirements, or whatever purpose you want to accomplish.

(3) Develop fully the context. Describe the exigence, problem, situation or circumstances that gave rise to the need for the report.

(4) Provide a roadmap of the report. A roadmap is a brief indication of both the structure and the content of the report. It is similar to a table of contents in books. (In long reports, it would in fact be a table of contents.) A roadmap in the introduction to the billing department report, for example, might be something like the following. Note how it indicates the report's structure as well as its content.

> "The first part of this report will discuss the three reasons Acme should approve funding for a new billing system immediately rather than wait for the new fiscal year. First is to reduce the serious and growing problem

> of customer complaints. Second is to reduce expenses from downtime and overtime, and third is to improve productivity significantly. The second part of the report will recommend the system that we should purchase and install, and the third part will itemize the complete cost of the replacement."

Guidelines for conclusions

In contrast to introductions, conclusions are not crucial for achieving a report's purpose. They can, however, still be useful as an opportunity to emphasize and reinforce, especially in longer reports. In addition to such things as restating the purpose and audience interests in it and summarizing main points, a useful thing to do in a conclusion is to reinforce the need for the reader to respond. Suggest, for example, a specific date for a response. Or suggest you and the reader meet to talk things over or to email or call you at a certain time if he or she has questions.

A conclusion should be brief and avoid a common fault of conclusions: introducing significant new ideas or information. That throws the whole focus off and suggests that you're not sure of what's important.

Guidelines for paragraph structure

Standards for paragraph structure that you may have learned in other writing courses apply here with, if anything, greater force. The model is simple, and has two elements. First, the opening sentence is the lead—the topic sentence. **The lead states the point of the paragraph, states it so that the paragraph's connection to the document's purpose is clear, and states it so that the connection to what came before is also clear.** In other words, the relation of the paragraph to the report as a whole is clear in its leading sentence. (You don't necessarily have to do all that in a single sentence, but you usually can.)

For example, in the report seeking funds for a new billing system, you'll recall that the three problems with the current system were customer complaints, rise in downtime and overtime, and decline in productivity. The paragraph beginning the discussion of the second problem could begin with the following lead.

> "In addition to customer complaints, a second problem that justifies replacing the current system with a new one is downtime and overtime."

The second element of paragraph structure is focused development. *Persuasion is what happens in the details.* The remainder of that paragraph on downtime and overtime should develop only those two items, focusing only on downtime and overtime as problems with the current billing system. The paragraph will offer whatever evidence, examples, explanations or other information needed to sufficiently support the assertion made in the lead sentence. (If all that is too much for one paragraph, then divide it, say, into two, one on downtime and one on overtime.)

Keep in mind that a paragraph may be on a relevant subject but not focused on a clear point related to the report's purpose. Contrast the two paragraphs below, which were written by two students in reports for the same assignment. The assignment required writing a report relating to Acme Widget Corporation's tentative plans to outsource some of its manufacturing by contracting with companies in Asia, where labor costs are much lower than in the U.S. One reason labor costs are low is that many Asian factories use child labor extensively. 125 million children between ages of 5 and 14 are factory workers in Asia. Acme's CEO asks the report writer to discuss the issues involved in child labor, and whether the writer thinks it appropriate, socially and ethically, for Acme to enter into contracts with Asian factories employing children. The report will be included in the documents that Acme's decision-makers will consult before making a final decision on whether to outsource. Below are sections from the reports of two students. Note the ways that one keeps the focus on the audience's interest in social and ethical issues in Asian child labor, including selecting research information that focuses clearly on that, and how the other not only does not focus on this, but has no focus—no point of interest to the audience—at all.

From report one

2. Health hazards. A second social and ethical issue relating to child labor is the damage to children's health, arising from diseases and safety.

A. Disease. Many child laborers in Asia work in environments that seriously affect their health even if it would not be unhealthy for adults, and this is widely seen as hindering "the harmonious physical and mental development of the child" (Mushred, 2001). Children are more vulnerable than adults to many diseases that can be picked up in Asian factories. These include breathing in dust and toxins, resulting in breathing disorders such as asthma and bronchitis. Because children have thinner epidermal and dermal linings, they are more susceptible to toxins used in manufacturing processes. Long hours of exposure to machinery noise often impairs hearing, and many days of working with small materials and tools cause eyesight problems, including blindness. Children also experience fatigue and depression from dark and unsanitary conditions (Narayan, 1997). The special vulnerability of children to such diseases makes using factories with child labor a significant social and ethical issue.

B. Safety. The moral issue of safety arises in Asian factories because of children's fragility and weaker mental focus while using dangerous equipment. Children, with shorter attention spans and with incomplete physical development, often do not yet have the ability to operate factory equipment properly. Strains in young bones and muscles, including slight strains over long periods of time, can result in injury. Children may lack the ability to pay sufficient attention while operating machinery, which may result in severed limbs and dangerous cuts and burns (Narayan, 1997). Children placed in such proximity to dangerous equipment create significant social and ethical concerns.

From report two

1. Child labor laws. There are different laws for different countries. Some countries believe there is nothing wrong with child labor. In America there is the Young Persons Act of 1933 that states that people below the age of 16 require authority's permission as well as guardian's permission. Employment of children under the age of 13 is prohibited. People age 14 can be employed for "light work" which means they cannot work during school hours, but are only allowed to work during the hours of 7 a.m. to 7 p.m. (Sutton, 2007). There are over 200 pieces of legislation, including European acts, acts of parliament and local bylaws that cover employing children. This means that America encourages children going to school until the age of 16. This also means that even if children are encouraged to go to school, it is also encouraged for teens to begin to make money for themselves at decent hours. The International Labor Organization recently found that approximately 217.7 million children ages five to seventeen are involved in child labor. In most situations where children are working, they are severely underpaid. In Asia and the Pacific 122.3 million children between five and fourteen are working (Kovasevic, 2007). Children are meant to attend school during their days, they are not meant to be working. If America supports children going to school, child labor in other countries can demonstrate taking children away from having successful educated futures, which is seen as wrong.

PAGE DESIGN

Reading is a visual experience, and readers gain a sense of the structure from visual signals as well as from content. In addition, readers perceive visual information quickly and easily, at least compared to textual information. The basic principle is that the *visual* form of the text—page design—can and should signal structure to the reader. Do this by:

1. focusing attention on important points;

2. associating related elements;

3. prioritizing elements;

4. signaling structure visually.

The fourth actually encompasses the other three: u**se page design to signal structure.**

There are many visual techniques for accomplishing this, all of which you've seen often. Three simple and familiar techniques can—and should—be easily adapted to professional reports.

1. Headings

Headings (also called captions) not only provide clear transitions (itself a structuring device) but may also effectively communicate structure visually. This is an important aid to the reader's understanding because visual structuring devices like headings can chunk and contextualize, and so influence both the amount and the type of information that readers recall. These visual signals focus the reader on what is important and help the reader connect the new information to what the reader already knows (known as schema construction), a crucial element of learning.[1] **Use headings, then, to make structure immediate and clear.** Note how this section on page design uses captions to make the three-part discussion (headings, white space, lists) *visually* clear. It would have the same structure without the headings; the headings serve to signal the structure. Generally, headings should be informative and substantive. Avoid, if you can, headings like "Part One" or Chapter Two" by themselves, since they indicate nothing about the point or content of the section. A heading can indicate a section's subject ("Cost of purchase and operation") or a section's main argument ("The seriousness of the customer complaint problem"). They can be put as questions ("What are the benefits of a new system?").

2. White space

White space is not just nothing. It's useful for visually signaling chunks, and transitions (for example when you add space to signal paragraphing), and subordination (as when way you make an outline).

3. Lists

Consider using lists (actually a white space technique) whenever you have a *series* of three or more things, whether words, phrases, numbers, sentences, or paragraphs. If the order of the items listed is important, signal that by using bullets, letters, or numbers.

1 L.D. Schultz and J.H. Spyridakis, The Effect of Heading Frequency on Comprehension of Online Information: A Study of Two Populations, Technical Communication, 51, 505 (2004).

PART II

2. AUDIENCE AND PURPOSE

The audience of a technical writing—or any piece of writing—is the intended or potential reader or readers. This is *the most important* consideration in planning, writing, and reviewing a document. You "adapt" your writing to meet the purposes, interests, and background of the readers who will be reading your writing. In reality, the lack of audience analysis and adaptation is a major cause of most of the problems in professional, technical documents.

Note: Once you've read this chapter on audiences, try using the audience planner. You fill in blanks with answers to questions about your audience and then e-mail it to yourself and, optionally, to your instructor. Use the audience planner for any writing project as a way of getting yourself to think about your audience in detail.

4. Types of audiences

One of the first things to do when you analyze an audience is to identify its type (or types—it's rarely just one type). The common division of audiences into categories is as follows:

- **Experts:** These are the people who know the business or organization (and possibly the theory and the product) inside and out. They designed it, they tested 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:** These are the people who build, operate, maintain, and repair the items that the experts design and theorize about. Theirs is a highly technical knowledge as well, but of a more practical nature.
- **Executives:** These are the people who make business, economic, administrative, legal, governmental, political decisions about the products of the experts and technicians. Executives are likely to have as little technical knowledge about the subject as nonspecialists. For many of you, this will be the primary audience.
- **Nonspecialists:** These readers have the least technical knowledge of all. They want to use the new product to accomplish their tasks; they want to understand the new power technology enough to know whether to vote for or against it in the upcoming bond election. Or, they may just be curious about a specific technical matter and want to learn about it—but for no specific, practical reason. Chances are, these readers will represent your secondary audience.

5. Audience analysis

It’s important to determine which of the four categories just discussed represent your potential audience(s), but that’s not the end of it. Audiences, regardless of category, must also be analyzed in terms of characteristics such as the following:

- **Background–knowledge, experience, training:** One of your most important concerns is just how much knowledge, experience, or training you can expect in your readers. 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 under Microsoft Windows. How much can you expect your readers to know about Windows? If some are likely to know little about Windows, should you provide that information? If you say no, then you run the risk of customers getting frustrated with your product. If you say yes to adding background information on Windows, you increase your work effort and add to the page count of the document (and thus to the cost). Obviously, there’s no easy answer to this question–part of the answer may involve just how small a segment of the audience needs that background information.
- **Professional interests:** To plan your document, you need to know what your audience is going to expect from that document. Imagine how readers will want to use your document; 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? Imagine you are under contract to write a background report on global warming for a national real estate association–what do readers want to read about; and, equally important, what do they *not* want to read about.

Audience analysis can get complicated by at least two other factors: mixed audience types for one document, wide variability within audience, and unknown audiences.

- **Multiple audiences:** A report may have more than one audience. For example, it may be seen by technical experts and by decision makers (executives). Audiences may also have conflicting interests. (For example, managers who want increases in their budgets, and finance officers who want to reduce budgets. What should you do in this case? You can either write all sections so that they relate clearly to your audience’s diverse interests. Or you can write each section strictly for one audience, using headings and section introductions to alert the audience.
- **Wide variability in an audience:** You may realize that, although you have an audience that fits into only one category, its background varies widely. This is a tough one–if you write to the lowest common denominator of reader, you are likely to end up with a cumbersome, tedious book-like report that will turn off the majority of readers. However, if you don’t write to that lowest level, you lose that segment of your readers. What should you do? Most writers go for the majority of readers and sacrifice that minority that needs more help. Others put the supplemental information in appendixes or insert cross-references to beginners’ books.

6. The concept of purpose in professional documents

ON PURPOSE, SITUATION, AND CONTEXT

Purpose, situation, context, and the related rhetorical concepts of **exigency** and **rhetorical situation** may be new to you as major considerations in professional writing. This is partly due to writing in school tending to be expository, that is writing whose purpose is to show (expose) your knowledge, skills and opinions. A fourth grade composition on "My Trip to the Zoo," or a high school book report on *To Kill a Mockingbird*, or an answer to an American history essay question, or a college essay on whether motorcyclists should be required to wear helmets, or a Ph.D. dissertation on flower imagery in Shakespeare's comedies, all have this one thing in common. They present information, and they often focus on a thesis, opinion or argument. In other words, expository writing may simply give information, or it may employ that information as evidence, explanation, or illustration to support a thesis.

Those two purposes—presenting information and presenting an argument or thesis—is a large part of academic writing. Professional communication, however, very often also involves a different consideration—to achieve a purpose, to *accomplish a goal*, to persuade or allow the audience to *act*. The reader of a professional report most often reads with a view to acting. In the professional world it's often the central reason for creating a professional document.

Consider the purpose, say, of a job application letter or resume. Or a corporation's proposal to a government agency from which your company seeks a contract. Or a lawyer's brief to a judge supporting a motion to dismiss the case against her client. Or a report to your vice president requesting funding for new equipment. Or a notice to your staff about a new corporate policy the staff must follow regarding contract changes.

To accomplish something always requires that we take the **context** and **situation** into account. Professional communication, as one writer put it, is triggered by circumstances, by "an imperfection marked by urgency." There's "a defect, an obstacle, something waiting to be done, a thing that is other than it should be," and communication is the way of finding and implementing the needed change.[1] These are the **exigencies** within which the writer works. The extent to which the writer must persuade the reader to act is the **rhetorical situation** in which a writer is communicating.

A professional report is instrumental—a means of helping or persuading the reader to accomplish something. ***Hence the focus of professional communication should be on the reader's professional interests, on the professional relation of the writer and reader, and on the action or response that the reader wants to take, or should take.***

Writing guidelines: purpose

1. Have your purpose clearly in mind before you start to develop the report. Note that this doesn't say that you should have your *subject* in mind. The subject and the purpose for writing about that subject are two different things, and they should not be confused.

2. State the purpose (1) precisely, and (2) in audience response language. Since the purpose is the reason the report exists, and the reason for the audience to read it, it's crucial to make it very clear. Readers should never be confused or mystified about why they're reading a professional report. If you don't use audience-response language, you're not stating a purpose.

3. Focus throughout on the purpose. By "focus" (a term we'll use often) we mean connect clearly *everything* in the report to the purpose.

1 L. F. Bitzer, "The Rhetorical Situation," in Philosophy and Rhetoric, 1, 6-7 (1968); cited in M. J. Hyde, Perfection, Postmodern Culture, and the Biotechnology Debate, 2 (1968).

PART III

3. PROPOSALS

This chapter focuses on the proposal—a document that gets your organization a contract or other approval to undertake a project for the client. It also may be an internal document, to propose changes in your own organization. Proposals often must demonstrate that a problem exists that needs attention, and typically addresses a very specific audience (or multiple audiences) with the authority to move your suggestions forward.

7.

Remember the basic definition: a proposal is an offer or bid to complete a project for someone. Proposals may contain several important elements—technical description of the proposed project, budgets, management, recommendations letters, resumes of those who would work on the project, results of surveys and literature reviews, feasibility, and so on. Often, especially with government agencies, clients may publish a Requests for Proposals (RFP), inviting companies to compete for a contract. RFPs usually specify what a proposal should include, often in great detail. But the purpose of a proposal is always the same. It asks the audience to approve, fund, or grant permission to do the proposed project.

A proposal often functions in a difficult rhetorical situation, since the proposer is competing with others who want the same thing you do. Hence your main task is often not only to persuade the audience that you can accomplish the proposed project, but that you can do so better than competitors. To write a successful proposal, put yourself in the place of your audience—the recipient of the proposal—and think about what sorts of information that person would need in order to feel confident having you complete the project.

It is easy to confuse proposals with other kinds of documents in technical writing. Imagine that you have a terrific idea for installing some new technology where you work, and you write up a document explaining how it work, showing the benefits, and then urging management to install it. Is that a proposal? All by itself, this would not be a complete proposal. It would be more like a feasibility report, which studies the practicality of a project and then recommends for or against it. A proposal would add elements that persuade your audience to approve your taking on the project.

8. Types of proposals

Consider the situations in which proposals occur. A company may send out a public announcement requesting proposals for a specific project. This public announcement—called a request for proposals (RFP)—could be issued through websites, emails, social media, newspapers, or trade journals. Firms or individuals interested in the project would then write proposals in which they summarize their qualifications, project schedules and costs, and discuss their approach to the project. The recipient of all these proposals would then evaluate them, select the best candidate, and then work up a contract.

But proposals also come about much less formally. Imagine that you are interested in doing a project at work (for example, investigating the merits of bringing in some new technology to increase productivity). Imagine that you met with your supervisor and tried to convince her of this. She might respond by saying, "Write me a proposal and I'll present it to upper management." This is more like the kind of proposal you will write in a technical writing course.

Most proposals can be divided into several categories:

- Internal and external: A proposal to someone within your organization (a business, a government agency, etc.) is an internal proposal. With internal proposals, you may not have to include certain sections (such as qualifications) or as much information in them. An external proposal is one written from one separate, independent organization or individual to another such entity. The typical example is the independent consultant proposing to do a project for another firm. This kind of proposal may be solicited or unsolicited, as explained below.
- Solicited and unsolicited: A solicited proposal is one in which the recipient has requested the proposal. Typically, a company will send out an RFP by mail or publish them in professional, government, or news media. Unsolicited proposals are those in which the recipient has not requested proposals. With unsolicited proposals, you sometimes must persuade the recipient that a problem or need exists before you can begin the main part of the proposal.

9. Typical scenarios for the proposal

Here are some sample proposal situtions:

- A company has a problem or wants to make some sort of improvement. The company sends out a request for proposals; you receive one and respond with a proposal. You offer to come in, investigate, interview, make recommendations—and present it all in the form of a report.
- An organization wants a seminar in your expertise. You write a proposal to give the seminar—included in the package deal is a guide or handbook that the people attending the seminar will receive.
- An agency has just started using a new online data system, but the user's manual is technically complex and difficult to read. You receive a request for proposals from this agency to write a simplified guide or startup guide.
- Imagine that a nonprofit organization focused on a particular issue wants an consultant to write a handbook or guide for its membership. This document will present information on the issue in a way that the members can understand.
- A government agency plans to update its communications systems.

10. Sections common to proposals

The following provides a review of the sections you will commonly find in proposals. Do not assume that each one of them has to be in the actual proposal you write, nor that they have to be in the order they are presented here. Pay close attention to an RFP, which often specifies required sections.

Introduction. Plan the introduction to your proposal carefully. Make sure it does all of the following things (but not necessarily in this order) that apply to your particular proposal:

- Identify the purpose–to accept your proposal.
- Specify the project.
- If the proposal addresses a specific problem, describe your proposal as a solution to that problem.
- Develop audience interest, including at least one brief motivating statement that will encourage the recipient to read on and approve your proposal, especially if the rhetorical situation is difficult, for example if it is an unsolicited or competitive proposal.
- Give a roadmap of the contents of the proposal.

The context or other background on the problem, opportunity, or situation. Often occurring just after the introduction, this section discusses what has brought about the need for the project—what problem, what opportunity exists for improving things, what the basic situation is. For example, management of a chain of day care centers may need to ensure that all employees know CPR because of new state mandates requiring it, or an owner of pine timber land in eastern Oregon may want to get the land producing saleable timber without destroying the environment.

While the audience of the proposal may know the problem very well, the background section is useful in demonstrating your particular view of the problem. Also, if the the proposal is unsolicited, this section is likely necessary–you will probably need to convince the audience that the problem or opportunity exists and that it should be addressed.

Benefits and feasibility of the proposed project. Most proposals briefly discuss the advantages or benefits of completing the proposed project. This acts as a type of argument in favor of approving the project. Also, some proposals discuss the likelihood of the project's success–its feasibilty. In an unsolicited proposal, this section is especially important.

Description of the proposed project. Most proposals must describe the finished product of the proposed project. This may be in the RFP, but should be adapted to your proposal.

Method, procedure, theory. In some proposals, you will need to explain how you will go about completing the proposed work. This acts as an additional persuasive element; it shows the audience you have a sound, thoughtful approach to the project. Also, it serves to demonstrate that you have the knowledge of the field to complete the project.

Schedule. Most proposals contain a section that shows not only the projected completion date but also key milestones for the project. If you are doing a large project spreading over many months, the timeline would also show dates on which you would deliver progress reports. If you cannot cite specific dates, cite amounts of time for each phase of the project.

Budget: costs and resources required. Most proposals also contain a section detailing the costs of the project, whether internal or external. With external projects, you may need to list your hourly rates, projected hours, costs of equipment and supplies, and so forth, and then calculate the total cost of the complete project. Internal projects, of course, are not free, so you should still list the project costs: hours you will need to complete the project, equipment and supplies you will be using, assistance from other people in the organization, and so on.

Management. Proposed projects, like businesses, can succeed or fail based on the qualifications and competence of those who will mange the project. This section often includes resumes of all those who would be responsible for the project.

Conclusions. The final paragraph or section of the proposal should bring readers back to a focus on the positive aspects of the project. Remind them of the benefits of doing the project, and maybe make one last argument for you or your organization as the right choice for the project. You can also include follow-up. Offer to meet with them if they have questions or wish to discuss anything further.

Special project-specific sections. Remember that the preceding sections are typical or common in written proposals, not absolute requirements. Always be sure to include any sections required by the RFP if there is one, and ask yourself what else might your audience need to understand the project, the need for it, the benefits arising from it, your role in it, and your qualifications to do it.

11.

Depending on the writing situation, your proposal may need to include other specialized elements as well. Your supervisor might ask you to include in your proposal any of the following:

Audience: Describe the audience of the final report (which may be different than the audience for the proposal). You may need to discuss for whom the report is designed, their titles and jobs, their technical background, and their ability to understand the report.

Information sources: List information sources; make sure you know that there is adequate information for your topic; list citations for specific books, articles, reference works, other kinds of sources that you think will contribute to your report.

Graphics: List the graphics you think your report will need according to their type and their content. (If you cannot think of any your report would need, you may not have a good topic—do some brainstorming with your instructor.)

Outline: Include an outline of the topics and subtopics you think you will cover in your report.

12. Proposals and audience

The proposal is often the beginning of a weeks-long research and writing process that goes through many stages until it gets to the end point. In this case, you only submit the proposal once during this process. You may write and submit several related genres of documents: a progress report, an outline report, an annotated bibliography, a graphics draft, a report draft, and upgrade, and so on.

Keep in mind the possibility of multiple audiences, common in profession writing. The audiences for various kinds of documents that may be produced for the same project can vary. Consider the example of a proposal written to a supervisor at a solar power company suggesting the creation of a policy manual for residential solar panel installers. The proposal's primary audience may be an executive who will make the decision to approve the proposal, but whose knowledge of the technicalities may be very broad. The executive may request that the proposed budget be reviewed by the Chief Financial Officer (CFO), and the technical description by the engineering department (whose staff will use the manual). Hence the proposal should include distinct sections for such secondary audiences. The content and language used for these various audiences and situations will need to be adjusted accordingly.

PART IV

4. INFORMATION LITERACY

Information literate individuals know how to find, evaluate and use information effectively. In college, you typically find, evaluate, and use information to satisfy the requirements of an assignment. Assignments often specify what kind of information you need and what tools you should use – or avoid – in your research. For example, your professor may specify that you need three peer-reviewed resources from academic articles and that you should not cite Wikipedia in your final paper. However, in life beyond college – especially the work world – you may not have that kind of specific guidance. You need to be information literate in order to plan and perform your own research efficiently, effectively, and with the needs of your audience in mind.

A 2012 study by Project Information Literacy (PIL) interviewed 33 employers and found that they were dissatisfied with the research skills of recently graduated hires. Employers cited recent graduates' over-reliance on online search tools and the first page of results as reasons for their dissatisfaction. Research performed by recent graduates was too superficial and lacked analysis and synthesis of multiple types of information from a variety of sources.[1]

In this chapter, you will learn

- how to identify different information formats;
- where to conduct your research;
- how to search effectively;
- how to evaluate sources you find

1. Head, A.J. (2012). Learning Curve: How College Graduates Solve Problems Once They Join the Workforce. (Project Information Literacy Research Report: The Passage Series). Retrieved from http://projectinfolit.org/images/pdfs/pil_fall2012_workplacestudy_fullreport_revised.pdf.

13. Information formats

Traditionally, information has been organized in different formats, usually because of the time it takes to gather and publish the information. For example, the purpose of news reporting is to inform the public about the basic facts of an event. This information needs to be disseminated quickly, so it is published daily in print, online, on broadcast television, and radio media.

Today, publication of information in traditional formats continues as well as in constantly evolving formats on the Internet. These new information formats can include electronic journals, e-books, news websites, blogs, Twitter, Facebook, and other social media sites. The coexistence of all of these information formats is messy and chaotic, and the process for finding relevant information is not always clear.

One way to make some sense out of the current information universe is to understand thoroughly traditional information formats. You can then understand the concepts inherent in the information formats found online. There are some direct correlations such as books and journal articles, but there are also some newer formats like tweets that didn't exist until recently.

Primary and secondary information sources

Primary sources allow researchers to get as close as possible to original ideas, events, and empirical research as possible. Such sources may include creative works, first hand or contemporary accounts of events, and the publication of the results of empirical observations or research.

Examples of primary sources are interviews, letters, emails, Tweets, Facebook posts, photographs, speeches, newspaper or magazine articles written at the time of an event, works of literature, lab notes, field research, and published scientific research.

Secondary sources analyze, review, or summarize information in primary resources or other secondary resources. Even sources presenting facts or descriptions about events are secondary unless they are based on direct participation or observation. Secondary sources analyze the primary sources.

Examples of secondary sources are journal articles, books, literature reviews, literary criticism, meta-analyses of scientific studies, documentaries, biographies, and textbooks.

Sometimes the line between primary and secondary sources blurs. For example, although newspapers and news websites contain primary source material, they also contain secondary source material. For example, an article published on November 6, 2012 about the results of the US presidential election would be a primary source, because it was written on the day of the event. However, an article published in the same paper two weeks later analyzing how the successful candidate raised money for his campaign would be a secondary source.

Table 1. Examples of primary and secondary sources for technical writing

Primary	Secondary
Interview with subject matter expert	Documentary on an issue or problem
Survey data	News article about scientific study
Published scientific study	Literature review on a research topic

Popular, professional, and scholarly information

At some point in your college career, you will be asked to find peer-reviewed resources on your research topic. Your professor may explain that these appear in scholarly journals. You may wonder what makes a scholarly journal article different from an article in a magazine, like *National Geographic* or *Sports Illustrated*.

Popular magazines like *People*, *Sports Illustrated*, and *Rolling Stone* can be good sources for articles on recent events or pop-culture topics, while magazines like *Harper's*, *Scientific American*, and *The New Republic* will offer more in-depth articles on a wider range of subjects. The audience for these publications are readers who, although not experts, are knowledgeable about the issues presented.

Professional journals, also called trade journals, address an audience of professionals in a specific discipline or field. They report news and trends in a field, but not original research. They may also provide product or service reviews, job listings, and advertisements.

Scholarly journals provide articles of interest to experts or researchers in a discipline. An editorial board of respected scholars in a discipline (peers of the authors) reviews all articles submitted to a journal. They decide if the article provides a noteworthy contribution to the field and should be published. Scholarly journals contain few or no advertisements. Scholarly journal articles will include references of works cited and may also have footnotes or endnotes, all of which rarely appear in popular or professional publications.

Peer review is a widely accepted indicator of quality scholarship in a given discipline or field. Peer-reviewed (or refereed) journals are scholarly journals that only publish articles that have passed through this review process.

You can better understand peer-review by watching the video "Peer Review in 3 Minutes."

Video credit: Peer Review in 3 Minutes by NCSU Libraries, CC: BY-NC-SA 3.0 US

Video credit: Peer Review in 3 Minutes by NCSU Libraries, CC: BY-NC-SA 3.0 US

Table 2. Differences among magazines, professional journals, and scholarly journals

Example	[National Geographic magazine cover] Magazine	[Food Technology professional publication cover] Professional journal	Academic journal [Journal of Morphology cover]
Audience	General public	People employed in a field	Researchers, scholars, experts
Bibliography	No	Sometimes	Yes
Article length/ depth Structure	• Overview • Current events • General interest articles	• Articles will be of interest to those working in that field • Purpose will be to offer advice and tips to those in the trade	• Long and narrowly focused • Specialized vocabulary • Article structure will usually contain abstract, literature review, methodology, results, conclusion, references
Review policy	Magazine editor	Magazine editor and possibly a board	Editorial board/ scholars in the field Peer-reviewed
Author	Journalist or specialist	Someone working in the field	Researcher/expert in the field
Appearance	• Glossy • Many graphics • Many advertisements	• Glossy • Advertising specific to that trade	• Lengthy articles • Often includes charts, graphs, statistics • Little or no advertising

Chapter Attribution Information

This chapter was derived by Annemarie Hamlin, Chris Rubio, and Michele DeSilva, Central Oregon Community College, from the following sources:

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- Information Formats: Popular, Professional, and Scholarly Information derived from Magazines, Trade Journals, and Scholarly Journals by Virginia Tech Libraries, CC: BY-NC-SA 4.0

14. The information timeline

Another difference among popular, professional, and scholarly sources lies in when information appears in these types of sources. Information about an event or issue appears in publications according to a predictable pattern known as the information timeline. Familiarity with the information timeline can help you best plan your research topics and where to search for information. For example, it typically takes several months to years for information about an event or issue to appear in scholarly publications. If you choose a topic that is very recent, you may have to rely more heavily on news media, popular magazines, and primary sources (such as interviews you conduct) for your research.

Table 3. The information timeline and typical sources.

Time:	Day of event	Days later	Weeks later	Months later	Year(s) later
Sources	Television, radio, web	Newspapers, TV, radio, web	Popular and mass market magazines	Professional and scholarly journals	Scholarly journals, books, conference proceedings Reference sources such as encyclopedias
Type of information	General: who, what, where (usually not why)	Varies, some articles include analysis, statistics, photographs, editorials, opinions	Still in reporting stage, general, editorial, opinions, statistics, photographs Usually no bibliography at this stage	Research results, detailed and theoretical discussion Bibliography available at this stage	In-depth coverage of a topic, edited compilations of scholarly articles relating to a topic General overview giving factual information Bibliography available
Locating tools	Web search tools, social networks	Web search tools, newspaper and periodical databases	Web search tools, newspaper and periodical databases	General and subject-specific databases	Library catalog, general and subject-specific databases Library reference collection

15. The research cycle

Although information publication follows a linear timeline, the research process itself is not linear. For example, you might start by trying to read scholarly articles, only to discover that you lack the necessary background knowledge to use a scholarly article effectively. To increase your background information, you might consult an encyclopedia or a book on your topic. Or, you may encounter a statement in a newspaper editorial that inspires you to consult the scholarly literature to see if research supports the statement.

The important thing to remember is that you will probably start your research at different points and move around among resource types depending on the type of information you need.

Figure 1. The research cycle

An image showing various types of resources and the type of information you might find in them, with arrows pointing back and forth.

Image Credit: [*A Cycle of Revolving Research*] *by* UC Libraries,

16. Research tools

Databases

Very often, you will want articles on your topic, and the easiest way to find articles is to use a research database – a specialized search engine for finding articles and other types of content. For example, if your topic is residential solar power, you can use a research database to look in thousands of journal titles at once and find the latest scientific and technical research articles – articles that don't always show up in your Google searches. Depending on the database you are using, you might also find videos, images, diagrams, or e-books on your topic, too. Most databases require subscriptions for access; check with your college, public, or corporate library to see what databases they subscribe to for you to use. Whether they are subscription-based or free, research databases contain records of journal articles, documents, book chapters, and other resources and are not tied to the physical items available at any one library. Many databases provide the full-text of articles and can be searched by keyword, subject, author, or title. A few databases provide just the citations for articles, but they usually also provide tools for you to find the full text in another database or request it through interlibrary loan. Databases are made up of records, and records contain fields, as explained below:

- Records: A record describes one information item (e.g., journal article, book chapter, image, etc.).
- Fields: These are part of the record, and they contain descriptions of specific elements of the information item such as the title, author, publication date, and subject.

Another aspect of databases to know about is controlled vocabulary. Look for the label subject term, subject heading or descriptor. Regardless of label, this field contains controlled vocabulary, which are designated terms or phrases for describing concepts. It's important because it pulls together all of the items in that database about one topic. For example, imagine you are searching for information on community colleges. Different authors may call community colleges by different names: junior colleges, two-year colleges, or technical colleges. If the controlled vocabulary term in the database you are searching is "community colleges," then your one search will pull up all results, regardless of what term the author uses.

Databases may seem intimidating at first, but you likely use databases in everyday life. For example, do you store contact information in your phone? If so, you create a record for everyone for whom you want to store information. In each of those records, you enter descriptions into fields: first and last name, phone number, email address, and physical address. If you wanted to organize your contacts, you might put them into groups of "work," "family," and "friends." That would be your controlled vocabulary for your own database of contacts.

The image below shows a detailed record for a journal article from a common research database, Academic Search Premier. The fields and controlled vocabulary are labeled.

Figure 2. Fields and controlled vocabulary

Examples of fields and controlled vocabulary in a library database

General

Databases that contain resources for many subject areas are referred to as general or multidisciplinary databases. This means that they are good starting points for research because they allow you to search a large number of sources from a wide variety of disciplines. Content types in general databases often include a mix of professional publications, scholarly journals, newspapers, magazines, books, and multimedia.

Common general databases in academic settings include

- Academic Search Premier
- Academic OneFile
- JSTOR

Specialized

Databases devoted to a single subject are known as subject-specific or specialized databases. Often, they search a smaller number of journals or a specific type of content. Specialized databases can be very powerful search tools after you have selected a narrow research topic or if you already have a great deal of expertise in a particular area. They will help you find information you would not find in a general database. If you are not sure which specialized databases are available for your topic, check your library's website for subject guides, or ask a librarian.

Specialized databases may also focus on offering one specific content type like streaming films, music, images, statistics, or data sets.

Table 4. Examples of specialized databases and their subject focus

Database	**Subject Focus**
PsycInfo	Psychology
BioOne	Life Sciences
MEDLINE	Medicine/health
ARTstor	Fine arts images

Library catalogs

A library catalog is a database that contains all of the items located in a library as well as all of the items to which the library offers access, either in physical or online format. It allows you to search for items by title, author, subject, and keyword. Like research databases, library catalogs use controlled vocabulary to allow for powerful searching using specific terms or phrases.

If you locate a physical item in a catalog, you will need the call number to find the item in the library. A call number is like a street address for a book; it tells you exactly where the book is on the shelf. Most academic libraries will use the Library of Congress classification system, and the call numbers start with letters, followed by a mix of numbers and letters. In addition to helping you find a book, call numbers group items about a given topic together in a physical place. The image below shows an example of the location of a call number in a library catalog.

Figure 3. A call number in an online library catalog display

Example of a call number in a library catalog

Along with physical items, most libraries also provide access to scholarly e-books, streaming films, and e-journals via their catalogs. For students and faculty, these resources are usually available from any computer, meaning you do not have to go to the library and retrieve items from the shelf.

Consortia and interlibrary loan

In the course of your research you will almost certainly find yourself in a situation where you have a citation for a journal article or book that your institution's library doesn't have. There is a wealth of knowledge contained in the resources of academic and public libraries throughout the United States. Single libraries cannot hope to collect all of the resources available on a topic. Fortunately, libraries are happy to share their resources and they do this through consortia membership and interlibrary loan (ILL). Library consortia are groups of libraries that have special agreements with one another to loan materials to one another's users. Both academic and public libraries belong to consortia.

Central Oregon Community College (COCC) belongs to a consortium of 37 academic libraries in the Pacific Northwest called the Orbis Cascade Alliance, which sponsors a shared lending program called Summit. When you search the COCC Library Catalog, your results will include items from other Summit institutions, which you can request and have delivered to the COCC campus of your choice.

Interlibrary loan (ILL) allows you to borrow books, articles and other information resources regardless of where they are located. If you find an article when searching a database that COCC doesn't have full text access to, you can request it through the interlibrary loan program. If you cannot get a book or DVD from COCC or another Summit library, you could also request it through interlibrary loan. Interlibrary loan services are available at both academic and public libraries.

Government information

Another important source of information is the government. Official United States government websites end in .gov and provide a wealth of credible information, including statistics, technical reports, economic data, scientific and medical research, and, of course, legislative information. Unlike research databases, government information is typically freely available without a subscription.

USA.gov is a search engine for government information and is a good place to begin your search, though specialized search tools are also available for many topics. State governments also have their own websites and search tools that you might find helpful if your topic has a state-specific angle. If you get lost in searching government information, ask a librarian for help. They usually have special training and knowledge in navigating government information.

Table 5. Examples of specialized government sources and their subject focus

Specialized Government Source	Subject Focus
PubMed Central	Medicine/health
ERIC	Education
Congress.gov	Legislation and the legislative process

Experts

People are a valuable, though often overlooked, source. This might be particularly appropriate if you are working on an emerging topic or a topic with local connections.

For personal interviews, there are specific steps you can take to obtain better results. Do some background work on the topic before contacting the person you hope to interview. The more familiarity you have with your topic and its terminology, the easier it will be to ask focused questions. Focused questions are important for effective research. Asking general questions because you think the specifics might be too detailed rarely leads to the best information. Acknowledge the time and effort someone is taking to answer your questions, but also realize that people who are passionate about subjects enjoy sharing what they know. Take the opportunity to ask experts about additional resources they would recommend.

For a successful, productive interview, review this list of Interview Tips before conducting your interview.

17. Search strategies

Now that you know more about the research tools available to you, it's time to consider how to construct searches that will allow you to find the most relevant, useful results as efficiently as possible.

Develop effective keywords

The single most important search strategy is to choose effective search terms. This may seem obvious, but it is too often overlooked, with deleterious consequences. When deciding what terms to use in a search, break down your topic into its main concepts. Do not enter an entire sentence or a full question. The best thing to do is to use the key concepts involved with your topic. In addition, think of synonyms or related terms for each concept. If you do this, you will have more flexibility when searching in case your first search term does not produce any or enough results. This may sound strange, since if you are looking for information using a Web search engine, you usually get too many results. Databases, however, contain fewer items than the entire web, and having alternative search terms may lead you to useful sources. Even in a search engine like Google, having terms you can combine thoughtfully will yield better results.

Figure 4. Keyword brainstorming for the topic of violence in high schools

Example of keyword brainstorming

Image credit: The Information Literacy User's Guide edited by Greg Bobish and Trudi Jacobson, CC: BY-NC-SA 3.0 US

Advanced search techniques

Once you have identified the concepts you want to search and have carefully chosen your keywords, think about how you will enter them into the search box of your selected search tool. Try the techniques below in both research databases and web search engines.

Boolean operators

Boolean operators are a search technique that will help you

- focus your search, particularly when your topic contains multiple search terms
- connect various pieces of information to find exactly what you are looking for

There are three Boolean operators: AND, OR, and NOT. You capitalize Boolean operators to distinguish them from the words and, or, and not (words which most search engines ignore). It is also important to note that you should spell out AND rather than substituting commas, ampersands, or plus signs. Usually you should spell out NOT as well, except in Google, where you must use the minus sign (-).

AND

Use AND in a search to

- narrow your results
- tell the database that ALL search terms must be present in the resulting records

Example: cloning AND humans AND ethics

The purple triangle where all circles intersect in the middle of the Venn diagram below represents the result set for this search. It is a small set created by a combination of all three search words.

Figure 5. Example of search terms connected by AND

Diagram showing how Boolean AND works
Image credit: Database Search Tips: Boolean Operators by MIT Libraries,

OR

Use OR in a search to accomplish the following:

- connect two or more similar concepts (synonyms)
- broaden your results, telling the database that any one of your search terms can be present in the resulting records

Example: (cloning OR genetics OR reproduction)

All three circles represent the result set for this search. It is a big set because the OR operator includes all of those search terms.

Figure 6. Example of search terms connected by OR

Example of search terms connected by the Boolean OR operator
Image credit: Database Search Tips: Boolean Operators by MIT Libraries,

NOT

Use NOT in a search to

- exclude words from your search
- narrow your search, telling the database to ignore concepts that may be implied by your search terms

Example: cloning NOT sheep

The purple part of the circle below represents your results for this search, because you've used NOT to exclude a subset of results that are about sheep (represented by the gray circle).

Figure 7. Example of search using NOT

[Example of search terms excluded from a search using the term NOT]

Combining operators

You can combine the different Boolean operators into one search. The important thing to know when combining operators is to use parentheses around the terms connected with OR. This ensures that the database interprets your search query correctly.

Example: ethics AND (cloning OR genetics OR reproduction)

The shaded area of the diagram below represents the results set for the above search.

Figure 8. Example of complex Boolean search that connects terms with AND and OR

[An example of a complex search using multiple Boolean operators]

Phrases

Web and research databases usually treat your search terms as separate words, meaning they look for each word appearing in a document, regardless of its location around the other words in your search term. Sometimes you may want to system to instead search for a specific phrase (a set of words that collectively describe your topic).

To do this, put the phrase in quotation marks, as in "community college."

With phrase searches, you will typically get fewer results than searching for the words individually, which makes it an effective way to focus your search.

Truncation

Truncation, also called stemming, is a technique that allows you to search for multiple variations of a root word at once.

Most databases have a truncation symbol. The * is the most commonly used symbol, but !, ?, and # are also used. If you are not sure, check the help files.

To use truncation, enter the root of your word and end it with the truncation symbol.

Example: genetic* searches for genetic, genetics, genetically

18. Evaluate sources

Information sources vary in quality, and before you use a source in your academic assignments or work projects, you must evaluate them for quality. You want your own work to be of high quality, credible, and accurate, and you can only achieve that by having sources possess those same qualities.

Watch this video on evaluating sources for an overview of what credibility is, why it's important, and some of the criteria to look for when evaluating a source.

Evaluating Sources Video Image Link

Video credit: Evaluating Sources for Credibility by NCSU *Libraries,*

There are five basic criteria for evaluating information. While it may seem like a lot to think about at first, after a little practice, you will find that you can evaluate sources quickly.

Here are the five basic criteria, with key questions and indicators to help you evaluate your source:

- Authority
  - **Key Question:** Is the person, organization, or institution responsible for the intellectual content of the information knowledgeable in that subject?
  - **Indicators of authority:** formal academic degrees, years of professional experience, active and substantial involvement in a particular area
- Accuracy
  - **Key Question:** How free from error is this piece of information?
  - **Indicators of accuracy:** correct and verifiable citations, information is verifiable in other sources from different authors/organizations, author is authority on subject
- Objectivity
  - **Key Question:** How objective is this piece of information?
  - **Indicators of objectivity:** multiple points of view are acknowledged and discussed logically and clearly, statements are supported with documentation from a variety of reliable sources, purpose is clearly stated
- Currency
  - **Key Question:** When was the item of information published or produced?
  - **Indicators of currency:** publication date, assignment restrictions (e.g., you can only use articles from the last 5 years), your topic and how quickly information changes in your field (e.g., technology or health topics will require very recent information to reflect rapidly changing areas of expertise)
- Audience
  - **Key Question:** Who is this information written for or this product developed for?
  - **Indicators of audience:** language, style, tone, bibliographies

When evaluating and selecting sources for an assignment or work project, compare your sources to one another in light of your topic. Imagine, for example, you are writing a paper about bicycle commuting. You have three sources about bicycle safety. One is written for children; one is for adult recreational bicyclers; and one is for traffic engineers. Your topic is specifically about building urban and suburban infrastructure to encourage bicycling, so the source written for traffic engineers is clearly more appropriate for your topic than the other two. Even if the other two are high-quality sources, they are not the most relevant sources for your specific topic.

Until you have practiced evaluating many sources, it can be a little difficult to find the indicators, especially in web sources.

Table 6. Locations where you might find indicators of quality in different types of sources

If you are looking for indications of…	In books see the…	In journals see the…	In websites see the…
Authority	Title page, Forward, Preface, Afterward, Dust Jackets, Bibliography	Periodical covers, Editorial Staff, Letters to the Editor, Abstract, Bibliography	URL, About Us, Publications, Appearance
Accuracy	Title page, Forward, Preface, Afterward, Periodical covers, Dust Jackets, Text, Bibliography	Periodical covers, Text, Bibliography	URL, About Us, Home page, Awards, Text
Objectivity	Forward, Preface, Afterward, Text, Bibliorgraphy	Abstracts, Text, Bibliography, Editorials, Letters to the Editor	About Us, Site Map, Text, Disclaimers, Membership/ Registration
Currency	Title page, copyright page, Bibliography	Title page, Bibliorgraphy, Abstracts	Home page, Copyright, What's New
Audience	Forward, Preface, Afterward	Letters to the editor, Editorial, Appearance	Home page, About, Mission, Disclaimer, Members only

When you have located and evaluated information for your paper, report, or project, you will use it to complete your work. A later chapter of this text will cover how to use it correctly and ethically.

PART V

5. CITATIONS AND PLAGIARISM

Like most writers, technical writers need to demonstrate their credibility, objectivity, and thoroughness by referencing quality source material. Technical writers reveal and share source information both to give credit to the writers of that material and also to demonstrate they have done thorough research.

19. Citations

Citations are the way in which you give credit to others for their work and avoid committing plagiarism. They are also the way in which you join the professional or scholarly conversation on a given topic.

Watch this short video to learn more about why citations are important.

Citation Video from NCSU

Video credit: Citation: A (Very) Brief Introduction by NCSU Libraries, CC: BY-NC-SA 3.0 US

Citations come in two forms: in-text citations and full citations.

There are many different citation styles. Two of the most common academic styles are American Psychological Association (APA) and Modern Language Association (MLA). For academic assignments, your instructor will usually specify which style you should use. Generally speaking, MLA is used more frequently in the humanities, while APA is used more commonly in the social sciences and sciences. However, some subjects may have their own discipline-specific citation types, such as the American Society of Mechanical Engineers (ASME) style for the mechanical engineering field. Whatever style you choose or are asked to use, remember to stick with it consistently throughout your report.

In-text citations

In-text citations are used within the text of your paper and indicate to your readers from which source listed in your works cited or bibliography you are extracting information or quotations. That way, even if you have multiple sources, it is always clear which source you are using at any given time. As with full citations, discussed below, format of in-text citations differs depending on which citation style you are using. APA uses the author-year format, while MLA uses the author-page number format. Other styles of in-text citation include footnotes or endnotes, in which continuously sequenced numbers refer the reader to a list of citations elsewhere in the document. Some examples are below.

APA

Students should choose their study locations carefully for best results (Lei, 2015).

MLA

Students should choose their study locations carefully for best results (Lei 197).

In-text citations should always have a corresponding full citation on the Works Cited or References page at the end of a paper.

Full citations

Full citations generally have three major parts, though the order and formatting of these parts depends on the citation style you use.

Major parts

- Information about the person or body that created it – the author(s), editor(s), speaker(s), etc.
- Information that distinguishes the content of the specific work being cited – the title of an article, chapter, book, or presentation
- Information about the location or creation of the work – usually, where and when it was published or presented. This can include whether or not the work is part of a larger publication or series (volume and issue numbers), the number of printed pages it contains, or the web address (URL), and date it was accessed.

Below is an example of an article citation – the full citation for the in-text citation above – using MLA and APA styles. Notice the common elements that are present in both. You find the elements for a citation in the fields of a database or library catalog record or on the information item itself.

Author – Lei, Simon A.

Article Title – Variation in Study Patterns among College Students: A Review of Literature

Source Title – College Student Journal

Volume and Issue – Volume 49, Issue 2

Publication Date – 2015

Page Numbers – 195-198

APA

Lei, S. A. (2015). Variation in study patterns among college students: A review of literature. *College Student Journal*, 49(2), 195-198.

MLA

Lei, Simon A. "Variation in Study Patterns among College Students: A Review of Literature." *College Student Journal*, vol. 49, no. 2, 2015, pp. 195-198. *Academic Search Premier*. Accessed 27 May 2016.

Luckily, you do not need to memorize citation style formats. There are excellent online guides and tools that will help you cite sources correctly. Additionally, you can always ask your instructor or a librarian for help if you have a question or a difficult source to cite.

Online guides and tools to consult:

- Purdue Online Writing Lab (OWL): Invaluable for MLA, APA, and Chicago styles, this guide covers in-text citations, bibliography/works cited pages, and guidelines for citing many types of information sources.
- Citation Builder: From the University of North Carolina, the Citation Builder is an automated form for creating citations. You select the style, enter the information, and it generates a citation. It's always a good idea to double check these citation-generator tools!
- Zotero: Developed at the Roy Rosenzweig Center for History and New Media at George Mason University, Zotero is

a sophisticated research management tool. You can use it to save and organize your sources and create citations. As a more sophisticated tool, it requires a little more time and efforts to learn, but the time is worth it when you're researching and writing a lot.

In addition to these tools, many research databases and library catalogs offer citation tools that help you create a citation for an item you've located using that service. Look for a button or link labeled cite or citation. Again, with these automatically-generated citations, be sure to double check it for accuracy. They aren't always correct.

Figure 1. example of the citation button in PubMed Central, a freely available research database.

Citation in Pub Med

Bibliography

Citation Builder. (n.d.). University of North Carolina. Retrieved from http://library.unc.edu/citationbuilder/.

Purdue Online Writing Lab (OWL). (2015). Purdue University. Retrieved from https://owl.english.purdue.edu/owl/.

Zotero. (n.d.) Roy Rosenzweig Center for History and New Media. Retrieved from https://www.zotero.org/about/.

Chapter Attribution Information

20. Plagiarism

Plagiarism is the presentation of someone else's work as your own. It is claiming language, ideas, opinions, theories, software code, artistic material, or anything else developed by another person without acknowledging that person as the source of the material.

In the world of cut and paste, it is easy to commit plagiarism and not even be aware of doing so. Regardless of whether it is intentional or unintentional, plagiarism is dishonest, unfair, and unethical.

There are serious consequences for both intentional and unintentional plagiarism. Ignorance is not an excuse. As a student, the consequences of plagiarism can range from the loss of credit for a course to expulsion from school. In the work world, the consequences of plagiarism can range from loss of your professional reputation to loss of your job and destruction of your career. As a student, you should be familiar with your school's academic integrity policies. As one example, Central Oregon Community College (COCC) publishes the COCC Student Rights and Responsibilities, which spells out the consequences for committing plagiarism at COCC (see the "Academic Honesty" sub-heading in Section C of the Rights and Responsibilities). Widely known facts can be used without citing the source.

Credit must always be given to others for

- their words, either quoted or paraphrased
- their artistic material
- their research findings, analysis, and conclusions

PART VI

6. PROGRESS REPORTS

You write a progress report to inform a supervisor, associate, or customer about progress you've made on a project over a certain period of time. Progress reports are often required when a project takes several weeks or months to complete.

21. Functions and Contents of Progress Reports

A progress report may include any of the following:

- What of the project is complete
- What part of the project is currently in progress
- What part remains to be done
- Evaluation of progress: How the project is going in general. What problems have arisen that may affect the project's schedule, budget, etc.

Progress reports have several important functions:

- Reassure recipients that you are making progress, that the project is going smoothly, and that it will be complete by the expected date and on budget.
- Provide recipients with a brief look at some of the findings or some of the work of the project.
- Give recipients a chance to evaluate your work on the project and to request changes.
- Give you a chance to discuss problems in the project and thus to forewarn recipients.
- Project a sense of professionalism to your work and your organization.

22. Timing and Format of Progress Reports

The frequency of progress reports depends on the length and nature of the project. They can be weekly, monthly or quarterly. Depending on the size of the progress report, the length and importance of the project, and the recipient, the progress report can take the following forms:

- Memo—A short report to someone within your organization
- Letter—A short report to someone outside your organization
- Formal report—A formal report to someone outside your organization

23. Other Parts of Progress Reports

In your progress memo or report, you also need to include the following sections: (a) an introduction that reviews the purpose and scope of the project, (b) a detailed description of your project and its history, and (c) an overall appraisal of the project to date, which usually acts as the conclusion.

- Opening paragraph introducing the purpose of the memo and a reminder about the project topic
- Summary of the project
- Specific objectives of the project
- Scope, or limits, of the project
- Research gathered
- Overall assessment or appraisal of the project at this time

PART VII

7. OUTLINES

Outlines are a necessary part of writing. Period. Outlines are like a road map. They give you direction; they tell you where to go. Working without an outline is like trying to get from Oregon to New York and only knowing you need to go east.

An effective outline serves several important functions.

1. It ensures a better document by structuring it to focus on purpose and on the audience's interests in it.

2. It is a checklist to ensure that all points are covered.

3. It provides an early project checkpoint. Reviewers can visualize what the final document will look like.

4. It may be used to invite feedback before the document is developed further.

5. It allows managers to sense the size, structure and complexity of the document, to help them plan accurately.

Some tips.

1. Outlines may be either simple phrases ("Financial results"), or topic sentence ("Financial results comply with federal regulations"). Either way, they must be specific. Avoid entries like "example" or "purpose".

2. Each entry should be clearly connected to one purpose or one audience interest.

3. Develop the outline to about three divisions (subsections).

24. Creating and using outlines

In technical writing, outlines can serve multiple purposes. One is help the writer organize ideas and evidence, and the other to communicate your plan of development clearly to the audience that has the authority to move your project forward. Therefore, the various parts of your outline should make clear the relation of each entry to the purpose of your report and to the audience's interest in it.

As you begin to outline your report:

- The first main section indicates the introduction, and includes the purpose (or thesis), the audience, and the problem and context.
- List the major sections of the report at the left margin.
  - Add details for each section underneath the major section. Write in complete "topic" sentences.
  - Indent the details related to each section underneath the names of major sections.
- Alternate between numbers and letters to indicate different levels: I. A. 1. a. 1) a)

Take a peek at the following three-minute video which explains how helpful outlines can be in writing a technical report:

Start screen for outlines screencast

Develop as specific an outline as you can: it shows you what information you must gather and, as importantly, what information you can ignore. Develop a rough outline with major section headings you are considering for this report.

When you have completed sufficient research to develop your ideas, a formal outline can be used to develop a draft of your report. As you write and revise, you will continue filling in details, adding transitions, and providing your own acquired understanding of the subject. It isn't uncommon to discover gaps in your early draft and have to go back and conduct more research. Keep in mind that this is a working outline and not a contract; as you continue your research, you may decide to organize the final report differently and even delete some information and add new sections.

25. Developing the rough outline

In the early stages of developing a formal, detailed outline, create a working outline before you begin gathering information. The rough outline shows you which specific topics to gather information on and which ones to ignore. Think of the outline as a series of questions:

Rough outline for a report on light water nuclear reactors	Questions generated by the outline
1. Pressurized Water Reactors 1. Major Components 2. Basic Operations	What are the main differences? What are the main components? What are the materials? Design? Dimensions? How many are in operation? Where Who designed them?
1. Boiling Water Reactors 1. Major Components 2. Basic Operation	How do they differ from PWRs? What are the main components? What are the materials? Design? Dimensions? Designers? Where used? How many?
1. Safety Measures 1. Pressurized Water Reactors 2. Boiling Water Reactors 3. Role of the Nuclear Regulatory Commission	What are the chief dangers? What are the dangers and safety measures associated with PWRs? What are the dangers and safety measures associated with BWRs? How does the NRC regulate nuclear power plants? What standards does it enforce? How?
1. Economic Aspects of Light Water Reactors 1. Construction Costs 2. Operation and Maintenance Costs 3. Operating Capacity	What are the construction, operation, maintenance, and fuel costs? What about the availability of fuel? How do these costs compare to output? How do the PWR and the BWR compare in terms of costs and output? How much electricity can a LWR generate at full capacity?

Figure 1. Viewing an outline as a series of questions

Keep in mind that this rough outline is in its early stage. The formal outline you will ultimately create and submit will be much more developed, containing specific details and information from your anticipated sections of your report.

PART VIII

8. CREATING AND INTEGRATING GRAPHICS

Technical writers integrate graphics, also referred to as visuals, to complement text in a report. Visuals can include tables, charts, photographs, drawings, to name a few, but their purpose rarely varies: graphics should help to visually clarify and reinforce data and information. They also provide an additional benefit: they help to break up a text-heavy report, thereby making the report more visually appealing.

26. Deciding which graphics to include

As you review your research and begin to think about possible visuals to include in your report, the first step is to consider which graphics are most appropriate given the data you wish to convey. The table below provides some general guidelines on the kind of graphic most suitable given the type of information.

Information to Convey	Visual Type
Multi-step schedules	Gantt charts
Trends, progress	Line graphs
Comparisons, contrasts	Bar graphs
Percentages, proportions	Pie charts
Processes, procedures	Flow charts
Groups of items	Lists
Geographic data	Maps

27. Other considerations: audience

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

Figure 1: Meanings of the color red around the world

Map showing different meanings of the color red around the world

28. Placement and context of visuals

Placement and context are crucial requirements of effective visuals. Carefully consider where they should be placed and what information to provide to prepare your readers for the message within that graphic. In other words, visuals should be effectively integrated into the text of the report.

- Introduce a graphic in the paragraph preceding the visual. That is also a good place to provide the source material for the information in the graphic, if applicable.
- Give the visual a label, even if that is simply “Table 1” or “Figure 1” for easy reference.
- Make sure the graphic, and the role the graphic plays in your discussion, is clear to your audience.
- Cite the source at the bottom of the graphic.
- Write follow-up text after the graphic. This might be an interpretation or a final comment about the implications of the information in the visual.

29. Examples

Let's take a look at some samples.

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

> Not all gardeners will experience success with growing vegetables in Central Oregon, and the town of Sisters is especially challenging because of the varied temperatures all year long and the chance of frost or even freezing temperatures during any month of the year. Central Oregon and Sisters resident, Jane Doe, had the greatest success with the following vegetables in the year 2015 as noted in the pie chart below.
>
> Table 1: Vegetables grown in 2015
>
> Chart showing percentage of crop yields in a home garden in central Oregon. Potatoes were 59% of the harvest, carrots 23%, tomatoes 10% and lettuce 7%.
>
> *Source: Interview with Master Gardener, Jane Doe, 2 May 2016.*
>
> It is important to note that depending on the hardiness zone of the city, some vegetables may do better than others. Doe also commented that she protected her tomatoes either inside a green house or under a hoop house.

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

> Figure 1: Vegetables grown in 2015
>
> Bar chart showing crop production in a garden in central Oregon.
>
> *Source: Interview with Master Gardener, Jane Doe, 2 May 2016.*

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

> The U.S. Department of Agriculture publishes a Plant Hardiness Zone Map which growers and gardeners use to help determine which plants, including vegetables and trees, will be most successful at a particular location. The table below shows the hardiness zone for four cities in Central Oregon and includes the annual minimum winter temperature—important information to keep in mind when determining not only which vegetables to plant but how long the growing season may be.
>
> Table 1: Hardiness Zones in Central Oregon

Central Oregon City	Hardiness Zone	Winter Temperature Range
Sisters	6a	-10 to -5 (Fahrenheit)
Bend	6b	-5 to 0 (Fahrenheit)
Redmond	6b	-5 to 0 (Fahrenheit)
Tumalo	6b	-5 to 0 (Fahrenheit)

Source information: "United States Department of Agriculture." USDA *Plant Hardiness Zone Map*. 2012. Web. 05 May 2016.

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

Now that you have had a chance to learn about strategies for creating effective graphics and have examined some strong examples, let's look at a few that could use some revision. As you look at the following visuals, note the possible strengths and weaknesses of each one. Consider what advice you might give the writer on how to improve these graphics.

Examples of visuals that could use revision.

30. Checklist for graphics in reports

- Use graphics to reinforce, supplement, or clarify arguments, especially when using data.
- Use graphics appropriate to your audience, subject, and purpose.
- Discuss graphics in the text just preceding the graphic. Don't insert a graphic in your report unexplained. Orient readers to the graphic; explain its basic meaning in introductory and follow-up sentences before and after your graphic.
- Avoid placing graphics on pages by themselves; ideally, no visual should take up more than one-third of any page in your report.
- Use figure numbers and titles for graphics. Additionally, include identifying detail within the graphics such as illustration labels, axis labels, keys, and so on.
- Make sure graphics fit within normal margins. Leave at least one blank line above and below graphics.
- Place graphics as near to the point in the text where they are relevant as is reasonable. However, if a graphic does not fit properly on one page, indicate that it appears on the next page and put it at the top of the next, continuing with regular text on the preceding page.
- Cite all images that you create, or which is created by another author, from another source. Do this in your introductory sentences before the visual appears, as well as include a citation at the bottom of the visual.

PART IX

9. ETHICS IN TECHNICAL WRITING

Up to this point, you have probably been thinking about technical writing in relation to communicating technical information clearly in an accessible format that meets the needs of its audience. These are important aspects of technical writing, to be sure, but they really only represent the surface of what you need to know. This chapter will introduce some of the ethical issues that may arise as technical writers research, write, revise, and produce a technical document.

Like other professionals, technical writers come up against ethical issues regularly and must make decisions about how to move forward with a project in the face of ethical dilemmas. Writers may encounter situations in which she must ask the following kinds of questions: What kinds of support material and sources are ethical to use? Are open web sources just as valid as academic sources for certain topics? Can email communications be used without permission? What if the writer discovers that a company falsified data about the effectiveness of its product? Should she reveal this in her report or should she take other courses of action? How much should a writer adapt to an audience without sacrificing his own views?

Ethics principles provide the basis for deciding whether “x” is ethical, but in reality, ethical issues are complicated—for example, imagine working for a large company that employs substantial numbers of people in your town, where relatively few other employment opportunities exist. Imagine that the company disposes of its chemical waste in a way that could endanger people’s health. Imagine, further, that the company cannot afford to dispose of this waste more safely and that, if you turn them in, the company will close down, most of the town will be unemployed, and the town’s entire economy will collapse. What do you do? Is the risk of future health problems more serious than the certainty of immediately destroying your town? Which choice is really more ethical?

On a smaller scale, if one way of presenting evidence requires some manipulation of data but seems to be the only way of keeping sales strong enough for your company to survive, what should you do? If you take the unethical route, odds are good that few (or no) people will realize you have done so, and you would not be doing anything illegal. If you take the ethical route, and sales plummet, few people will recognize the ethical issue, but most will clearly understand that you caused the sales decline.

31.

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

A classic example of unethical technical writing is the memo report NASA engineers wrote about the problem with O ring seals on the space shuttle Challenger (the link provides further links to a wide range of information, including ethics analyses; the first link is the overview for what happened). The unethical feature was that the crucial information about the O rings (O rings provide a seal) was buried in a middle paragraph, while information approving the launch was in prominent beginning and ending spots. Presumably, the engineers were trying to present a full report, including safe components in the Challenger, but the memo's audience—non-technical managers—mistakenly believed the O ring problem to be inconsequential, even if it happened. The position of information in this document did not help them understand that the problem could be fatal. Possibly the engineers were just poor writers; possibly they did not consider their audience; or possibly they did not want to look bad and therefore emphasized all the things that were right with the Challenger. (Incidentally, the O rings had worked fine for several launches.)

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

32. Typical Ethics Issues in Technical Writing

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

Research that does not support the project idea

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

Suppressing relevant information

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

Presenting visual information ethically

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

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

Fig. 1 – Misleading and regular pie charts

Pie Charts

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

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

Fig. 2 – Misleading and regular bar graphs

Two Bar Charts

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

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

Limited source information in research

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

A few additional concerns

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

Even more common is an ethics violation resulting from the person who is designing the information seeing it as evidence for whatever s/he understands as true and honestly not recognizing the bias in how s/he has presented that information.

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

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

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

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

Chapter Attribution Information

33. Ethics and documenting sources

The chapter titled “Citation and Plagiarism” stresses the importance of documenting your sources. Documenting your sources includes showing exactly what you borrowed both where you used it and in a Works Cited, Works, or References (the different terms reflect different documentation systems, not just random preference) list at the end.

Including an item only in the source list at the end suggests you have used the source in the report, but if you have not cited this source in the text as well, you could be seen as misleading the reader. Either you are saying it is a source when in fact you did not really use anything from it, or you have simply failed to clarify in the text what are your ideas and what comes from other sources.

Documenting source use in such a way as to either mislead your reader about the source or make identifying the source difficult is also unethical—that would include using just a URL or using an article title without identifying the journal in which it appears (in the Works Cited/References; you would not likely identify the journal name in the report’s body). Unethical source use also includes falsifying the nature of the source, such as omitting the number of pages in the Works Cited entry to make a brief note seem to be a full article.

Unethical source use includes suppressing information about how you have used a source, such as not making clear that graphical information in your report was already a graph in your source, as opposed to a graph you created on the basis of information in the source.

Note that many problems in documenting sources occur because the writer is missing the point of source use:

- you must clearly distinguish between your ideas and borrowed material,
- and you must use borrowed material primarily as evidence for your own, directly stated ideas.

If you blend source material together with your ideas (including as “your ideas” your analysis or application of borrowed materials), you will indeed find that showing exactly what is borrowed versus what is yours is impossible. That is because you cannot ethically blend your ideas together with source material. Any time you find you cannot apply documentation principles, consider whether you are using the source(s) unethically. Students often argue that they cannot separate their ideas from borrowed ideas because they would then have to document the whole paper—if that is true, the paper is most certainly not making “fair use” of the sources.

34. Ethics, Plagiarism, and Reliable Sources

Unlike personal or academic writing, technical and professional writing can be used to evaluate your job performance and can have implications that a writer may or may not have considered. Whether you are writing for colleagues within your workplace or outside vendors or customers, you will want to build a solid, well-earned favorable reputation for yourself with your writing. Your goal is to maintain and enhance your credibility, and that of your organization, at all times.

Credibility can be established through many means: using appropriate professional language, citing highly respected sources, providing reliable evidence, and using sound logic. Make sure as you start your research that you always question the credibility of the information you find. Are the sources popular or scholarly? Are they peer reviewed by experts in the field? Are the methods and arguments used based on solid reasoning and sound evidence? Is the author identifiable and does s/he have appropriate credentials? Be cautious about using sources that are not reviewed by peers or editor, or in which the information seems misleading, biased, or even false. Be a wise information consumer in your own reading and research in order to build your own reputation as an honest, ethical writer.

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

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

35. Professional ethics

Many organizations and employers have a corporate code of ethics. If you are a technical writer and you join a professional associations such as the Society of Technical Communicators you will need to be aware their codes of ethics, published online (e.g. http://www.stc.org/about-stc/ethical-principles). If you are a technical writer researching and writing a report within a specific professional field, you will also need to be aware to that field's codes of ethics. For example, let's say you are writing a report for a group of physical therapists on the latest techniques for rehabilitating knee surgery patients. You should be aware of the code of ethics for physical therapists so that you work within those principles as you research and write your report.

Look for the codes of ethics in your own discipline and begin to read and understand what will be expected of you as a professional in your field.

PART X

10. FORMAL TECHNICAL REPORTS: COMPONENTS AND DESIGN

Technical reports have various designs depending on the industry, profession, or organization. This chapter shows you one important genre, the formal report. Organizations very often have their own "stylesheets" on which all organizational document designs are based, so always check that report design conforms to your discourse community and your audience.

Technical reports have specifications as do any other kind of project. Specifications for reports involve layout, organization and content, format of headings and lists, the design of the graphics, and so on. The advantage of a genre with a required structure and format is that the designed is familiar—you know what to look for and where to look for it. Reports are usually read in a hurry—readers looking for information and arguments relating to their professional interests.

When you look at the components of a formal report, you'll notice how repetitive some components are. This duplication has to do with how a professional audience reads reports. They don't read straight through, like you'd read a novel. Readers may start with the executive summary, perhaps check the table of contents for the sections they are especially interested in. Your challenge is to design reports so that these readers encounter your key arguments and information.

Be sure and see the example reports.

The standard components of the typical technical report are discussed in this chapter. The following sections guide you through each of these components, pointing out the key features. Keep in mind that companies, agencies, professions, and other organizations may vary in their specific requirements, and you'll need to adapt your practice to those.

36. Cover letter or memo

The cover letter or memo, also called a letter (or memo) of transmittal, is either attached to the outside of the report with a paper clip or is bound within the report. It is a communication from you—the report writer—to the recipient, the person who requested the report. Essentially, it is a record of your submitting (or transmitting) the report. "Here is the report that we agreed I'd complete by such-and-such a date. Briefly, it contains this and that, but does not cover this or that. Let me know if it meets your needs." The cover letter or memo explains the context—the events that brought the report about.

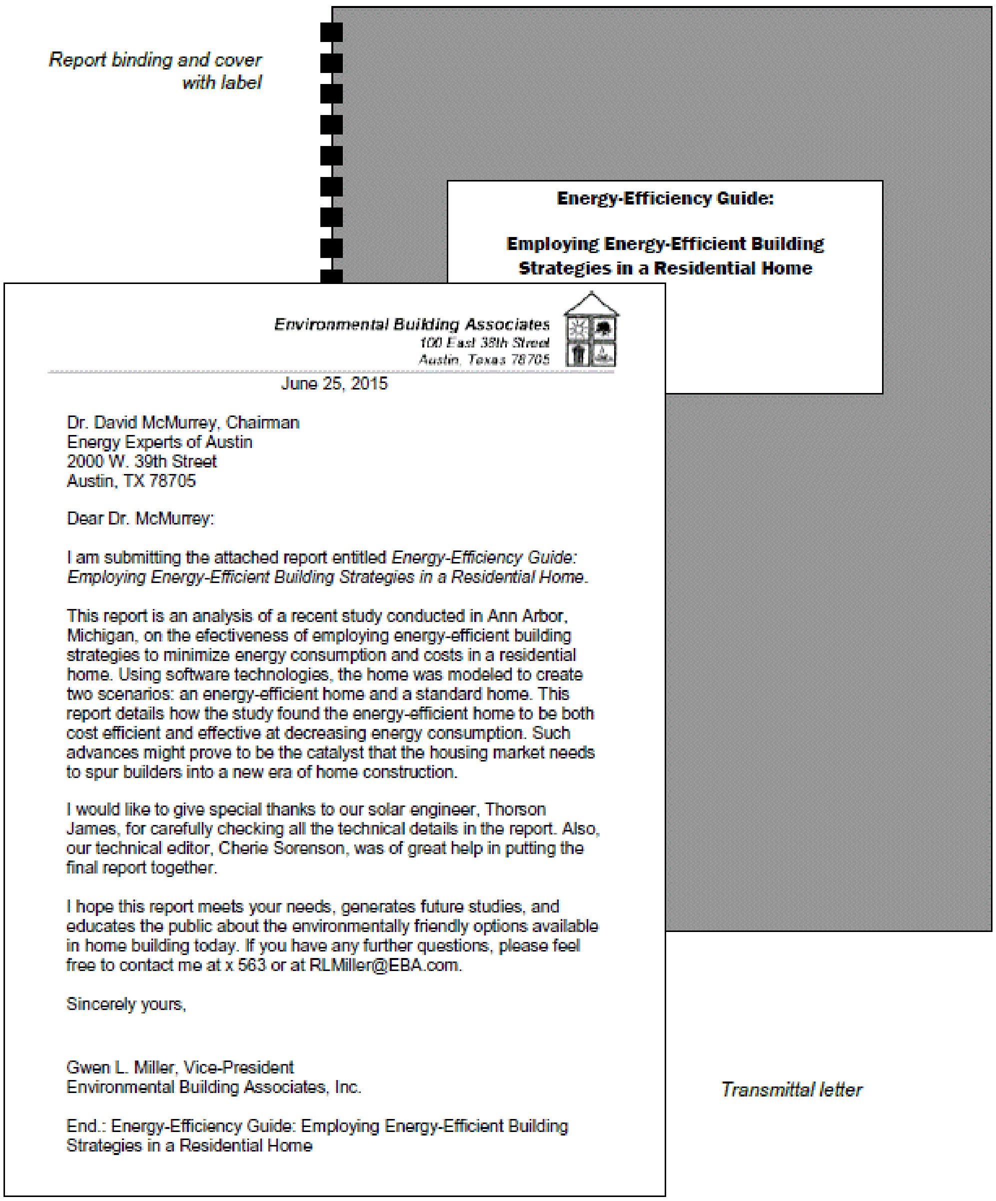
In the example of the cover letter that follows, notice the standard business-letter format. If you write an internal report, use the memorandum format instead. In either case, the contents and organization are the same:

> **First paragraph.** Cites the name of the report, putting it in italics. It also mentions the date of the agreement to write the report.
>
> **Middle paragraph.** Focuses on the purpose of the report and gives a brief overview of the report's contents.
>
> **Final paragraph.** Encourages the reader to get in touch if there are questions, comments, or concerns. It closes with a gesture of good will, expressing hope that the reader finds the report satisfactory.

As with any other element in a report, you may have to modify the contents of this letter (or memo) for specific situations. For example, you might want to add another paragraph, listing questions you'd like readers to consider as they review the report.

37. Title page

The best way to create a cover page is to use your word-processing software to design one on a standard page with a graphic box around the label information. Always include: (1) the report title, (2) your name and position, (3) your organization's name, (4) the primary audience, and (5) the date. Your organizations, or the audience's, may have additional requirements, such as tracking numbers or routing lists.



Energy-Efficiency Guide:

Employing Energy-Efficient Building Strategies in a Residential Home

Environmental Building Associates
100 East 38th Street
Austin, Texas 78705

June 25, 2015

Dr. David McMurrey, Chairman
Energy Experts of Austin
2000 W. 39th Street
Austin, TX 78705

Dear Dr. McMurrey:

I am submitting the attached report entitled *Energy-Efficiency Guide: Employing Energy-Efficient Building Strategies in a Residential Home*.

This report is an analysis of a recent study conducted in Ann Arbor, Michigan, on the efectiveness of employing energy-efficient building strategies to minimize energy consumption and costs in a residential home. Using software technologies, the home was modeled to create two scenarios: an energy-efficient home and a standard home. This report details how the study found the energy-efficient home to be both cost efficient and effective at decreasing energy consumption. Such advances might prove to be the catalyst that the housing market needs to spur builders into a new era of home construction.

I would like to give special thanks to our solar engineer, Thorson James, for carefully checking all the technical details in the report. Also, our technical editor, Cherie Sorenson, was of great help in putting the final report together.

I hope this report meets your needs, generates future studies, and educates the public about the environmentally friendly options available in home building today. If you have any further questions, please feel free to contact me at x 563 or at RLMiller@EBA.com.

Sincerely yours,

Gwen L. Miller, Vice-President
Environmental Building Associates, Inc.

End.: Energy-Efficiency Guide: Employing Energy-Efficient Building Strategies in a Residential Home

Transmittal letter and report cover (with cover label).

38. Abstract and executive summary

Most technical reports contain at least one abstract–sometimes two, in which case the abstracts play different roles. Abstracts summarize the contents of a report, but the different types do so in different ways:

- Descriptive abstract. This type provides an overview of the purpose and contents of the report. In some report designs, the descriptive abstract is placed at the bottom of the title page, as shown in the following:

LIGHT WATER NUCLEAR REACTORS

submitted to

Mr. David A. McMurrey
Energy Research Consultants, Inc.
Austin, Texas

April 27, 19XX

by
Jeffrey D. Lacruz

This report examines light water reactors as a possible alternative source of energy for Luckenbach, Texas. Both types of light water reactors are described, and an explanation of how each reactor produces electricity is presented. Safety systems and economic aspects conclude the main discussion of the report.

Descriptive abstract. Traditionally, it is placed on the title page (not the cover page).

- Executive summary. Another common type is the executive summary, which also summarizes the key facts and conclusions contained in the report. Think of this as if you used a yellow highlighter to mark the key sentences in the report and then siphoned them all out onto a separate page and edited them for readability. Typically, executive summaries are one-tenth to one-twentieth the length of reports ten to fifty pages long. For longer reports, ones over fifty pages, the executive summary should not go over two pages. The point of the executive summary is to provide a summary of the report—something that can be read quickly.

If the executive summary, introduction, and transmittal letter strike you as repetitive, remember that readers don't necessarily start at the beginning of a report and read page by page to the end.

39. Table of contents

You are familiar with tables of contents (TOC) but may never have stopped to look at their design. The TOC shows readers an outline of the report, with page numbers where those sections and subsections start.

In creating a TOC, you have a number of design decisions:

- Levels of headings to include. In longer reports, consider not including only the top two levels of headings. This keeps the TOC from becoming long and unwieldy. The TOC should provide an at-a-glance way of finding information in the report quickly.
- Indentation, spacing, and capitalization. Notice in the illustration below that items in each of the three levels of headings are aligned with each other. Although you can't see it in the illustration, page numbers are right-aligned with each other. Notice also the capitalization: Main chapters or sections are all caps; first-level headings use initial caps on each main word; lower-level sections use initial caps on the first word only.
- Vertical spacing. Notice that the first-level sections have extra space above and below, which increases readability.

Using the automatic TOC creator in your word processor can help you produce a clean, professional document. If you prefer to make your own, learn to use dot leader tabs in order to line up the page numbers correctly.

The wording in the TOC must be the same as corresponding captions in the text. See the example of a table of contents:

Table of contents (which comes first) then the executive summary. In a technical writing course, ask your instructor if the decimal-numbering style for the table of contents and headings is required.

Page-numbering style used in traditional report design: lowercase roman numerals for everything up to the body of the report; arabic numerals thereafter.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This feasibility report analyzes a recent study conducted on a 2,450 ft^2 residential home (referred to as SH or Standard Home) built in Ann Arbor, Michigan. The goal of the study was to determine the effectiveness of employing energy-efficient building strategies to minimize energy consumption and costs in a residential home. The study was done on a 2,450 ft^2 residential home (referred to as SH or standard home) built in Ann Arbor, Michigan.

The home was modeled using Energy-10, a software package capable of calculating the energy consumed during the use of the home over a 50-year period. While keeping the basic functional units (such as floor plan, occupancy, type and number of appliances, and internal volume) of the home consistent, SH was then modeled to reduce the energy consumption by employing various energy-efficient strategies (referred to as EEH or energy efficient home).

The total life-cycle energy consumption of SH was found to be 15,455 GJ, which consisted of space and water heating and cooling, lighting, ventilation, and appliances. The total life-cycle energy consumption of EEH was reduced to 5653 GJ. The purchase price of SH was $240,000 (actual market value) and was determined to be $22,801 more for EEH. The cost analysis performed found that despite a 9.5% increase in the purchase price of an energy-efficient home, lower annual energy expenditures make the present value nearly equal to the more energy-consuming version. The accumulated life cycle costs are higher in EEH until year 48 and are $1,054 (or 0.1%) less at year 50.

It was found that the most effective strategy for reducing overall annual energy costs is installation of a high-efficiency HVAC system. However, for reducing overall energy consumption, insulation was the most effective strategy followed by high-efficiency HVAC and air leakage control.

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40. List of figures and tables

If your document has more than two figures or tables, create a separate list of figures. The list of figures has many of the same design considerations as the table of contents. Readers use the list of figures to quickly find the illustrations, diagrams, tables, and charts in your report.

For longer reports that contain dozens of figures and tables each, create separate lists of figures and tables. Put them together on the same page if they fit, as shown in the illustration below. You can combine the two lists under the heading, "List of Figures and Tables," and identify the items as figure or table as is done in the illustration below.

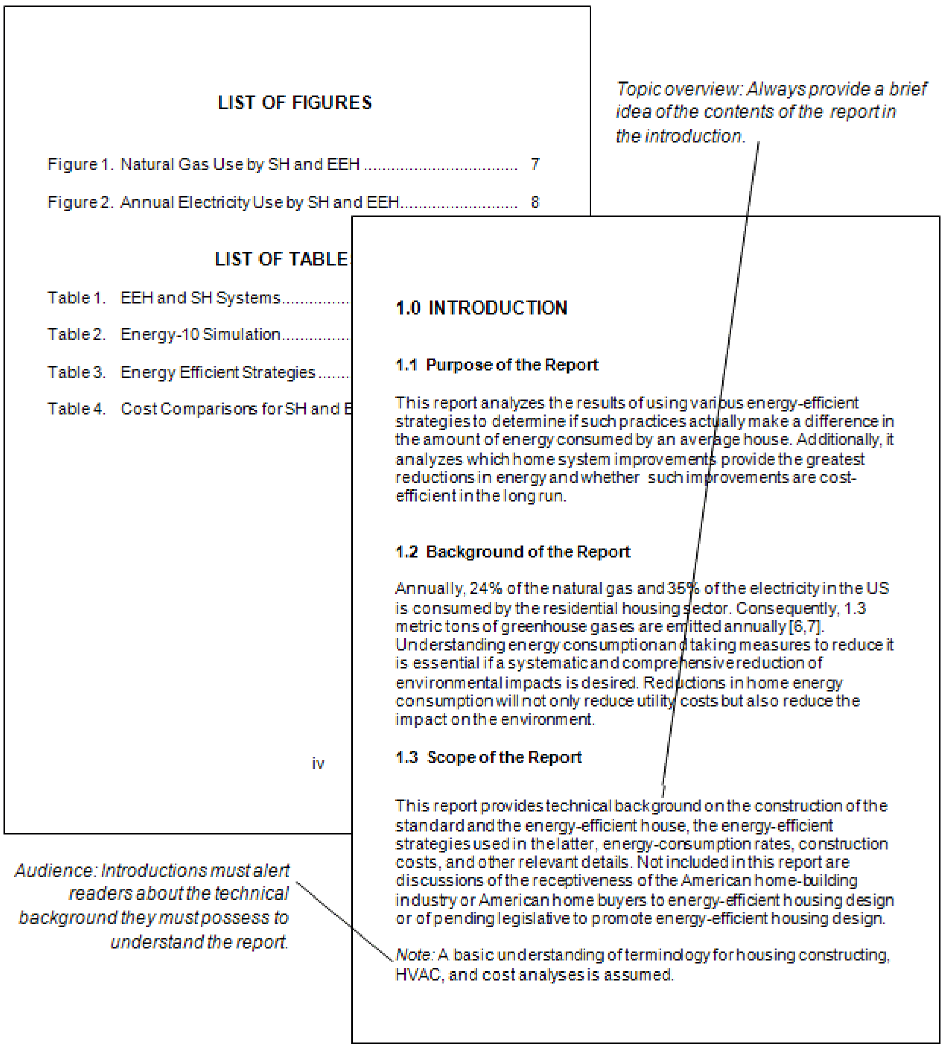

LIST OF FIGURES

Figure 1. Natural Gas Use by SH and EEH 7

Figure 2. Annual Electricity Use by SH and EEH.......................... 8

LIST OF TABLE

Table 1. EEH and SH Systems...............

Table 2. Energy-10 Simulation...............

Table 3. Energy Efficient Strategies.......

Table 4. Cost Comparisons for SH and E

iv

1.0 INTRODUCTION

1.1 Purpose of the Report

This report analyzes the results of using various energy-efficient strategies to determine if such practices actually make a difference in the amount of energy consumed by an average house. Additionally, it analyzes which home system improvements provide the greatest reductions in energy and whether such improvements are cost-efficient in the long run.

1.2 Background of the Report

Annually, 24% of the natural gas and 35% of the electricity in the US is consumed by the residential housing sector. Consequently, 1.3 metric tons of greenhouse gases are emitted annually [6,7]. Understanding energy consumption and taking measures to reduce it is essential if a systematic and comprehensive reduction of environmental impacts is desired. Reductions in home energy consumption will not only reduce utility costs but also reduce the impact on the environment.

1.3 Scope of the Report

This report provides technical background on the construction of the standard and the energy-efficient house, the energy-efficient strategies used in the latter, energy-consumption rates, construction costs, and other relevant details. Not included in this report are discussions of the receptiveness of the American home-building industry or American home buyers to energy-efficient housing design or of pending legislative to promote energy-efficient housing design.

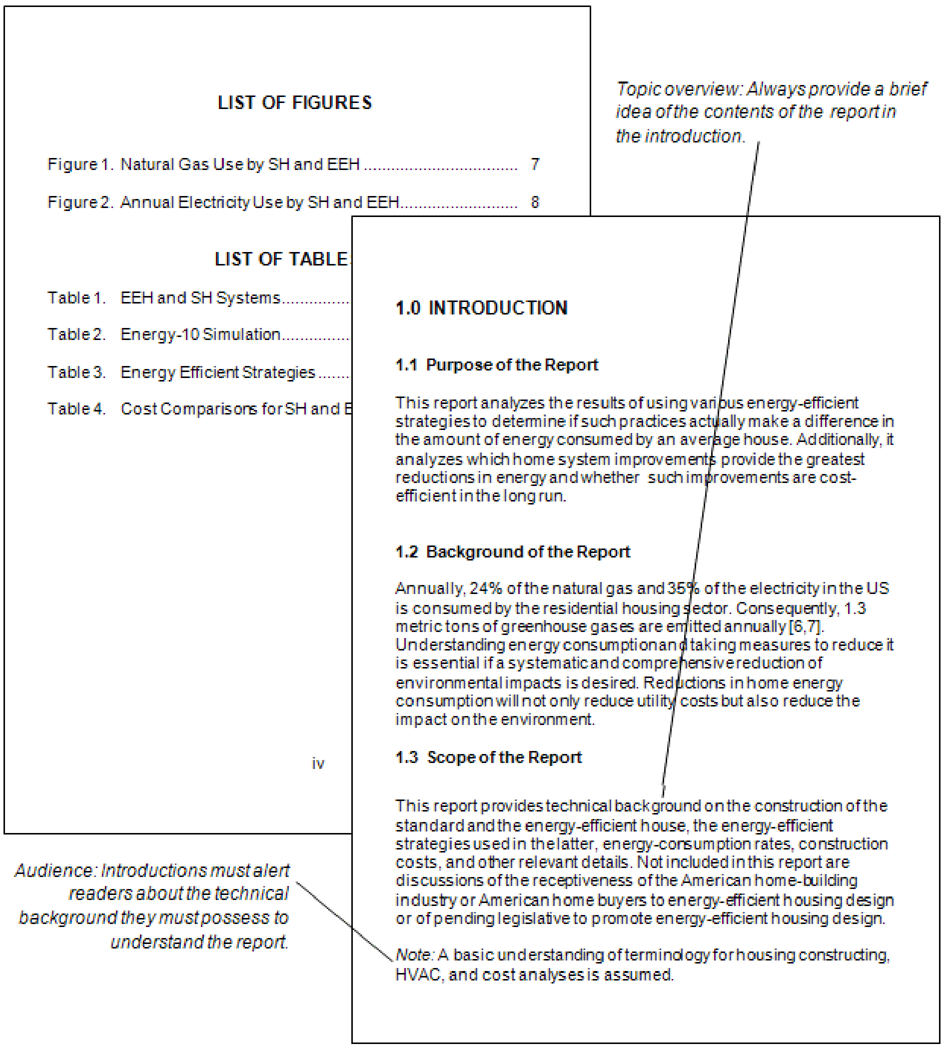
Note: A basic understanding of terminology for housing constructing, HVAC, and cost analyses is assumed.

List of figures and tables followed by the introduction. If there are no tables, make it "List of Figures." In a technical writing course, ask your instructor if the decimal-numbering style for headings is required.

41. Introduction

An essential element of any report is its introduction. Be sure that your report introductions include purpose, subject, audience interests, context and a clear roadmap. A formal report introduction is usually several paragraphs long.

See this example of an introduction:



LIST OF FIGURES

LIST OF TABLE

iv

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Note: A basic understanding of terminology for housing constructing, HVAC, and cost analyses is assumed.

List of figures and tables followed by the introduction. If there are no tables, make it "List of Figures." In a technical writing course, ask your instructor if the decimal-numbering style for headings is required.

42. Body of the report

The body of the report is of course the main text of the report, the sections between the introduction and conclusion. Illustrated below are sample pages.

Headings

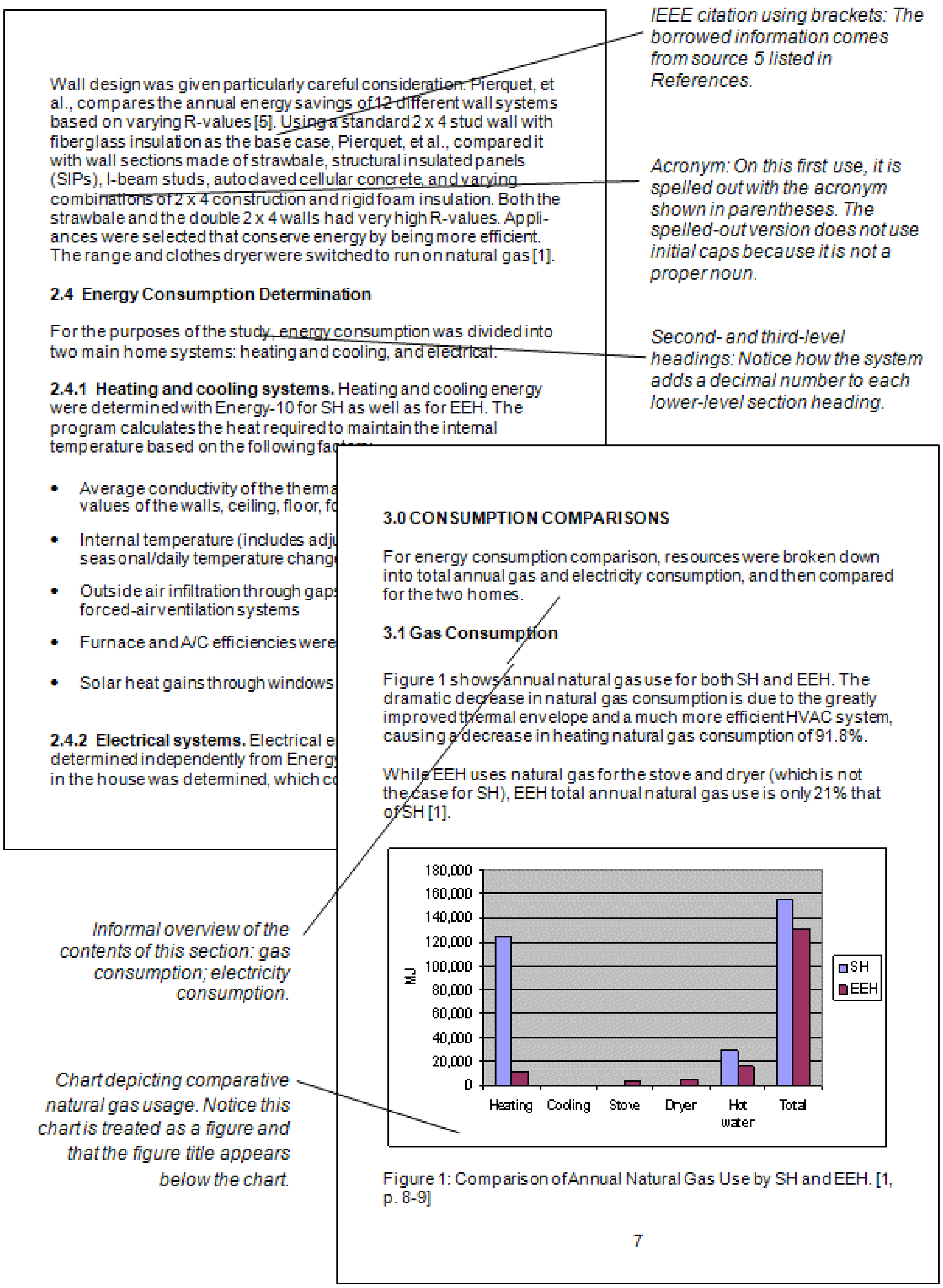
In all but the shortest reports (two pages or less), use headings (or captions) to mark off your topics and subtopics, that is, to visually signal the structure of the report. Think of headings as the entries of an outline that have been pasted into the actual text of the document.

Headings are an important feature of professional technical writing. They alert readers to upcoming topics and subtopics, help readers find their way around in long reports and skip what they are not interested in, and break up long stretches of straight text.

Headings are also useful for writers. They keep you organized and focused on the topic. When you begin using headings, your impulse may be to slap in the headings after you've written the rough draft. Instead, visualize the headings before you start the rough draft, and plug them in as you write.

- Avoid vague headings. For example, instead of "Background" or "Technical Information," make it more specific.
- Make sure headings accurately indicate the range of topic coverage in the section.
- When possible, omit articles from the beginning of headings. For example, "The Pressurized Water Reactor" can easily be changed to "Pressurized Water Reactor" or, better yet, "Pressurized Water Reactors."
- Avoid "widowed" headings: that's where a heading occurs at the bottom of a page and the text it introduces starts at the top of the next page. Keep at least two lines of body text with the heading, or force it to start the new page.

If you manually format each individual heading using the guidelines presented in the preceding list, you'll find you're doing quite a lot of repetitive work. The styles provided by Microsoft Word, OpenOffice Writer, and other software save you this work. You simply select Heading 1, Heading 2, Heading 3, and so on. You'll notice the format and style are different from what is presented here. However, you can design your own styles for headings.



Wall design was given particularly careful consideration. Pierquet, et al., compares the annual energy savings of 12 different wall systems based on varying R-values [5]. Using a standard 2 x 4 stud wall with fiberglass insulation as the base case, Pierquet, et al., compared it with wall sections made of strawbale, structural insulated panels (SIPs), I-beam studs, autoclaved cellular concrete, and varying combinations of 2 x 4 construction and rigid foam insulation. Both the strawbale and the double 2 x 4 walls had very high R-values. Appliances were selected that conserve energy by being more efficient. The range and clothes dryer were switched to run on natural gas [1].

2.4 Energy Consumption Determination

For the purposes of the study, energy consumption was divided into two main home systems: heating and cooling, and electrical.

2.4.1 Heating and cooling systems. Heating and cooling energy were determined with Energy-10 for SH as well as for EEH. The program calculates the heat required to maintain the internal temperature based on the following fa

- Average conductivity of the therma values of the walls, ceiling, floor, fo
- Internal temperature (includes adju seasonal/daily temperature chang
- Outside air infiltration through gaps forced-air ventilation systems
- Furnace and A/C efficiencies were
- Solar heat gains through windows

2.4.2 Electrical systems. Electrical e determined independently from Energ in the house was determined, which c

3.0 CONSUMPTION COMPARISONS

For energy consumption comparison, resources were broken down into total annual gas and electricity consumption, and then compared for the two homes.

3.1 Gas Consumption

Figure 1 shows annual natural gas use for both SH and EEH. The dramatic decrease in natural gas consumption is due to the greatly improved thermal envelope and a much more efficient HVAC system, causing a decrease in heating natural gas consumption of 91.8%.

While EEH uses natural gas for the stove and dryer (which is not the case for SH), EEH total annual natural gas use is only 21% that of SH [1].

Figure 1: Comparison of Annual Natural Gas Use by SH and EEH. [1, p. 8-9]

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IEEE citation using brackets: The borrowed information comes from source 5 listed in References.

Acronym: On this first use, it is spelled out with the acronym shown in parentheses. The spelled-out version does not use initial caps because it is not a proper noun.

Second- and third-level headings: Notice how the system adds a decimal number to each lower-level section heading.

Informal overview of the contents of this section: gas consumption; electricity consumption.

Chart depicting comparative natural gas usage. Notice this chart is treated as a figure and that the figure title appears below the chart.

Excerpt from the body of a technical report. In a technical writing course, ask your instructor if the decimal-numbering style for headings is required. Also, a different documentation system may be required—not the IEEE, which is for engineers.

Bulleted and numbered lists

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

- Use lists to highlight or emphasize text or to enumerate sequential items.
- Use a lead-in to introduce the list items and to indicate the meaning or purpose of the list (and punctuate it with a colon).
- Use consistent spacing, indentation, punctuation, and caps style for all lists in a document.
- Make list items parallel in phrasing.
- Make sure that each item in the list reads grammatically with the lead-in.
- Avoid using headings as lead-ins for lists.
- Avoid overusing lists; using too many lists destroys their effectiveness.
- Use similar types of lists consistently in similar text in the same document.

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

Graphics and figure titles

Conclusions

Most reports are strengthened by an brief conclusion. A conclusion reinforces main points, stresses what you want the reader's "takeaways" to be, note the next steps in the project, and can indicate desired follow-up actions.

Appendixes

Appendixes are those extra sections following the conclusion. What do you put in appendixes? Anything that does not comfortably fit in the main part of the report but cannot be left out of the report altogether. The appendix is commonly used for large tables of data, big chunks of sample code, fold-out maps, background that is too basic or too advanced for the body of the report, or large illustrations that just do not fit in the body of the report. Anything that you feel is too large for the main part of the report or that you think would be distracting and interrupt the flow of the report is a good candidate for an appendix. Notice that each one is given a letter (A, B, C, and so on).

Information sources

Documenting your information sources is all about establishing, maintaining, and protecting your credibility in the profession. You must cite ("document") borrowed information regardless of the shape or form in which you present it. Whether you directly quote it, paraphrase it, or summarize it—it's still borrowed information. Whether it comes from a book, article, a diagram, a table, a web page, a product brochure, an expert whom you interview in person—it's still borrowed information.

Documentation systems vary according to professionals and fields. For a technical writing class in college, you may be using either MLA or APA style. Engineers use the IEEE system, examples of which are shown throughout this chapter. Another commonly used documentation system is provided by the American Psychological Association (APA).

Page numbering

Page-numbering style used in traditional report design differs from contemporary report design primarily in the former's use of lowercase roman numerals in front matter (everything before the introduction).

- All pages in the report (within but excluding the front and back covers) are numbered; but on some pages, the numbers are not displayed.
- In the contemporary design, all pages throughout the document use arabic numerals; in the traditional design, all pages before the introduction (first page of the body of the report) use lowercase roman numerals.
- On special pages, such as the title page and page one of the introduction, page numbers are not displayed.
- Page numbers can be placed in one of several areas on the page. Usually, the best and easiest choice is to place page numbers at the bottom center of the page (remember to hide them on special pages).
- If you place page numbers at the top of the page, you must hide them on chapter or section openers where a heading or title is at the top of the page.

43. Conclusions

We normally use the word "conclusion" to refer to that last section or paragraph or a document. Actually, however, the word refers more to a specific type of final section. If we were going to be fussy about it, the current chapter should be called "Final Sections," which covers all possibilities.

There are at least four ways to end a report: a summary, a true conclusion, an afterword, and nothing. Yes, it is possible to end a document with no conclusion (or "final section") whatsoever. However, in most cases, that is a bit like slamming the phone down without even saying good bye. More often, the final section is some combination of the first three ways of ending the document.

Summaries

One common way to wrap up a report is to review and summarize the high points. If your report is rather long, complex, heavily detailed, and if you want your readers to come away with the right perspective, a summary is in order. For short reports, summaries can seem absurd—the reader thinks "You've just told me that!" Summaries need to read as if time has passed, things have settled down, and the writer is viewing the subject from higher ground.

Figure 1: Summary-type of final section. From a report written in the 1980s.

VIII. SUMMARY

This report has shown that as the supply of fresh water decreases, desalting water will become a necessity. While a number of different methods are in competition with each other, freezing methods of desalination appear to have the greatest potential for the future. The three main freezing techniques are the direct method, the indirect method, and the hydrate method. Each has some advantage over the others, but all three freezing methods have distinct advantages over other methods of desalination. Because freezing methods operate at such low temperatures, scaling and corrosion of pipe and other equipment is greatly reduced. In non-freezing methods, corrosion is a great problem that is difficult and expensive to prevent. Freezing processes also allow the use of plastic and other protective coatings on steel equipment to prevent corrosion, a measure that cannot be taken in other methods that require high operating temperatures. Desalination, as this report has shown, requires much energy, regardless of the method. Therefore, pairing desalination plants with nuclear or solar power resources may be a necessity. Some of the expense of desalination can be offset, however . . .

“True” Conclusions

A “true” conclusion is a logical thing. For example, in the body of a report, you might present conflicting theories and explored the related data. Or you might have compared different models and brands of some product. In the conclusion, the “true” conclusion, you would present your resolution of the conflicting theories, your choice of the best model or brand—your final conclusions.

Figure 2: A “true”-conclusions final section. This type states conclusions based on the discussion contained in the body of the report. (From a report written in the 1980s.)

V. CONCLUSIONS

Solar heating can be an aid in fighting high fuel bills if planned carefully, as has been shown in preceding sections. Every home represents a different set of conditions; the best system for one home may not be the best one for next door. A salesman can make any system appear to be profitable on paper, and therefore prospective buyers must have some general knowledge about solar products. A solar heating system should have as many of the best design features as possible and still be affordable. As explained in this report, the collector should have high transmissivity and yet be durable enough to handle hail storms. Collector insulation should be at least one inch of fiberglass mat. Liquid circulating coils should be at least one inch in diameter if an open loop system is used. The control module should perform all the required functions with no added circuits. Any hot water circulating pumps should be isolated from the electric drive motor by a non-transmitting coupler of some kind. Homeowners should follow the recommendations in the guidelines section carefully. In particular, they should decide how much money they are willing to spend and then arrange their components in their order of importance. Control module designs vary the most in quality and therefore should have first priority. The collector is the second in importance, and care should be taken to ensure compatibility. Careful attention to the details of the design and selection of solar heating devices discussed in this report will enable homeowners to install efficient, productive solar heating systems.

Afterwords

One last possibility for ending a report involves turning to some related topic but discussing it at a very general level. Imagine that you had written a background report on some exciting new technology. In the final section, you might broaden your focus and discuss how that technology might be used, or the problems it might bring about. But the key is to keep it general—don’t force yourself into a whole new detailed section.

Figure 3: Afterword-type final section. The main body of the report discussed technical aspects of using plastics in main structural components of automobiles. This final section explores the future, looking at current developments, speculating on the impact of this trend.

VII. CONCLUSION: FUTURE TRENDS

Everyone seems to agree that the car of the future must weigh even less than today's down-sized models. According to a recent forecast by the Arthur Anderson Company, the typical car will have lost about 1,000 pounds between 1978 and 1990 [2:40]. The National Highway Traffic Safety Administration estimates the loss of another 350 pounds by 1995. To obtain these reductions, automobile manufacturers will have find or develop composites such as fiber-reinforced plastics for the major load-bearing components, particularly the frame and drivetrain components. Ford Motor Company believes that if it is to achieve further growth in the late 1980's, it must achieve breakthroughs in structural and semistructural load-bearing applications. Some of the breakthroughs Ford sees as needed include improvements in the use of continuous fibers, especially hybridized reinforced materials containing glass and graphite fibers. In addition, Ford hopes to develop a high speed production system for continuous fiber preforms. In the related area of composite technology, researchers at Owens Corning and Hercules are seeking the best combination of hybrid fibers for structural automotive components such as engine and transmission supports, drive shafts, and leaf springs. Tests thus far have led the vice president of Owen Corning's Composites and Equipment Marketing Division, John B. Jenks, to predict that hybrid composites can compete with metal by the mid-1980's for both automotive leaf springs and transmission supports. With development in these areas of plastics for automobiles, we can look forward to lighter, less expensive, and more economical cars in the next decade. Such developments might well provide the needed spark to rejuvenate America's auto industry and to further decrease our rate of petroleum consumption.

Combinations

In practice, the preceding ways of ending reports are often combined. You can analyze final sections of reports and identify elements that summarize, elements that conclude, and elements that discuss something related but at a general level (afterwords).

Here are some possibilities for afterword-type final sections:

- Provide a brief, general look to the future; speculate on future developments.
- Explore solutions to problems that were discussed in the main body of the report.
- Discuss the operation of a mechanism or technology that was described in the main body of the report.
- Provide some cautions, guidelines, tips, or preview of advanced functions.
- Explore the economics, social implications, problems, legal aspects, advantages, disadvantages, benefits, or applications of the report subject (but only generally and briefly).

Revision Checklist for Conclusions

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

- If you use an afterword-type last section, make sure you write it at a general enough level that it does not seem like yet another body section of the report.
- Avoid conclusions for which there is no basis (discussion, support) in the body of report.
- Keep final sections brief and general.

Chapter Attribution Information

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PART XI

11. BASIC DESIGN AND READABILITY IN PUBLICATIONS

The way a text looks matters to a reader, so it should matter to a writer. Professional reports and blogs, for example, 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.

And most readers are a lot like TV viewers with remote controls. In a moment, their attention is diverted to another channel if something about your content puts them off. It's important to 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.

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

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

44. Audience and discourse community

To some extent, you already know ways in which the nature of your audience can affect your text. In a class setting, other students and instructors will already be familiar with the assignment and the subject matter about which you are writing. You already adjust vocabulary and tone to suit your audience. Thinking about your audience's potential needs, biases, knowledge, attitudes, and preferences helps you present your text suitably.

To help you reach your audience, first consider the formats open to you. In some cases, the context in which you're writing and the audience for which you're writing will determine the format(s) you can use. You wouldn't send a booklet full of images to a teacher to inquire about your child's progress. You can't hand out copies of your blog at a music festival and expect it to get read right away.

> ACTIVITY: Think of other audiences and writing contexts that require a particular format.

Second, consider the strengths and weaknesses of different formats for your particular audience. Are they already familiar with the ideas you are conveying? Do they already know something about the subject matter? What do they still need to know about it? Are there ideas that are likely to confuse them?

How will your audience be interacting with the text? Will they be glancing at your poster as they pass, or will they need to sit down and study your business plan? How much information do you expect them to take in? How much time do they have to devote to reading? Do they agree with you? How open to your message are they: Are they on your side, or do you need to persuade them of something? Do you need to take their age, education level, language background, condition, and cultural or social background into account? Knowing things about your audience can help you communicate effectively with them.

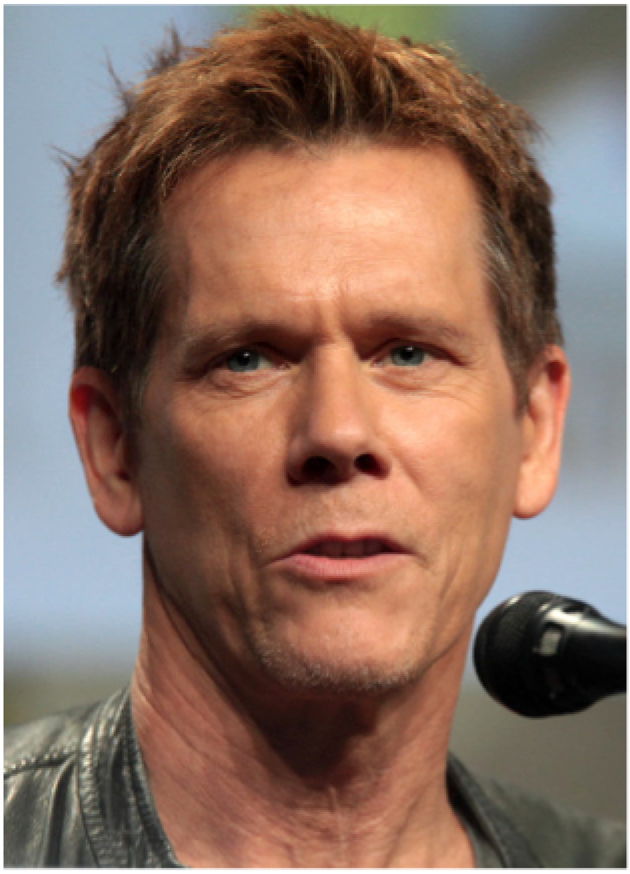


Figure 4: Consider what your audience knows. To some audiences, he's a meme. To others, he's an actor. Some don't know who he is. "Kevin Bacon" by Gage Skidmore is licensed under CC BY-SA 2.0

You even need to consider readers' familiarity with the format itself. Would your grandfather know what to do when he sees a blue hyperlink on your blog? Would a third grader know how to unfold and read a topographical map? Will differences in physical ability affect how your audience interacts with your text? Does your audience need illustrations? Is a short video better than a text-only writeup for your audience? Which formats allow you to provide the information your readers need?

Most Western readers expect text to flow from left to right. But readers of Arabic, Urdu, Farsi, and Hebrew, for example, are accustomed to reading text from right to left. Twitter had to consider this when they adapted their product for an Arabic-speaking audience. Other forms of information are designed for different audiences with different preferences, background knowledge, cultural concerns, and language backgrounds. Chapter 13 offers more information about communicating with audiences whose backgrounds, language use, and cultural expectations are different from your own.

Figure 5: A Canadian stop sign in English and French. [“Information board, Beltany Stone Circle”]() by [Kenneth Allen]() is licensed under [CC BY-SA 2.0]()

Figure 6: Multilingual road sign, Glendale, CA. Communities accommodate the needs of diverse audiences when they communicate. [“Mirar, Look, and whatever that says in Armenian”]() by [Eli Carrico]() is licensed under [CC BY-SA 2.0]()

You have a lot of formats to choose from: letters, papers and other printed pages, flyers (double and single-sided), posters, booklets, a wide variety of multi-fold brochures or pamphlets, PowerPoint presentations, blogs, apps, tweets, web pages, vlogs, videos, audio files, and so on. All of these formats have strengths and weaknesses as delivery mechanisms for information.

ACTIVITY: Discuss the format(s) of the texts you are currently producing in class. Identify some features of your text format might present challenges for your audience?

ACTIVITY: Discuss the benefits and drawbacks of different formats for conveying your information. For example, what is helpful–and limiting–about using a trifold brochure to convey a message? A poster? A short video?

Consider which audiences would be receptive to receiving this information in this format:

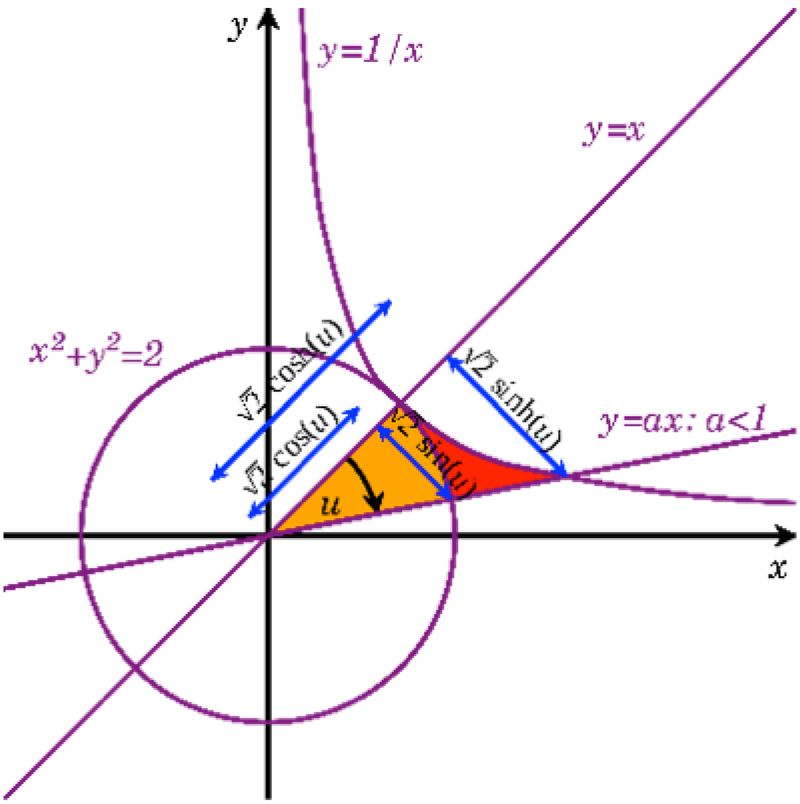


Figure 7: Some formats and some messages are not suitable for every audience. (Public Domain image)

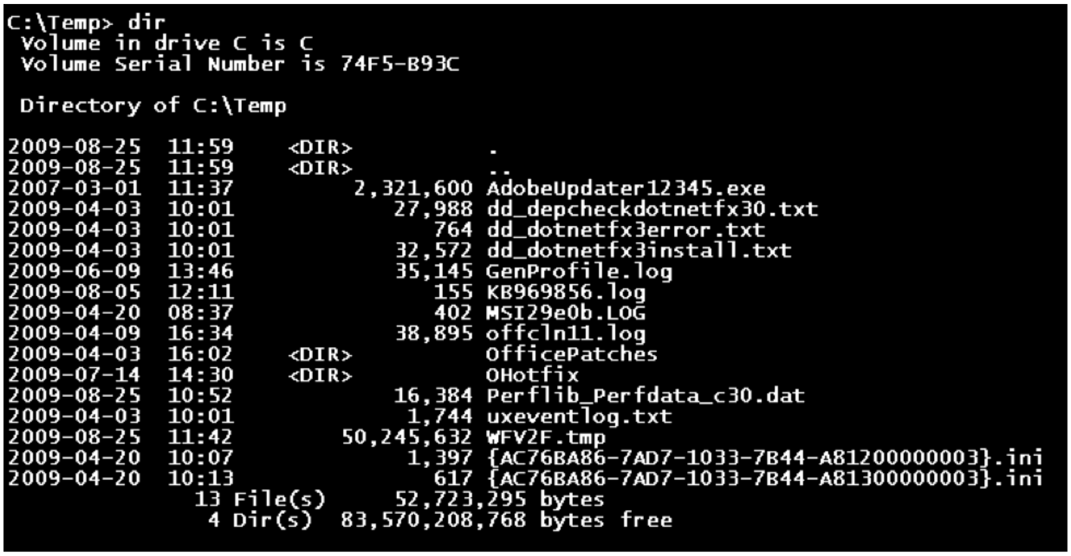


Figure 8: The Windows command line interface. FUN! Public Domain image.

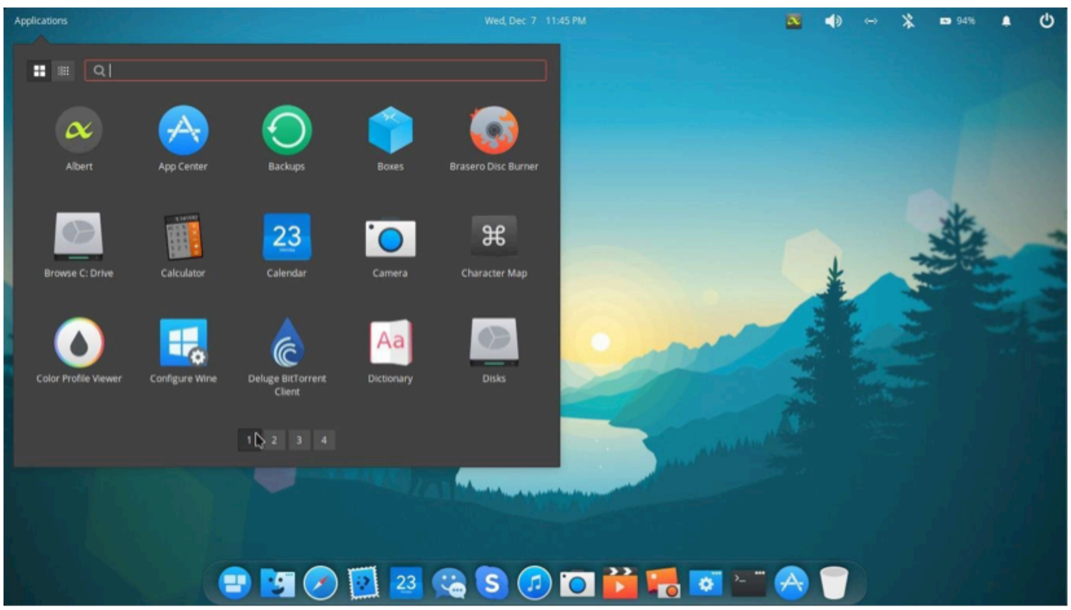


Figure 9: A graphical user interface for an open-source Linux operating system. Image Credit: [KumarPriyansh](), [BackSlash Linux Elsa](), [CC BY-SA 4.0]()

Think of what it meant to go from the interface above to the one below. Designers at PARC, Apple, Atari, and later Microsoft realized that most people needed an easier way to interact with software and hardware. Attention to the preference and experience of its users has consistently won Apple Computer legions of loyal fans.

45. Purpose

It's impossible to think of a professional communication without a purpose.

You should be clear about what you want a communication to achieve before you can make decisions about the design or the nature of your content. Before you fire up the software and start creating off the top of your head, spend some time articulating your purpose. What are you trying to achieve? Always answer in terms of your audience. What do you want them to know? To do? Your purpose may require diagrams, graphics, or even video. Some things are very difficult to express in writing.

Also consider how many purposes you can manage at once. A single short brochure that attempts to advertise the services at a community center, encourage healthy eating habits, and persuade the audience of the benefits of a municipal bond measure will probably fail on one or all counts. That's a lot to cover in a short publication. A brief booklet that explains the ins and outs of kitesurfing in Kailua will accomplish a lot more than a general "Travel in Hawaii" brochure, which is likely to be pretty but not terribly informative. More specific, focused content is nearly always more helpful and interesting to a reader. Don't try to do too much in a short format.

Sometimes your purpose is set for you. Readers of a business plan, for example, will expect certain information: an executive summary, a rundown of marketing strategies, financial requirements and assets, and a description of how the business will function. Know your audience, and make sure you cover all the required or conventional elements that they will expect.

Failing to understand your purpose (and your audience's needs, which drive your purpose) can cause you to produce a document that readers can't use. Think of a garage sale sign with no dates and no address. Readers of the sign won't be able to use it, and they'll just ignore it. Similarly, a flyer for a kids' soccer camp that doesn't tell parents what they need to bring or doesn't contain a schedule of the daily program will get you a lot of annoying phone calls and emailed questions.

ACTIVITY: Imagine that you are producing a brochure to advertise a new gym/workout space that you plan to open in your town or city. What goals (purposes) will you set for this publication? What types of information will you want to convey? Who is your audience? What graphics or images will be most important?

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

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

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

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

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

Figure 10: What stands out here? Don't make your reader play a tough game just to get something out of your document. "Where's Wally World Record (where you there?)" by William Murphy is licensed under CC BY-SA 2.0

Figure 11: "Cadets" by skeeze is in the Public Domain, CC0

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

Figure 12: What stands out on this resume?

Tarr Nation
123 Fake Street
Beaverton, OR 97007
(123) 456-7890
tarrnation@fake.comObjective: The position of Front Desk Receptionist at Global Warranty GroupSkills and Abilities:Computer skills. Skilled with general applications like Internet Explorer, and Microsoft's Office Suite,
and also with less-ubiquitous applications like Intuit QuickBooks and Sage Timeslips. Can learn to use new programs quickly. Maintain hardware, for example printers and scanners.Communication skills. Write numerous emails and letters to clients, insurers, and other Attorneys.
Comfortable making and receiving phone calls.
Education:

Portland Community College, Portland, OR
AA in General Studies
Grad: June 2013

Related Course Work:
Writing 121, 122, and 227

Employment History:

September 2009-present
Fake Law Office, LLC, Beaverton, OR
Legal Assistant, Secretary, Office Manager, and Paralegal

November 2012-February2012
Fake Faker Fakest & Imaginary LLP, Portland, OR
Freelance Billing Assistant

Summer 2009 (June-August)
Camp Freedom, Cody, WY
Camp Councilor, Windsurfing Instructor

References:

Available upon request.

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 sheer size or color or any other visual characteristic.

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

Figure 13: The Fierce Five, the US gold medalists in team artistic gymnastics at the 2012 London Olympics, meet President Obama at the White House. They look fierce, but not so small. Starting third from left: Aly Raisman, Gabby Douglas, McKayla Maroney, Kyla Ross, and Jordyn Wieber. "P111512PS-0165" *by* Obama White House *is in the* Public Domain

Figure 14: "Barack Obama with artistic gymnastic McKayla Maroney 2" by Pete Souza is in the Public Domain Both are fierce, but one is dramatically smaller. The contrast in size provides the visual drama, and pictures like these are favorite memes online.

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

Contrast II: Font size/style/weight

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

What's important to most people is that we all have a huge variety of *typefaces*, or *font families*, to choose from: Times New Roman, Arial, Bookman, Georgia, and Garamond are familiar to many of us. It's important to choose a font (a particular size, style, and weight within a typeface) that fits our purpose. Some, like script and handwriting typefaces, are too hard to read and so aren't appropriate for body text, for example. Some typefaces work well as headlines: Franklin

Gothic Condensed and Caslon are two typefaces often used for newspaper headlines. The "font" chosen (size, weight, style–italic, bold, etc.) will be the designer's choice.

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

Figure 15: Three common sans serif typefaces (font families). Image Credit: [Roger Koslowski](), [Typefaces-sansserif](), [CC BY-SA 3.0]()

Figure 16: Baskerville, a nice serif typeface. (Public Domain image)

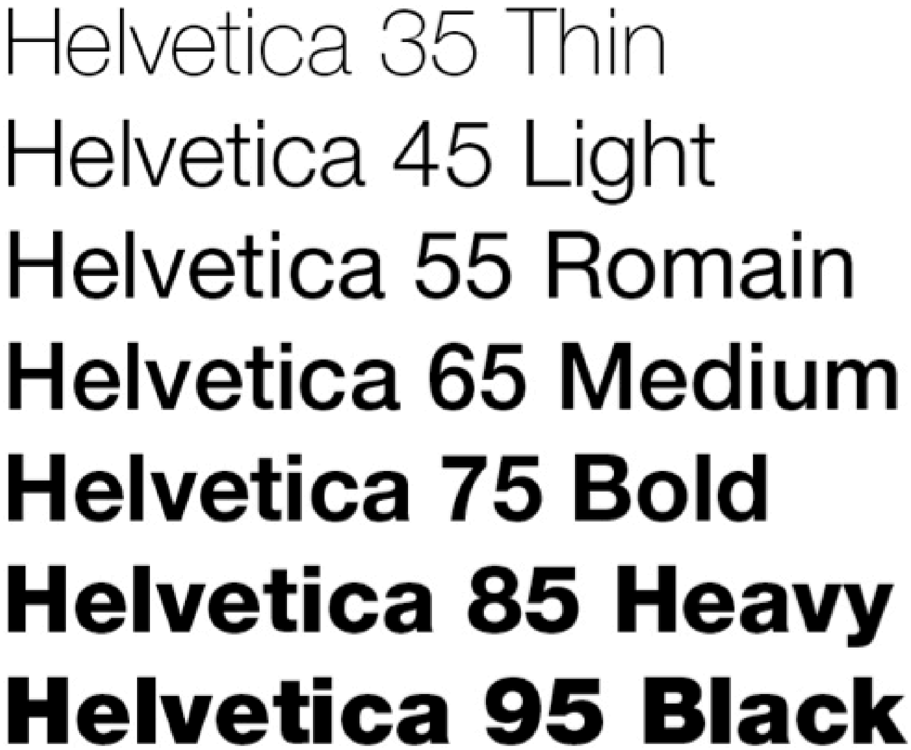
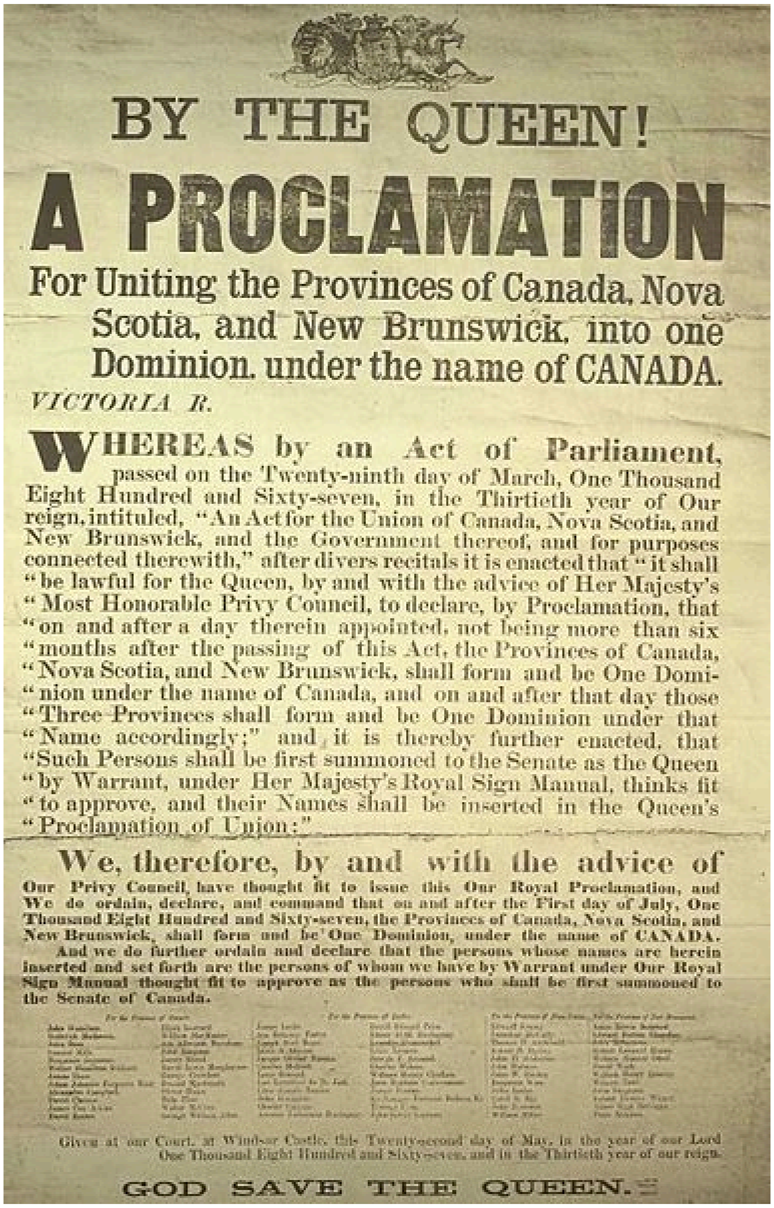


Figure 17: Each typeface family (like Helvetica) contains many sizes and many styles—light, regular, bold, italic, condensed, lower case letters, upper case letters, small caps, schoolbook, old style, and so on. (Public Domain image)



BY THE QUEEN!

A PROCLAMATION

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

VICTORIA R.

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

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

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

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.

Figure 18: Canada is born! Note the large sans serif headlines and smaller serif fonts used as body text. ["Proclamation of Canadian Confederation"]() is in the [Public Domain]()

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

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

Figure 19: Use interesting orientations to attract your readers' attention. "Advertisement from 1891 for the first "Witch Spoon"" is in the Public Domain

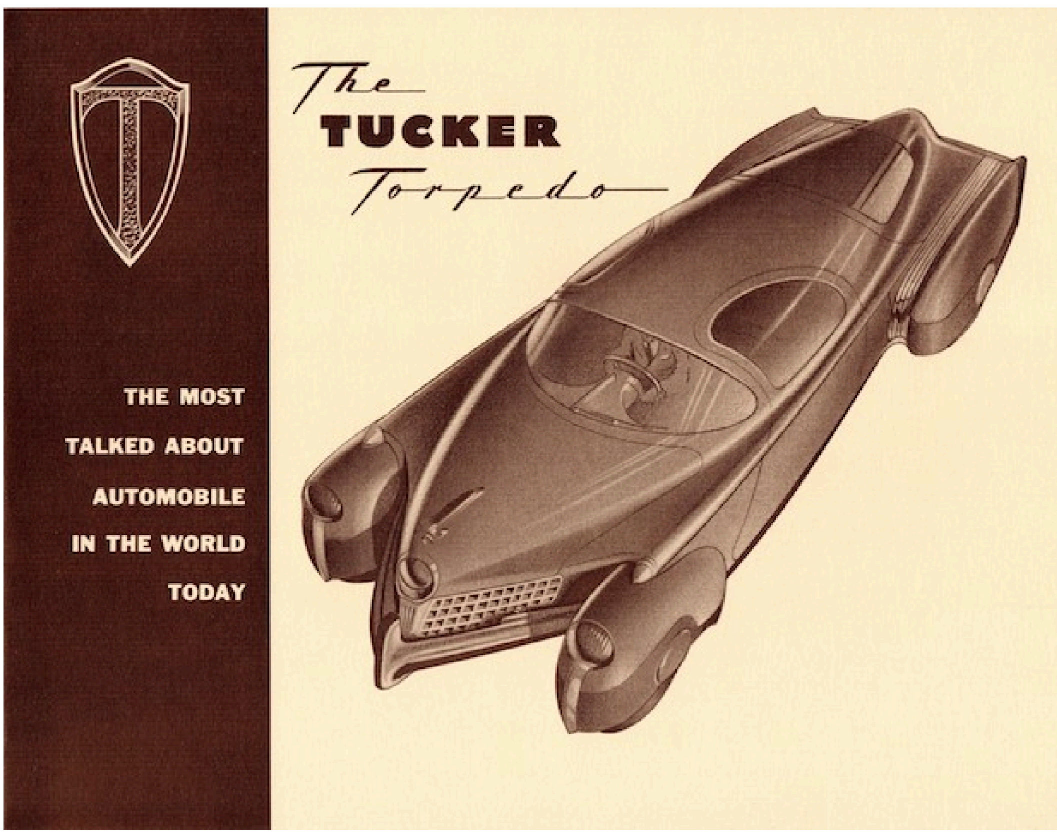


Figure 20: Note the image oriented on the diagonal and the opaque screen against which the text and logo are set. Sharp! "Tucker Torpedo Brochure" by Alden Jewell is licensed under CC BY-SA 2.0

Figure 21: Templates for flyers, newsletters, web pages, and PowerPoint slides can help you provide visual interest if you're short on ideas. Image Credit: [October Newsletter Template](), [Word Draw](), [CC BY-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. MLA Works Cited pages call for a hanging indent of ½ inch. A change in alignment can create visual interest. For example, headlines are often centered to make them noticeable.

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

Figure 22: Templates for Publisher, PowerPoint, or other software packages help you keep track of every element of your publication. (Public Domain image)

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

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

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

Figure 23: Striking images and pull quotes contrast with less-distinctive elements, like text and background. [“Fashion Magazine Layout”](#) by [Aamir Raza](#) is licensed under [CC BY 2.0](#)

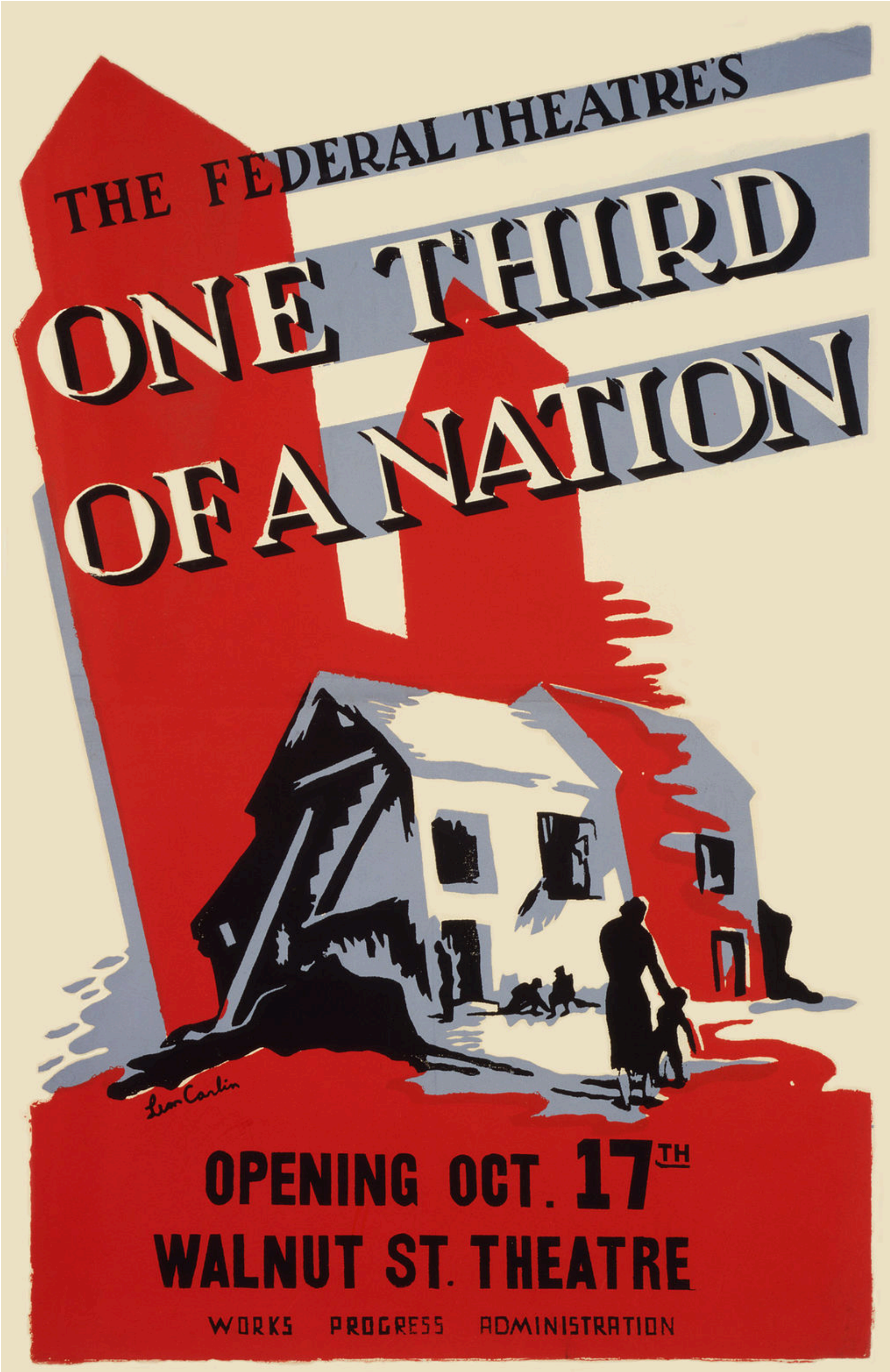


Figure 24: This poster uses contrasting alignment, contrast in text, and simple color contrast to create a dramatic effect. Less really can be more. [*"One-Third of a Nation, a Living Newspaper play by the Federal Theatre Project"*] *by* [*https://commons.wikimedia.org/wiki/File:One-Third-of-a-Nation-Poster-2.jpg*] *is in the* [*Public Domain*]

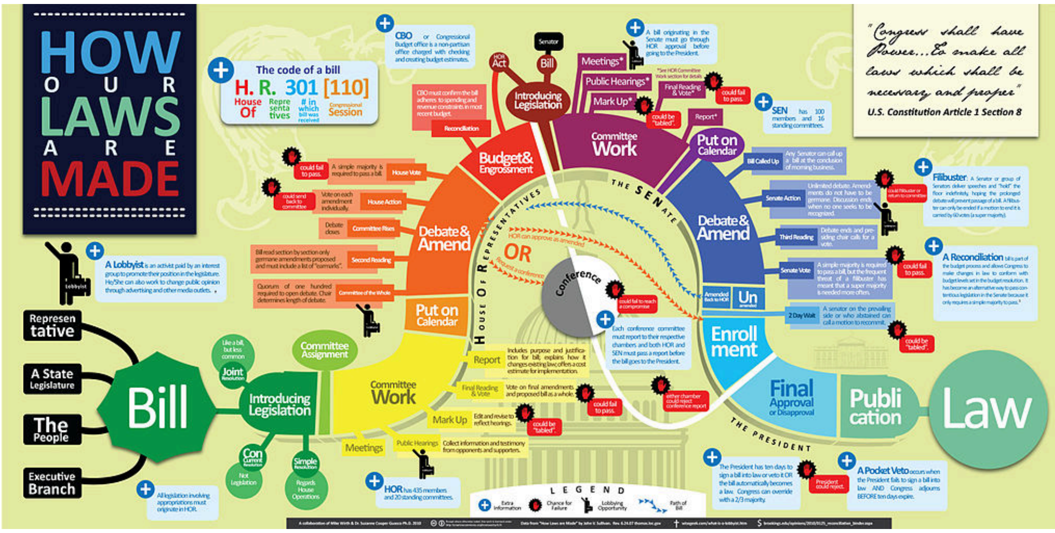


Figure 25: Complicated issues are sometimes hard to express visually. ["How Our Laws Are Made"](#) by Mike Wirth and Dr. Suzanne Cooper-Guasco is licensed under [CC BY 3.0](#)

Contrast VI: Color (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.

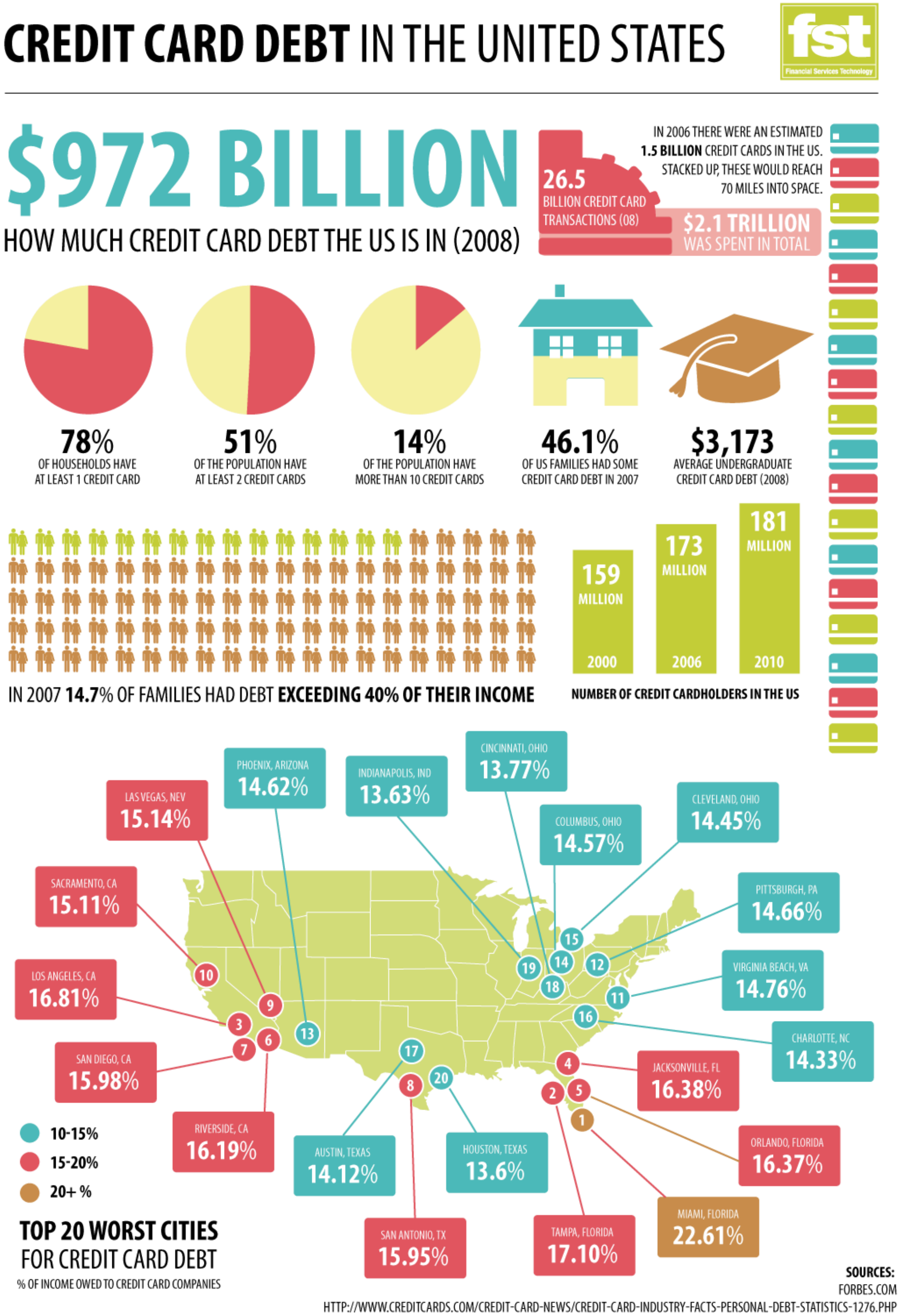


Figure 26: Contrasting color in text, images, and design elements. Image Credit: "Credit Card Debt in the US" by GDS Infographics is licensed under CC BY 2.0

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 itself. Negative space, or white space, is the space around text, images, and other elements in a document. It makes documents of all kinds (digital and print) more readable, more restful-looking, more inviting to the reader, simpler, and more elegant. It is associated with that "high-end" restaurant or salon menu look.

Figure 27: Case in point. High-end. ["French laundry carte"]() by [EncMstr]() is in the [Public Domain]()

Figure 28: Not so high-end, but probably still delicious. Image Credit: [Laika ac,](#) [Laika ac Pizza Restaurant Menu (7953649854)](#), [CC BY-SA 2.0](#)

47. Make Your Publication More Inviting Using Basic Principles of Readability: CRAP, continued

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

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

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

Figure 29: USA Today's mastery of repetition has made it instantly recognizable. Image Credit: truetrue, [WSTM Mossmen0051](), [CC BY-SA 3.0]()

On a smaller scale, in a resume, most applicants use bullet-pointed sections to list their job duties. "Repetition" in this context means that all these bullet points should be formatted identically: the same font, size, line spacing, and indentation. Each group of bullet-pointed items should be the same distance from the text above and below. The bullet points themselves should be exactly the same shape and size. 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 your last name and a single blank character space. The same typeface is used throughout the paper. All paragraphs have exactly one empty line space between them. And so on.

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

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

Figure 30: The Microsoft Word "Styles" menu.

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

............brianna lehman

objective:

To apply my creative skills and customer service experience in a business environment to maintain and improve current operations, and to create a visual environment that defines a brand.

education:

2003-2007
University of Colorado
I majored in Art and Anthropology with an emphasis on sculpture in the former and archaeology in the latter.

skills:

I've been working as a freelance photographer, taking pictures of people, pets and products. I've been selling various handcrafted objects on the internet, allowing me to learn the ins and outs of online retailing, including marketing and advertising. I'm very good with my hands, and can make almost anything. I have experience with carpentry and welding, as well as video production and crew work. I speak a little Spanish, but I'm much better at understanding it. I'm a fast learner and it only takes one try for me to get something. I'm always eager to learn something new and I like to work hard every day.

I also run a blog, dedicated to the visual and the tasty: www.thecraftbegins.com

experience:

Gaiam
2009
During my 8 week internship, I assisted the creative department. I redesigned the layout of the webpage, helped manage the online content system, and created ads for email promotions. I assisted in choosing products for the catalog and the catalog layout. I also worked on developing innovative concepts for social networking platforms.

Robot Fuel LLC
2007-present
I am the owner of a small graphic design firm. As such, I act as designer, art director, manager, customer service representative, salesperson, and accountant. I also have experience with everything that running a business entails, such as maintaining business relationships, managing people and projects, meeting deadlines, etc.

The Flagstaff House Restaurant
2006-2007
At this landmark Boulder location, I had the opportunity to try out many different jobs. As a hostess, I was responsible for providing the kind of customer service expected at a five-star restaurant. In the kitchen I worked as an expediter, acting as the link between the kitchen and the staff in a fast-paced environment. I also served, assisted the managers and handled the restaurant's visual needs, such as creating menus and other print material for events and promotions.

Fresh Produce Sportswear
2005
I worked at both the corporate office and the flagship store in Boulder, developing visual merchandising elements for my store as well as other locations around the US. I was in charge of window displays and store merchandising. I also traveled to several out-of-state locations to assist in the opening of new stores.

Anthropologie
2003-2004
I helped open the first location in Colorado (at Cherry Creek Mall) by assembling visual information and assisting in visual merchandising, including the creation of original signage. I also took direction in creating visual displays for the holiday season, as well as developing my own ideas.

phone: 303.229.3940······· 606 S. Miller Avenue, Lafayette CO 80026 ··········· bri.lehman@gmail.com

Figure 31: Whatever else you think about the design of this resume, choices made for typefaces, size, position, and indentation are consistent. Each section is laid out identically.
Image Credit: [brianna.lehman](), [resume](), [CC BY 2.0]()

I.M. INCONSISTENT

:XPERIENCE/QUALIFICATIONS

May 2014-Present Oregon Nose Specialists Portland, OR

Scribe/Billing and Administrative Support Specialist

- Document medical history and physical exam in patients' medical charts
- Participate in consultations with patients, family members and other medical personnel in order to get most accurate chart information
- Administrative Assistant to CEO, CFO, COO and billing office.
- Review and submit medical or vision insurance claims to proper insurance company.

March 2010 – January 2012 MedicalCenter Portland, OR

Patient Care Associate

- Greet, induct, and check out patients, verify and code insurance, collect balances
- Perform all laboratory tests including blood, urine, strep, and flu
- Assist provider in all procedures/operations. In charge of all clinic operations and scheduling
- Dispense prescriptions for Physician

June – August 2007 Camp Big Military Base Smithtown, Ore.

Intern

Educational and aquatic director for multiple age groups

Planned and implemented tailored daily lessons for kids

Coached advanced golf team and arranged golf tournaments

:DUCATION

2008 University of OregonEugene, OR

- Bachelor of Science: Political Science & Pre-Med

FAKENAME@HOTMAIL.COM

Figure 32: This applicant has made inconsistent line spacing, typeface, alignment and indentation, and type size choices. Image Credit: Author.

48. Make Your Publication More Inviting Using Basic Principles of Readability: CRAP, continued

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

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

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

Figure 33: Even though the arrangement of these items could seem random, there is some regularity, and there is an overall shape or grid governing the position of each picture. Image Credit: "homestilo gallery wall" by homestilo is licensed under CC BY 2.0

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

Newspaper and magazine layout artists once used various kinds of tape, contact cement (rubber cement), or wax adhesives to stick cut-out headlines, text blocks, photos, and ads to a page, just to produce a daily or weekly newspaper.

To line up text and image blocks, they used wooden or metal rulers, graph paper, and T-squares. It was slow, tedious work. And rubber cement smells. The digital publishing revolution did away with all that. Most people who've spent half the night squinting over a yearbook layout that just won't line up are glad about the changes.

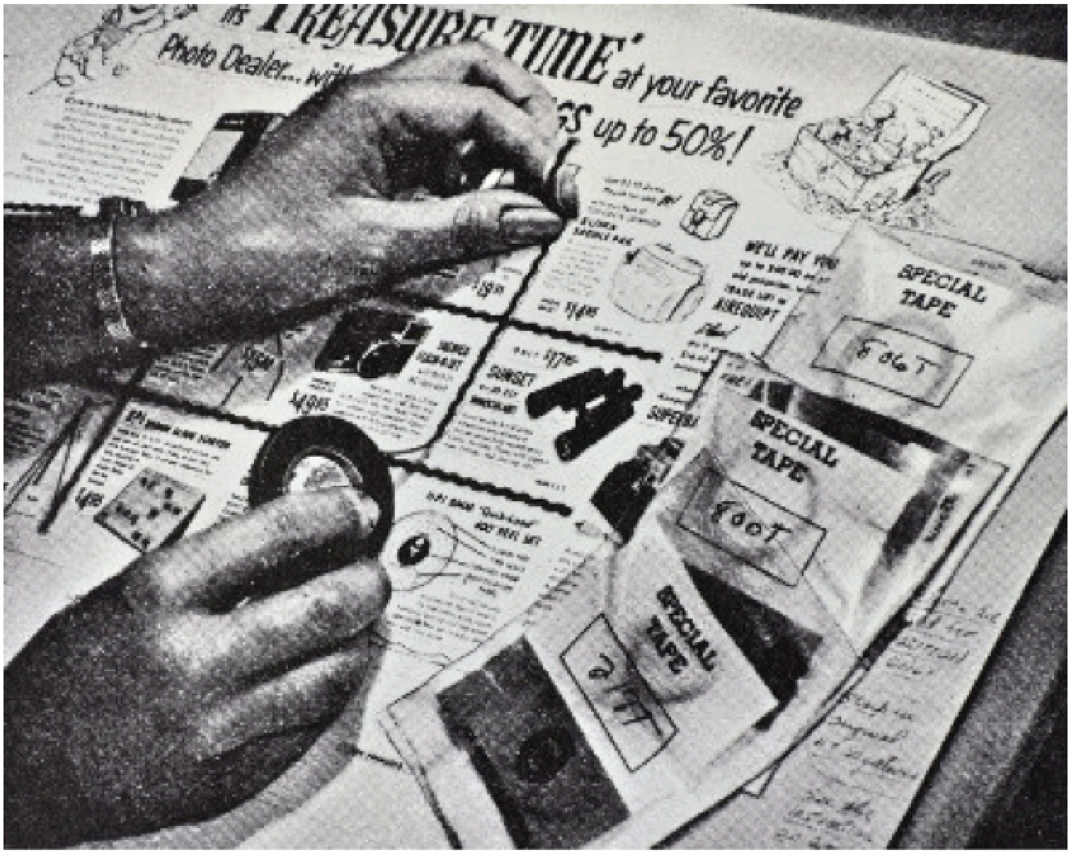


Figure 34: Thank heaven for desktop publishing and digital layout tools. (Public Domain image)

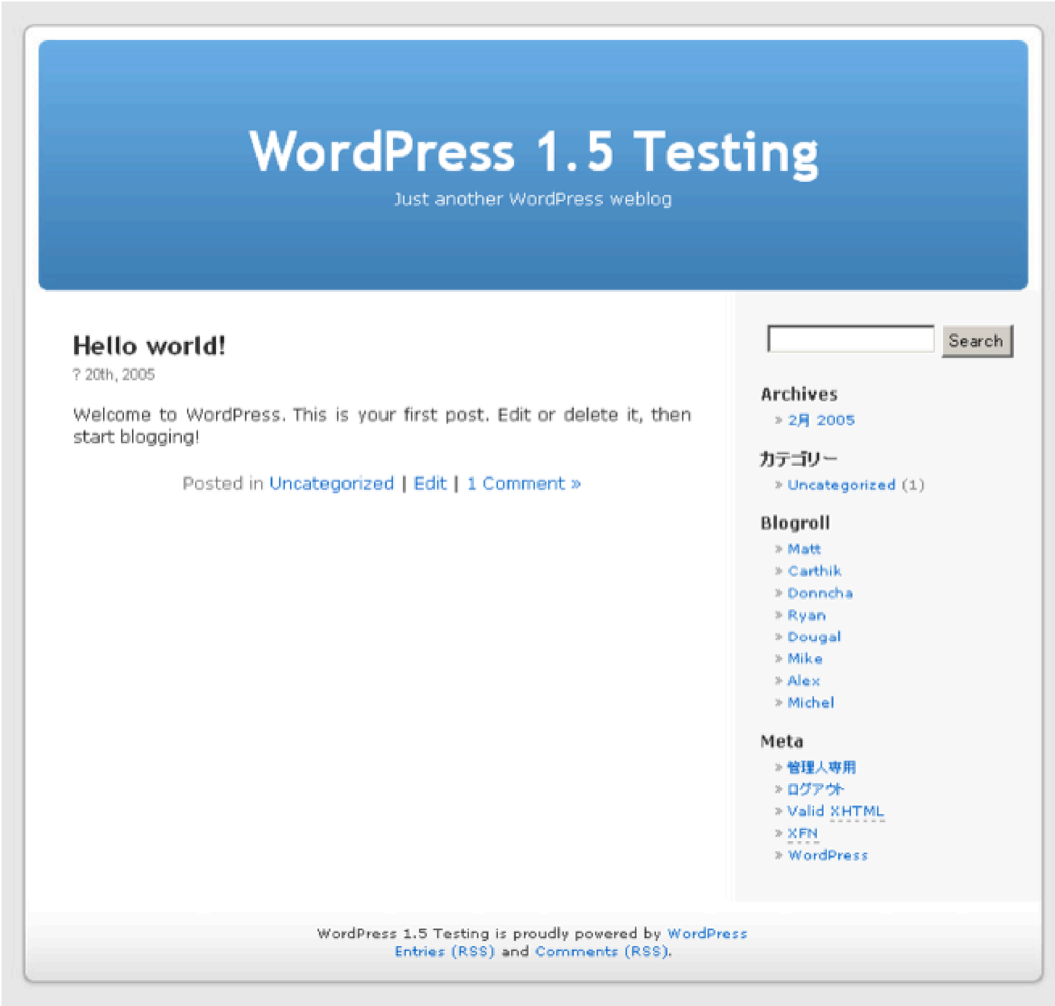


Figure 35: Much easier to put together, but some would argue that it lacks soul. But it's readable, simple, clear, and accessible to anyone. Image Credit: "WordPress main theme" by D135-1r43~commonswiki is released under GNU GPLv3.

Still, alignment problems have not all been solved in the digital era. See for yourself some of the results of less deliberate alignment vs. controlled, arranged items on a screen, for example by visiting What are some examples of bad web design?

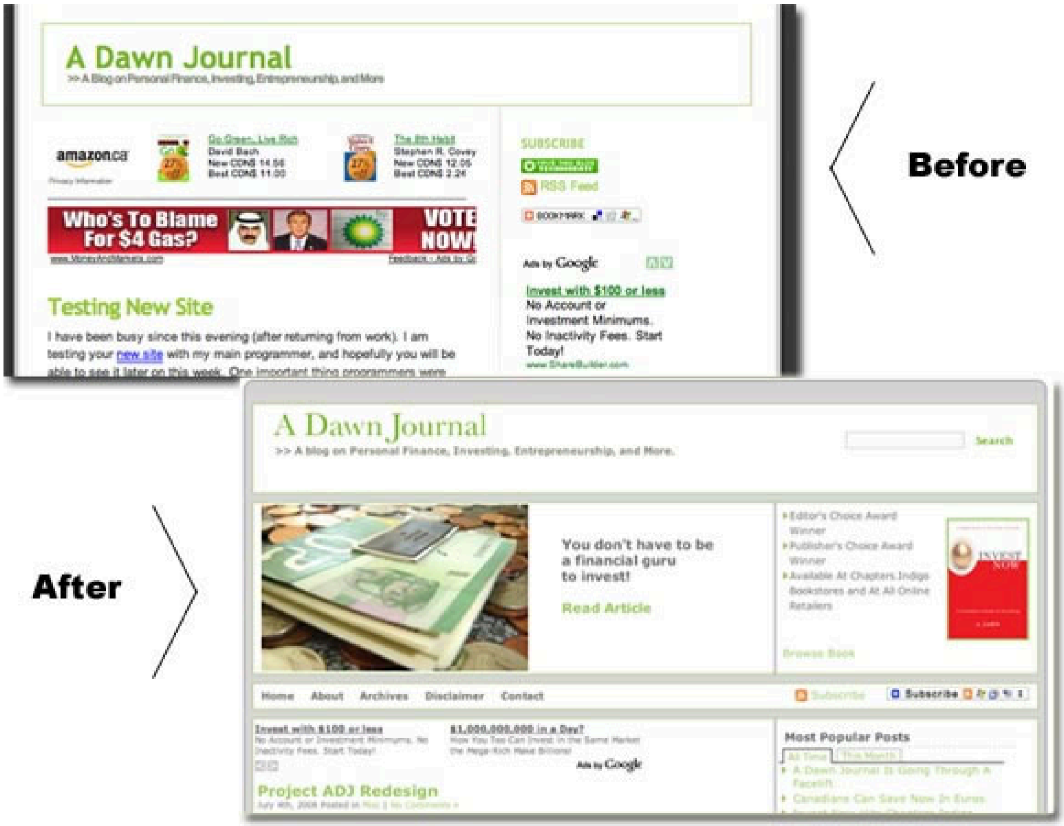


Figure 36: Before and after images show how alignment affects the usability of this website. Image credit: "Welcome To The New A. Dawn Journal" by Ahmed Dawn is licensed under CC BY 2.0

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

49. Make Your Publication More Inviting Using Basic Principles of Readability: CRAP, continued

IV. 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?

Figure 37: Is there any purpose to this grouping? Image Credit: "Small Tree In Field Of Rocks" by Linnaea Mallette is in the Public Domain, CC0

Figure 38: There is purpose to this grouping. This is the Ham Hill Stone Circle in Somerset, England. It's a deliberate product of modern England, it was constructed in the year 2000 to commemorate local stonemasons and the long history of quarrying local hamstone. "Ham Hill Stone Circle" by Gaius Cornelius is licensed under 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 or 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 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. For example, the themes provided by blogging platforms like WordPress take care of this for you—every page will have a recognizable layout and though individual pages might be slightly different, they'll be recognizably related to the blog's main page. Web sites work the same way, as do book chapters.

The principle of proximity even affects white space: equal amounts of white space and equal line spacing indicate that items 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 is—and is not—related.

Figure 39: What does emphasis indicate in this ad? Are prunes and flour different types of eggs on offer? *"1945 – Atlantic & Pacific Tea Company – 16 Feb MC – Allentown PA"* by *Allentown Morning Call Newspaper* is in the *Public Domain*

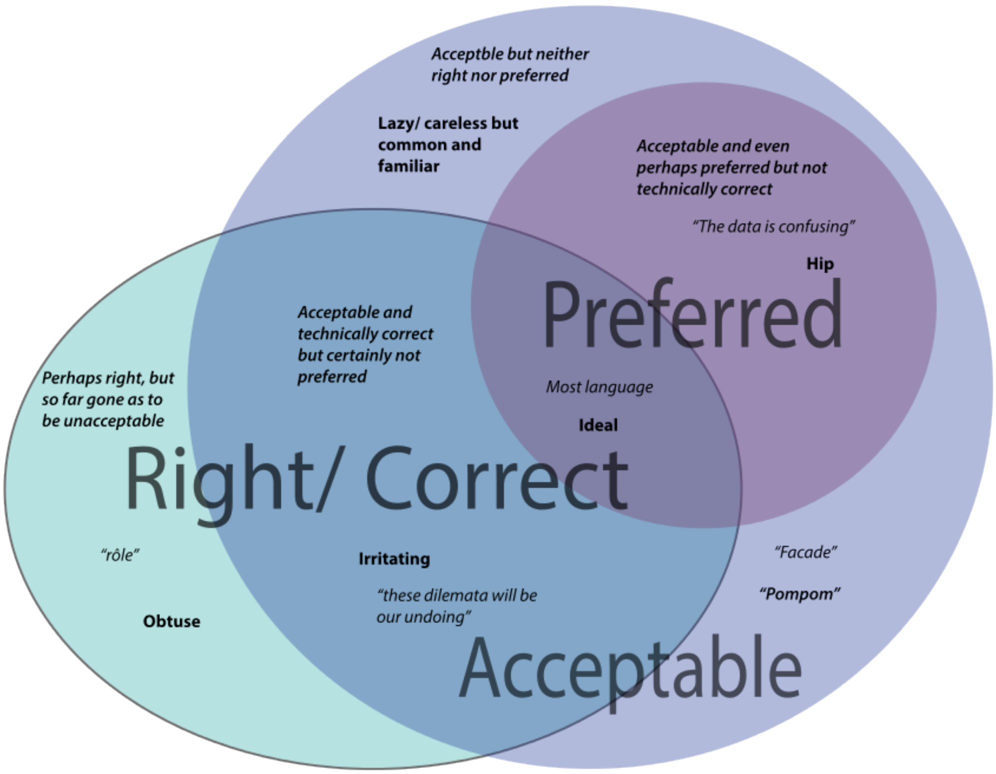


Figure 40: What's going on here? Image credit: [Venn Diagram of language issue space](#) by [KDS4444](#) is [CC0, Public Domain](#)

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 of 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 goes together, what's different, and what is similar. Relationships between items will be clear.

Figure 41: Who's together here? [Martakis jennifer lopez](#) by Universal Music Greece is in the [public domain](#).

It's clear which two are the couple in the illustration above. Same with headlines and body text, groups of bullet points, images and captions, and a whole lot more. 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.

> ACTIVITY: Go online or out into the world. Try to find examples of publications (print or electronic) that convey messages clearly. Critique them according to the principles in this chapter: Purpose, Audience, and CRAP. Also, find an example of one that does not achieve its goal. See if you can identify and describe which of these principles are not being followed in less-effective publications.

50. 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 slide shows?” The stock images of arrows, businesspeople in suits, stick figures scratching their heads, and the glowing, jewel-toned backgrounds eventually looked tired and failed to evoke the “wow” reaction presenters desired.

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

If you had planned to read your slides to the audience, don’t. It’s considered one of the single most annoying 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, don’t use them.

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

Tips for good slides

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

- Simplicity is best: use a small number of high-quality graphics and limit bullet points and text. Don’t think of a slide as a page that your audience should read.
- Break your information up into small bites for your audience, and make sure your presentation flows well. Think of

a slide as a way of reminding you and the audience of the topic at hand.

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

51. Conclusion

Texts are forms of nonverbal (or not exclusively verbal) communication aimed at a particular audience. They are always expressions of some set of goals or purposes. They can contain visual elements, sound, textual elements, graphic elements, and even textures (think of a book of fabric samples). There is a vast array of tools to help you communicate whatever you wish to any audience you choose. Reaching a large audience has never been easier, but the very fact that you may be communicating with many different kinds of people creates new challenges for you as a communicator. Providing clear, easy-to-access texts is critical. Being clear about your message is vitally important. Just as there's never before been an audience as vast and diverse as the global internet, there's never been a greater chance that you will be ignored, misinterpreted, misunderstood, criticized, or even trolled. If you adhere to basic design principles, at least you will be safe from the most basic kinds of criticism aimed at confusing PowerPoint presentations, distractingly busy web sites, or cheesy-looking brochures.

Content is like water—it takes on the shape of whatever you pour it into. Therefore, the container that holds your text does matter. However, content is also like water in another sense. If it's no good, no one will want to drink it down. It won't quench anyone's thirst for knowledge, for instructions, for information. Good content, a focused, clear purpose, and careful attention to the needs of the audience will ensure that if your container is appealing, your message will shine through, and you will achieve your goal as a writer.

PART XII

12. EMPLOYMENT MATERIALS

Employment materials are some of the most important, and most challenging, pieces of writing you will ever undertake. This is because of the number of contradictions involved in writing employment materials. The résumé is both a simple list of your job history, and a referendum on your qualifications; you must show your passion for the job you are applying for, but too much passion is over-the-top. Your job application (cover) letter is an evidence-backed statement of your achievements, a clear representation of your personal brand, and the first writing sample a potential employer will see. Add to that one more challenge: your materials must be concise, and yet also comprehensive. If accomplishing all these tasks at once feels daunting, you are not alone.

The aim of this chapter is to ease your mind and demystifying the job application process by giving you some core principles to follow. Whether you are applying to be an administrative assistant or an engineer, a web developer or a caregiver, many of the strategies are the same. As you read through this chapter, keep the following principles in mind:

- The more customized your materials are, the more successful they will be – generic materials are unlikely to capture an employer's attention.
- Your materials should demonstrate not why this job would benefit you, but instead how you, as a unique candidate, can benefit your potential employer.
- Your materials should not simply list every job you've ever held, but emphasize transferable skills, making an argument for how your past accomplishments prepare you for the job you are applying for.

To tailor your materials to a specific audience is to work smarter, rather than harder. In fact, tailoring is one of the core principles of technical writing – a principle you read about in the audience analysis chapter of this text. Imagine yourself in the position of a hiring manager. Would you be more likely to hire a candidate whose generic résumé looks like it has been sent to dozens of similar employers? Or would you be more likely to hire a candidate who has researched your business and understands what the job entails?

CHAPTER ATTRIBUTION INFORMATION

52. Preparation

Spending adequate time preparing to write your employment materials can save you many headaches in the drafting process. This section of the chapter covers strategies that can help in your job search.

Finding a Job

Finding a suitable job opening itself can be a time-consuming process. Here are a few resources to get you started:

- **Job boards**: browse sites like Indeed, CareerBuilder, Glassdoor and Monster to search for jobs in your field.
- **Specialty job lists:** look for lists of jobs in specific industries such as food service (Poached), nonprofits (Idealist), or media (MediaBistro)
- **Company, organization and government web sites**: visit the employment section on websites of companies you admire; search federal, state, county, and city websites for job government job postings.
- **Your own network:** talk to friends, past employers, and professors or visit LinkedIn to search for openings at companies in your network.
- **Your college:** visit your college or university placement office/career center and attend job fairs hosted at your college.

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

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

Conducting a Self-Inventory

As you work on your resume, you may worry that you have nothing valuable to include, or you may worry that you are "bragging." One way to get over these hurdles is to allocate pre-writing time to a self-inventory. Brainstorm your skills, accomplishments and knowledge. What did you accomplish at work, school, or a volunteer position? What skills have you learned? What would you tell a friend or family member you were proud of having achieved there? Start writing down key terms and action verbs that describe your experiences and accomplishments, and don't worry yet about putting them into a résumé format.

Try this

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

Communication/ People Skills	Creative Skills	Management/ Leadership Skills	Helping Skills	Organizational Skills
Collaborated	Combined	Assigned	Aided	Arranged
Communicated	Created	Coordinated	Arranged	Categorized
Developed	Developed	Decided	Assisted	Distributed
Edited	Drew	Improved	Contributed	Organized
Incorporated	Illustrated	Led	Cooperated	Recorded
Proposed	Planned	Managed	Encouraged	Responded
Suggested	Revised	Oversaw	Helped	Updated
Synthesized	Shaped	Recommended	Motivated	Tracked
Translated	Crafted	Reviewed	Supported	Monitored
Facilitated	Conceived	Supervised	Prepared	Synthesized
Mediated	Established	Delegated	Bolstered	Adapted

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

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

Try this

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

Researching Your Potential Employer

It is important that you research your potential employer as well as the job for which you're applying. The easiest way to research a potential employer is to visit the company's website. Look for an "about us" page or a "mission statement," and observe how the company describes its goals and values.

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

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

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

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

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

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

Researching the Potential Job

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

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

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

Try this

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

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

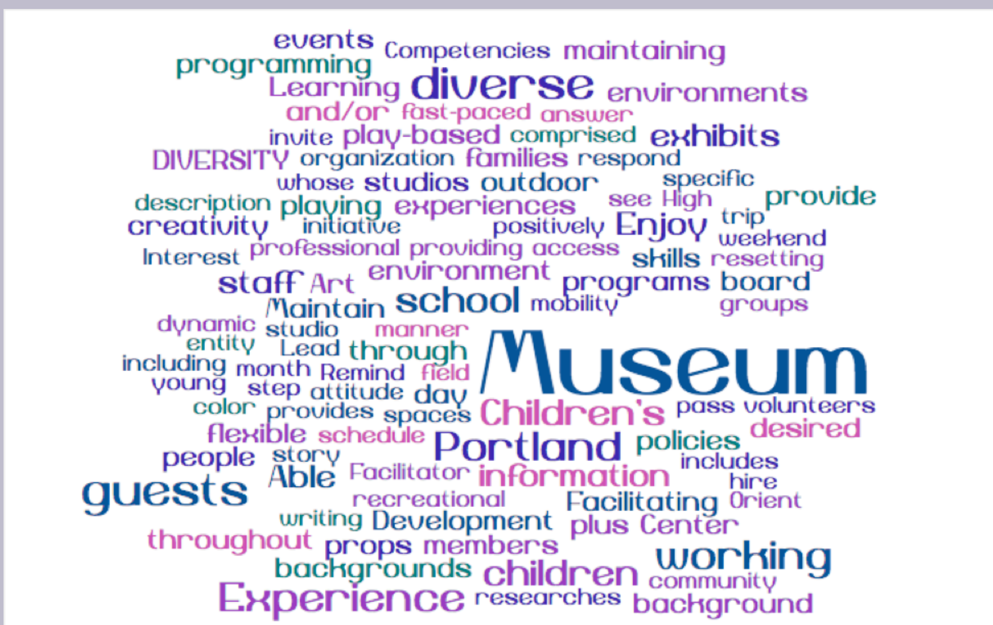


Figure 1 Portland Children's Museum Experience Facilitator Job Description as a Word Cloud

CHAPTER ATTRIBUTION INFORMATION

This chapter was written by Megan Savage, Portland Community College, and is licensed [CC-BY 4.0](#).

53. Resume Formats

The purpose of a résumé is twofold:

- A résumé is an overview of your skills, experience, and education as they relate to your career objective, and
- A résumé is a marketing tool that conveys your "personal brand."

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

Formats: Chronological Résumé vs. Functional (Skills) Résumé

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

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

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

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

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

Example of the chronological résumé format

TINA SPARKLES

123 Address | City, State 01234

10.1234.5678 | me@gmail.com

E D U C A T I O N

AAS: Portland Community College 2010 | Sign Language Interpreting

BA: University of Colorado, Boulder 2007 | Psychology

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

EXPERIENCE

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

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

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

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

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

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

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

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

ACTIVITIES

Volunteer | Denver Homeless Family Solutions | January 2016 – present

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

PROFESSIONAL MEMBERSHIPS

National Registry of Interpreters for the Deaf

National Association of the Deaf

Note that the chronological résumé:

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

Example of the functional (skills) résumé format

Downtown, Portland, Oregon 97035	**Anonymous** Personal Résumé
M 971.123.4567 anonymous@pcc.edu www.linkedin.com/in/anonymous	Graphic Design major with about 10 years full-service agency experience, from creative marketing material design to print management and coordination with a wide range of clients. A passionate and dedicated designer, capable of handling a large workload and tight deadlines. Working toward B.A degree in Graphic Design.
	EXPERIENCE
Print Management	Managed 5000 copies MTT company calendar printing process, from finalizing artwork to output file check, paper stock selection, color proofing, print finishing, and delivery deadline coordination.
Event Management	Designed and organized a company anniversary cocktail event for a new client – INSTINET Hong Kong, receiving positive feedback from client's guest and resulting in 3years event management contract with Pink Tiger Media.
Editorial Design with Collaborative	Designed and collaborated with Prince of Wales Island International School on production of 16pp program book, received positive feedback from every division of the school and resulted in more business to Priority Resources design team.
	EDUCATION
Portland State University	B.A Degree Graphic Design – Expected enrollment 2018
Portland Community College	Associate Transfer Degree – 2016-present
Equator Academy of Art	Diploma in Graphic and Multimedia Design – 2004-2006
	EMPLOYMENT
Senior Graphic Designer 2013 – 2015	Priority Resources – Penang, Malaysia *Editorial design, Web interface design, vendor coordination*
Jr. Art Director 2012-2013	Pink Tiger Media – Penang, Malaysia *Team management, Event management, Marketing campaign, Visual communication, vendor coordination*
Graphic Designer 2006-2011	Moonlight Media & Design – Penang, Malaysia *Exhibition design, Branding & Identity design, Print design, Product branding, Typography, Event management*
Trainee Graphic Designer 2006	Dolphin Printing – Penang, Malaysia *Print production, Packaging, Customer service*
	ADDITIONAL
Honors	Awarded $3,000 tuition scholarships from Portland State University (2017-2018)
Languages	English, Bahasa Malay, Chinese: Mandarin, Cantonese, Hokkian, Hakka

Note that the functional (skills) résumé:

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

Example of the hybrid résumé format

Anthony Swift

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

Summary

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

Skills and Abilities

Technical Skills

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

Organization and Professional Development Skills

- Coordinated finals study sessions with staff of ten math instructors and more than 100 students in attendance.
- Organized and planned community clean-up events while delegating tasks to a team of 15 students.

- Planned S.T.E.M. (science, technology, engineering and mathematics) panel consisting of six professionals from various industries, providing students the opportunity to learn about different career paths.

Instruction Skills

- Managed foreign teacher organization, communications, and hiring. Introduced innovative teaching methods to staff and created exciting classroom environments for Chinese students.
- Maintained communications between management and foreign staff using Mandarin Chinese while ensuring high teaching standards were maintained. Trained new foreign teachers as well as overseeing three education centers to verify quality of teaching.

Education

Bachelor of Science in Electrical Engineering, Oregon Tech, (2016 – 2019)
Associates of Science Degree, Portland Community College, GPA: 3.8 President's list – 7 quarters (2013-2016)
Chinese Language, Beijing Language University, Beijing, China (2009-2010)

Work Experience

Math Tutor, *Portland Community College*, Portland, Oregon (2014 – 2016)
Gave special instruction to students to help simplify difficult math concepts and walk students through critical thinking process to solve difficult problems. Instructed students working on advanced mathematics courses.

Math Club President, *Portland Community College*, Portland, Oregon (2014 – 2016)
Organized finals study sessions for the college with over 100 students attending each session. Facilitated events with panels of working professionals giving students access to vital information about pursuing specific majors. Hosted weekly study sessions to help struggling students successfully pass math exams.

Data Entry Specialist, *Seamless Systems*, Portland, Oregon (2013 – 2014)
Maintained national database of legal documentation with extensive use of Microsoft Access.

Head Foreign Teacher and Trainer, *KidsCan!*, Beijing, China (2010 – 2012)
Worked with Chinese investors and management to create a training curriculum for the Hubei Province region. Instructed foreign teachers and developed fun team-building activities that created strong bonds between the staff. Mediated between foreign and Chinese staff when language barriers were present.

There are many reasons to choose one format over another. In brief, the chronological résumé serves candidates with a long/uninterrupted work history, in fields where the company worked for is of paramount importance. On the other hand, the functional résumé serves candidates who are transitioning between fields, candidates shifting from a military to a civilian career, or candidates who have gained skills in a variety of different settings (workplace, academic, volunteer). The hybrid resume offers the best of both worlds.

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

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54. Resume Sections and Guidelines

Key Sections of a Résumé

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

1. **Contact Info:** Create a header that includes your address, telephone number, professional e-mail address, and possibly a Linkedin page.
2. **Headline (Also called Summary, Profile or Highlights of Qualifications)**: include a brief summary of your professional self to grab your reader's attention. Think of this section as your "elevator pitch," offering a quick impression of your personal brand. Include a few key (relevant) achievements/strengths (in bullets or sentences). Summary/profile sections are especially useful for candidates with a long work history, or who have experienced job transitions. Here are two formulas for a one-sentence headline:
   – "Accomplished [job title]/Certified [industry] professional holding more than [x] years of experience, specializing in [x,y,z]."
   – "[Field of study] graduate seeking opportunity to focus on [x,y,z,] and promote [desired company's mission or goal]."Have you been starting your résumé with an **Objective** statement? These days, most experts recommend leaving the objective off your résumé entirely. Objectives too often emphasize what you want from a job, rather than what you can offer an employer, and thus are generally seen as a waste of space.
3. **Skills/Achievements/Qualifications:**
   – Use sub-headers to group skills into skill set headings (management skills, customer service skills, laboratory skills, communication skills, etc.). Use targeted headings based on the qualifications your potential employer is seeking.
   – Include only the most relevant, targeted skills and achievements.
   – Emphasize quantifiable achievements and results: skills, equipment, money, documents, personnel, clients, etc.- Use the active voice (supervised sixteen employees, increased profits, built websites) vs. the passive voice (was responsible for supervising or duties included…)
   – See the "Building a Better Bullet" section below for more information on how to craft an effective "skill bullet."
4. **Employment Experience:**
   – List positions in reverse chronological order (most recent first).
   – Include basic information for each job: job title, employer, dates employed, city/state (and country if outside the U.S.) of employment.- Include internships and skilled volunteer positions (but if you do, title the section "Experience" rather than "Employment").
   – Consider filtering work experience into "Related Experience" and "Experience" instead of one employment section to highlight most relevant jobs (and downplay less significant experience).
5. **Education:**
   – Place your education section after the headline/summary section if it is recent and relevant, after the experience section if your stronger qualification is employment experience.- List the most current degree/school attended first, and proceed in reverse chronological order.

– Include the following information for each educational item: the name of the school, the school's location, your graduation date or anticipated graduation date, the degree earned (and major if appropriate).- DO NOT include high school if you are in college unless your high school work was outstanding or unique (like a trade/technology/arts high school).
– DO include trainings and certifications (e.g. first aid certifications, sales seminars, writing groups).
– Develop this section by adding educational accomplishments:

o Your GPA (if it is 3.0 or better, and if it is expected in your industry)
o Relevant courses (if they prepared you for the job)
o Special accomplishments (conferences, special papers/projects, clubs, offices held, service to the school)
o Awards and scholarships (could also be separate section – Honors)

6. **Optional Sections (not included in Figure 5):**
– Volunteer Work: List skilled volunteer work (building websites, teaching classes) under skills, along with your other qualifications, but include general volunteer work (making meals for a soup kitchen, etc.) toward the end of your resume in its own section or under activities.
– Activities:

o DON'T include a section titled "Hobbies" or "Other," with irrelevant interests.
o DO include interests that may be relevant to the position, but aren't professional skills (sports for Nike, Eagle Scouting for leadership, golfing for business jobs, game design/play for game design jobs, blogging for PR jobs). Market yourself in the best light.
o DO include honors, awards, publications, conferences attended, languages spoken, etc. You may choose to include a separate honors section or fold these into your skills/achievements section.

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

MIA SANTIAGO

123 Four Street · City 10110 · 123.456.7890 ←**1**

you@email.com · www.website.com

PROFILE	Business student with extensive retail experience and award-winning customer service skills. Successfully implemented social media presence and branding to improve sales. Strong written communication and graphic design background. Fluent in Spanish.	←**2**
EDUCATION	**A.A.S.** Business (Will Graduate 2018) Portland Community CollegeAdditional Coursework in Graphic Design Great Sales Seminar, 2015, 2016 Customer Service Training, Macy's, 2015	←**3**
SKILLS	**Customer Service** ◦ Received "Outstanding Customer Service" Award, 2016 ◦ Assisted up to 100 customers daily in locating merchandise and making purchasing decisions ◦ Increased monthly sales approximately $1,000 by utilizing add-on sales techniques ◦ Supported customers by fielding and resolving key concerns ◦ Effectively handled irate customers and complaints in a friendly, patient manner **Merchandising/Marketing** ◦ Assisted manager in analyzing sales and marketing trends for purchasing seasonal merchandise ◦ Launched and managed social media presence to increase sales ◦ Created innovative in-store displays and promotional materials ◦ Stocked, priced, and inventoried merchandise **Administrative** ◦ Produced daily, weekly, and monthly sales reports ◦ Balanced cash drawer with consistently high level of accuracy	←**4**
EXPERIENCE	**Retail Associate**, *Macy's*, Portland, OR — Dec 15 – present **Sales Representative**, *Target*, Portland, OR — Sept 14 – Dec 15 **Server,** *Otis Café*, Lincoln City, OR — Jan 12 – Sep 14	←**5**

Resume Guidelines

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

Using "Me" and "I":

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

Quantifiable Skills:

The more you can present your skills and achievements in detail, especially quantifiable detail, the more authoritative you will sound. This means including references to technologies and equipment you have used; types of documents you have produced; procedures you have followed; languages you speak; amounts of money you have handled; numbers of employees you have supervised or trained; numbers of students you have taught; technical languages you know; types of clients you have worked with (cultural backgrounds, ages, disability status – demographic information that might be relevant in your new workplace); graphic design, blogging or social media skills; and so on.

Filler Words (Fluff):

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

Results:

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

Building a Better Bullet (Two Skill Bullet Formulas):

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

Formula 1: Verb + Details = Results

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

- Developed (VERB) new paper flow procedure (DETAILS), resulting in reduced staff errors and customer wait times (RESULT)
- Provided (VERB) friendly customer-focused service (DETAILS) leading to customer satisfaction and loyalty (RESULT)
- Organized (VERB) fundraising event (DETAILS) generating $xxx dollars for nonprofit (RESULT)
- Provided (VERB) phone and in person support for patients with various chronic and acute health issues (DETAILS & RESULT COMBINED)
- Supported (VERB) 8-10 staff with calendaring, files and reception (DETAILS), increasing efficiency in workflow (RESULT)

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

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

- **First Draft:** Participated in a leadership program
- **Second Draft:** Selected as one of 125 for year-long professional development program for high-achieving business students
- **Final Draft:** Selected as one of 125 participants nationwide for year-long professional development program for high-achieving business students based on leadership potential and academic success

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

Key Terms:

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

Length:

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

Design:

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

A few general guidelines:

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

- Use the same font in your résumé and your cover letter to create coherence.

Field-Specific Conventions:

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

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55. Cover Letters

Background

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

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

- Your cover letter is essentially an argument for why you should be granted an interview. Make sure to support the claim that you are qualified for the position with evidence. Demonstrate your authority by speaking in detail about your qualifications, and SHOW the reader that you have the skills and abilities necessary to do the job at hand. The more detail you offer and the more precise your language is, the more the reader will be able to picture you doing the job. See the sample cover letter below for examples of "showing."
- Use your audience analysis research to help you connect with the company and to choose the appropriate tone, level of formality, and level of technicality.
- Follow the format for professional letters found in the Professional Communications chapter.

Outline

A general outline for cover letters:

1. **Salutation:** Make your best attempt to find a specific name (or at least the job title) of the person to whom you should address this letter. If you cannot find the name, you may address the letter "Dear Hiring Manager."
2. **Opening Paragraph:** State why you are writing, specifically naming the position to which you are applying. Indicate how you learned about the position (networking if you can). In one sentence, use your audience analysis research to establish a connection with the company. Finally, in one sentence, summarize your strongest qualification/s for the job.
3. **Body Paragraph(s):** Build each paragraph around a key qualification or professional strength that relates to the job for which you are applying. Open the paragraph with a claim about this qualification/strength, and then provide a developed illustration of a time in your work or academic history when you used/excelled at this skill, or used it to benefit others. For example, if the job requires excellent customer service skills, you might discuss a time in which you used your customer service skills to diffuse a conflict or increase your company's profits. It can be effective to conclude your middle paragraphs with sentences that express how these past experiences prepare you for the potential job.
4. **Closing Paragraph:** Thank the reader for his or her time and consideration. Gesture towards an interview. You may explicitly request an interview, or you may wish to include a phrase like "I look forward to discussing my

qualifications with you in person, soon." If there is any information the reader should know about getting in touch with you, include it; if your phone number and email address do not appear elsewhere in the cover letter, include them here. You may refer the reader to your enclosed resume.

Sample Cover Letter

12248 SE Wilderness Dr.
Portland, OR 97214April 29, 2017Mr. Doug Jones
Director of Human Resources
EVZ
600 Minnow Lane
Seattle, WA 12345 Dear Mr. Jones:

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

Introductory Paragraph
Your introduction should discuss the following:

– The title of the job for which you are applying

– Where you heard about the position

– A connection with the organization and its goals

– How your experience matches the position

– How you will help the organization achieve its goals

From my conversation with Ms. Lincoln and your online information, it's clear you are looking for someone who not only has technical skills, but who understands the steel industry. Within six months at United Steel Mill, I was promoted from Clerk to Machine Operator, largely as a result of my attention to detail and ability to collaborate. In three years, I had worked my way up to Plant Safety Coordinator, Quality Control Database Administrator, and Floor Trainer. While in those roles, I implemented a plant-wide safety program, saving my company roughly $15 million in recovered product, and reducing accidents by over 25%. In addition to demonstrating my understanding of the steel industry, this experience demonstrates the kinds of skills EVZ seeks: accuracy, integrity, and strong problem-solving skills.

Body Paragraph 1
This paragraph should discuss the following:

– More connection with company goals/ mission

– Support for your claim that you can help them achieve goals/mission

– Specific example based on information in résumé

– How you will help the organization

I have a BA degree in Computer Information Systems and an AAS in Network Administration; through my experiences, I have become very familiar with all aspects of Database Administration. In my position as Database Intern for Work Inc., I enrolled users, maintained system security, and monitored user access to the database, with 30-40 concurrent users at any given time. At Portland State, I maintained a 4.0 GPA, was admitted to Phi Theta Kappa, and was placed on the President's List every term – a standard I will bring to EVZ.

Body Paragraph 2
This paragraph should discuss the following:

– More detail on position requirements

– More detail supporting your claim that your experience fulfills these requirements

– Specific example based on information in résumé

– How you will help the organization

EVZ has grown rapidly for twenty years, and I would like to speak with you to discuss how my experience can aid your commitment to improving safety, quality and processes as you continue to grow. Enclosed is my resume, and you can reach me at 503-555-6237 orjohnice@email.com with questions. Thank you for your time and consideration. I look forward to meeting with you soon.

Closing Paragraph
This paragraph should do the following:

– State your main objective: an interview

– Provide contact information

– Close the letter in a professional manner, thanking the reader

– Provide signature block

– Provide enclosure information

Sincerely,

John Ice

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56. Next Steps

Submitting Your Materials

Once you are ready to send out your materials, remember the following guidelines:

- **Proofread carefully!** Do not rely on Spell-check alone. Proofread by reading your work backward one sentence at a time (using this strategy helps you focus on sentence-level writing rather than on content and "flow"). Ask a few friends to help you proofread before you send it out.
- Make sure your verb tense, font, and design choices stay consistent throughout.
- If you are submitting your documents as hard copies, use high-quality paper.
- If you are submitting your documents electronically, consider saving your documents as PDF files, so that the formatting is preserved (PDF files are also widely readable).
- If you are e-mailing your materials:
    - Send the materials as attachments to a brief, introductory e-mail.
    - Consider ALSO including the résumé in the body of the e-mail (in case the employer is wary of attachments).
    - Do not replace a job application letter with an e-mail. Job application letters are formal enough to warrant formal letter format.
    - Send a copy to yourself first to make sure it opens and is formatted properly.

Modular Materials

You may be thinking that it sounds like a lot of work to create a new set of employment materials for every job opening you have identified. While it is true that it takes time and effort to customize, you do not have to create a new resume and cover letter from scratch for every job opening. Instead, you can create "modular" materials with moving parts that you can simply adapt and reorganize for each job.

For example, let's say you are a nursing student, and you are looking to work in a related field while you are in school. You might be happy as an administrative assistant in a clinical setting, as a medical translator, or as a biology tutor. If you use the functional (skills) resume format, you might create 3 different "templates" of your résumé that each emphasizes and expands upon different skill categories, administrative, communication, and educational. Each of these résumés, however, would stress your medical background.

The same holds true with the cover letter. Once you have a draft cover letter, you can work with it as a template for numerous other jobs, keeping the overall format but revising some key sentences. It is quite likely that the final paragraph of your cover letters will never change. The central paragraphs, on the other hand, may undergo substantial revision, depending on how different one potential job is from another. Just make sure to always change the name of the potential employer; no matter what the skill level of the potential job, addressing a potential employer by the wrong name is the surest way to remove your application from consideration.

Résumés and cover letters are two documents in an "ecology" of documents related to the employment process: job descriptions, interview questions, the thank-you note you send after an interview, writing samples, and hiring materials are just a few other documents you might find yourself reading and writing as your hiring process moves forward.

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PART XIII

13. COMMUNICATING ACROSS CULTURES

The goal of this chapter is to consider the current cultural perspective where you have been writing and begin to think about readers and colleagues from another culture. This is a start of the conversation, to be sure; it is not meant to be an exhaustive examination of culture(s). Rather, the intent is to start where you are—with a product of technical communication you have created this term, for context, with your own current cultural understanding(s)—and to reconsider your own perspective and how it affects your technical writing process.

This chapter begins with understanding culture as a construct and then examines your own influences and contexts. Later in the chapter, the focus is looking at relationships between cultures and, at times, considering cultural revisions in context of your own writing.

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57. Understanding Culture

Let us begin with this working definition:

Culture consists of the shared beliefs, attitudes, behaviors, values, and assumptions shared by an identified group of people.

In technical writing context, an "identified group of people" could be as identified through prewriting work, as in Chapter 2.1 "Types of Audiences".

Try this

For deeper meaning, revisit the definition italicized above after you read each of the following five items. As you do, think about these in terms of classroom expectations. Then, think about these in terms of any workplace experiences you have. Are there any difference or similarities? How did you learn these conventions?

As you work through this chapter, remember these five things about culture:

1. **It is learned.** Geert Hofstede views culture as consisting of mental programs, calling it *softwares of the mind*, meaning each person "carries within him or herself patterns of thinking, feeling, and potential acting which were learned throughout their lifetime." Similarly, Peter Senge argues that mental models lock individuals and groups into a specific perception about the world. Like a computer, we are programed to act or behave in certain ways. The conscious and unconscious learning we undergo, over time, turns into beliefs that we consider to be valid. We then teach each other that these beliefs are cultural norms, and they are then expressed in our daily lives as behaviors and actions.
2. **It is shared.** Although you may think of yourself as an individual, you share beliefs, rituals, ceremonies, traditions, and assumptions with people who grew up or live in similar cultural backgrounds. It is easier for you to relate to someone who has shared value systems and ways of doing things than someone who does not share the same values. The patterns of culture bind us together and enable us to get along with each other.
3. **It is dynamic.** Culture is dynamic and thus complex. Culture is fluid rather than static, which means that culture changes every day, in subtle and tangible ways. Because humans communicate and express their cultural systems in a variety of ways, it can be hard to pinpoint exactly what cultural dynamics are at play. It is important to pay attention to the cultural context of a communication to understand the depths of its dynamic properties.
4. **It is systemic.** In systems theory, systems are interrelated interconnected parts that create a whole. There are patterns of behavior, deeply rooted structural systems, which are beneath the waterline. What we see at the top of the iceberg are the behaviors; we do not see what contributes to those behaviors. To address the system, one must be able to address the underlining patterns. These patterns, because they are deeply embedded in the system, will take up significant effort, time, and resources. Changes to the system are slow and gradual; visible changes may not appear until months, or even years, later.
5. **It is symbolic.** Symbols are both verbal and nonverbal in form within cultural systems, and they have a unique way of linking human beings to each other. Humans create meaning between symbols and what they represent; as a result, different interpretations of a symbol can occur in different cultural contexts.

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58. Understanding Cultural Context

Before you move forward in addressing other cultures, take a quick survey to see where you identify individually. Erin Meyer, in her book *The Culture Map: Breaking through the Invisible Boundaries of Global Business*, explores not just expectations and understandings informed by culture but also how different cultural context thresholds affect transcultural communication.

For starters, you might take Meyer's self-assessment questionnaire: What's Your Cultural Profile.

Try this

Take a moment to reflect on your results. Is there anything you learned that you did not know about your cultural profile? Is there anything you do not understand about the results? This is a good place to share via discussion with your colleagues about what you found and see if you have any obvious similarities with anyone in your class that you may not have known before.

Now that you have a partial idea of your cultural profile, take a moment to watch these two videos. First, in this YouTube video, Meyer discusses context: "Low Context vs High Context Societies." Next, view this video from Meyer's webpage that discusses "upgraders" and "downgraders" and their role in culture and disagreement: "Lost in Translation."

In technical writing, we often conduct a piece of communication for a given reader, but how often do you think about the primary reader's culture? What would you change the communication if the reader has a different cultural threshold? How much thought do you put into colors, layout, and language? Are there different instances where you need to build a relationship or be more direct, more visual?

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59. Deepening Cultural Understanding

In technical writing, it is further important to understand cultural communication because, like other cultural systems, organizational culture controls the behavior, values, assumptions, and beliefs of organizational members. It is a combination of organizational members' own beliefs and the values, beliefs, and assumptions of the organization. It is the role of the organizational leader, as a change agent, to help create a positive organizational culture that meets the demands of a competitive environment, board and shareholder expectations, and employee career satisfaction.

As a professional communicator in contemporary society, you need to be aware that the very concept of community is undergoing a fundamental transformation.

Try this

Think about two different times you have been part of two different communities concurrently (for example, even different classes in the same term). What were some of the differences in how communication functioned in the respective environments? What affected those differences? Subject? Instructor? Peers? Style of class?

Intercultural and international business communication has taken on a new role for students as well as career professionals.

Global business is more than trade between companies located in distinct countries; indeed, that concept is already outdated. Intercultural and international business focuses less on the borders that separate people and more on the communication that brings them together. Business communication values clear, concise interaction that promotes efficiency and effectiveness. You may perceive your role as a communicator within a specific city, business, or organization, but you need to be aware that your role crosses cultures, languages, value and legal systems, and borders.

However, it is important to know we are still working with human constructs. From the building we erect that represents design values to the fences we install that delineate borders, our environment is a representation of culture, but it is not all that is culture.Culture involves beliefs, attitudes, values, and traditions that are shared by a group of people, as well as the psychological aspects of our expectations of the communication context.

Try this

Pick an assignment from this class that you think might fit for a cultural revision. This might be something you do as an individual or something you select from work a colleague has done.

1. Through research, discussion, or any other method, select a culture that you will want to amend this piece of communication for. In other words, change the culture of the primary reader of your communication.
2. Revisit Chapter 2 "Audience Analysis" from our *Technical Writing* book.

3. Conduct any other research that will allow you to learn more about the changes you might need to make to better allow your new primary reader to take action.
4. What would you change about that document to fit a primary reader from a different culture?

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60. Defining Intercultural Communication

In defining intercultural communication, there are eight components of communication to work with and yet the writer still must represent holistic meaning. It may be tempting to consider only the (1) source and (2) receiver within a transaction as a representation of intercultural communication, but doing so could mean missing the other six components—(3) message, (4) channel, (5) feedback, (6) context, (7) environment, and (8) interference—in every communicative act. Each component influences and is influenced by culture. Culture is represented in all eight components with every communication. In this context, all communication is intercultural.

It may be tempting to think of intercultural communication as interaction between two people from different countries. While two distinct national passports may be artifacts, or nonverbal representations of communication, what happens when two people from two different parts of the same country communicate? From high and low Germanic dialects, to the perspective of a Southerner versus a Northerner in the United States, to the rural versus urban dynamic, geographic, linguistic, educational, sociological, and psychological traits influence communication.It is not enough to say that someone from rural Southern Chile and the capital, Santiago, bothspeak *Castellano* (the Chilean word for the Spanish language), so that communication between them must be intracultural communication, or communication within the same culture. What is life like for the rural Southerner? For the city dweller? Were their educational experiences the same? Do they share the same vocabulary? Do they value the same things? To a city dweller, all the sheep look the same. To the rural Southerner, the sheep are distinct, with unique markings; they have value as a food source, a source of wool with which to create sweaters and socks that keep the cold winters at bay, and in their numbers they represent wealth. Even if both Chileans speak the same language, their socialization will influence how they communicate and what they value, and their vocabulary will reflect these differences.

Take this intranational comparison a step further. Within the same family, can there be intercultural communication? If all communication is intercultural, then the answer would be yes. Imagine a three-generation family living in one house. The grandparents may represent another time and different values from the grandchildren. The parents may have a different level of education and pursue different careers from the grandparents; the schooling the children are receiving may prepare them for yet another career. From music, to food preferences, to how work is done may vary across time; Elvis Presley may seem like ancient history to the children. The communication across generations represents intercultural communication, even if only to a limited degree.But suppose you have a group who are all similar in age and educational level. Do gender and the societal expectations of roles influence interaction? Of course. (Revisit the first **Try This** from "Deepening Cultural Understanding.") And so among these students not only do the boys and girls communicate in distinct ways but also not all boys and girls are the same. With a group of sisters, there may be common characteristics, but they will still have differences, and these differences contribute to intercultural communication. We are each shaped by our upbringing and it influences our worldview, what we value, and how we interact with each other. We create culture, and it creates us.

Try this

Revisit the revised audience analysis exercise from the previous **Try This**. For the target assignment and primary reader of a new cultural context, **If you were to have to resubmit this document in a different culture with a different context threshold, what would you do in the revision?**

Now, take it a step further: If you were a supervisor for this document, and the author / writer were of another culture, how would you make your revision suggestions? How would you communicate those decisions across a different context threshold?

Culture is part of the very fabric of our thought, and we cannot separate ourselves from it, even as we leave home, defining ourselves anew in work and achievements. Every business or organization has a culture, and within what may be considered a global culture, there are many subcultures or co-cultures. For example, consider the difference between the sales and accounting departments in a corporation. We can quickly see two distinct groups with their own symbols, vocabulary, and values. Within each group, there may also be smaller groups, and each member of each department comes from a distinct background that in itself influences behavior and interaction. Now, change that context of a piece of communication leaving your computer. Who will read it? Who could read it? What will your colleagues or readers of another culture take from it—intended or not?

Sometimes, the focus of technical communication is quite easy; the primary reader is clearly targeted through demographic research. But, think about how much more effective, more dynamic, a communication could be if the writer considered the potential cultural perspectives at work when the document is read.

CHAPTER ATTRIBUTION INFORMATION

PART XIV

14. THINKING ABOUT WRITING

Many professionals find that they really learn how to be a writer the first time they have a job and quickly learn that writing is a part of it. They may have a boss who is annoyed at poor writing, or they discover that their colleagues think they are too long-winded in an email, or they discover that a report they wrote is barely understandable according to the conventions (the "rules") of the field in which they are working. In all these situations, the reason a writer finds that they are really learning how to write is that they are getting immediate real-time feedback from a reader–and that is really what distinguishes a lot of the writing that is done in the professions compared to an academic setting.

Unfortunately, this learning process can be a slow one. Although the feedback is immediate, it means that there is not someone necessarily instructing you in how to write. Instead, you yourself must reflect on the reactions that you are getting each time you write and learn how to anticipate those reactions. In other words, you have to become your own teacher.

One of the things you can do to improve your ability to write in workplace settings is to change your mindset. Rather than focus on each individual piece of writing you might need to do, it is worth taking a step back to get a sense of the bigger picture–the context–in which the professional, technical, or workplace writing you need to do takes place. This chapter will teach you to approach learning to write in a new setting as a *writing researcher*, a term that refers to people whose job includes studying why and how people write (and, therefore, how people work and think). This includes technical writers, communications specialists, speech writers, linguists, and rhetoricians, as well as other social scientists.

Why focus on writing researchers? Because the work of these professions can and often is used in developing effective communication and is closely linked to the kind of work that *any* professional whose job includes writing must do in order to be successful (this includes just about everyone!). By approaching writing from their perspective, with their particular "tools of the trade," you will set yourself up to be a successful writer in any context or situation.

First, this chapter will review the important role of *curiosity* in conducting meaningful research. Then, it will define key concepts for research into writing: *genres*, *genre sets*, and *genre systems*. Finally, it will explain various methods that can be used in order to analyze writing in various professional fields.

61. Thinking and writing about your writing: metacognition

Imagine you are an engineer tasked with building a bridge–or an architect tasked with designing a building. In either instance, your job will necessarily entail asking a series of questions designed to solve a problem:

- Who are the users?
- What is the purpose?
- What is the budget?
- What materials do I have available to work with?
- What regulations must I follow?
- Who do I have to work with on this project?
    - Who will offer feedback and/or collaborate with me?
    - Who are the decision makers?
    - Who is potentially impacted by the job I do?
- How much time do I have?

The answers to these questions help you to identify information that is crucial to making smart decisions. Most, if not all, the work that you engage in professionally will demand that you be willing to ask questions (a lot of them!) to do your job well.

You will also likely find–if you have not already done so in your current work–that good answers depend on good questions. *Learning*, whether in the classroom or in a professional setting, is most successful when we open ourselves up to being curious about a problem. It also is most successful when we approach situations as problems, or puzzles, to be solved, as opposed to situations that have a single best answer.

The same mindset that applies to a wide variety of professional work applies to the study of writing as well. The main difference is that for the person studying writing, how writing is composed and used is the puzzle or problem to be solved. In other words, a writing researcher is usually studying the *engineer* studying his/her problem and how they used writing as a part of that process. This is one step removed or an example of "metacognition," which is a term you may have heard. A very basic definition of metacognition is "thinking about thinking."

As a student, you practice metacognition any time you sit down to an assignment and, instead of just completing it, you reflect on what is being asked of you, why it is being asked of you, and how you should proceed in order to get the most out of completing the assignment. Taking the time to think about how a situation is both similar to and different from situations you have encountered before is likely to lead you to an awareness of your own learning and communication habits.

At this point, you might be asking yourself: What does this have to do with a technical writing course? When you write in a technical or professional writing course, you are often, essentially, being asked to *work* as a writing researcher. While in some instances you could be putting together a resume for future use on job applications, more often you are not completing assignments that correlate *directly* to some professional work you are doing. In other words, you are writing and examining texts in one context (the classroom) that are actually intended for use in another (the workplace).

It makes sense, then, to spend some time thinking about how you can apply what you learn in one to the other. After all, you all are likely already in or plan to pursue very different careers from one another, and one technical writing course cannot possibly cover every kind of writing you will need to know how to do. What a technical writing course can offer you, though, is a plan for learning all those kinds of writing more quickly, effectively, and efficiently. In the following sections, you will find an overview of different methodologies and principles that underlie the study of writing; such methodologies and principles can comprise a kind of "toolkit" that you can take with you to whatever profession you are pursuing–or that you are currently working in right now.

CHAPTER ATTRIBUTION INFORMATION

62. Studying Genres

The previous section outlined some key terms and definitions for the study of writing. This section builds on that by providing an overview of research tools that can be used to better understand writing-in-context. Some of these tools–like an interview–may seem more familiar to you than others (such as genre analysis). At the same time, an activity you probably engage in every day–observation–achieves importance when done in the context of research and analysis.

Genre/Textual Analysis

If genres are the key object of study for writing researchers, then genre *analysis* is the key tool for studying those objects–for unlocking their meaning. While it is true that we can learn a great deal about genres by observing people using them and even asking their users about them (which I detail in the next section), there is often important meaning that goes unnoticed by the producers and users of a genre. This meaning is what writing researchers try to access by studying the genres themselves. To put it another way, genres often have embedded in them a kind of code or shorthand that can reveal important information about the context in which they are used. As someone learning to write in that context, such information can help you to advance in your writing skills more quickly.

The following questions can get you thinking about (and taking notes on) how you would *describe* a sample text, by focusing on its *content*, its *form*, and its *presentation*:

- Questions of Content
  - Who and what is referenced in the document?
  - What information is included in the document? How much?
  - What is the rhetorical purpose of the document?
- Questions of Form
  - How is information organized, from beginning to end? In other words, what appears where?
  - What kinds of sentences are used (questions, statements, commands, etc.)?
  - What do you notice about the kind of language that is used?
  - How would you describe the tone of the writing?
  - How does the text use rhetorical appeals (ethos, pathos, logos)?
- Questions of Presentation
  - Are section headings used in the document?
  - Does the document include text only, or text and images? What is the layout like?
  - What font size and style is used?
  - How would you describe the "look" of the document?

Figure 1 provides a sample police incident report and is followed by some notes you would be likely to make based on the suggested questions above. Alternate formats: Word version of incident report; PDF version of incident report.

1. Agency	2. Div/Precinct	New York State INCIDENT REPORT	3. ORI	5. Case No.	6. Incident No.
SUNY NP PD	SUB		NY0550400	12-0386	75240

7,8,9. Date Reported (Day, Date, Time)	10,11,12. Occurred On/From (Day, Date, Time)	13,14,15. Occurred To (Day, Date, Time)
WEDNESDAY 04/04/2012 13:25	WEDNESDAY 04/04/2012 13:10	WEDNESDAY 04/04/2012 13:15

16. Incident Type	17. Business Name
DISTURB.-NEIGHBORHOOD TROUBLE	SUNY NEW PALTZ

19. Incident Address (Street Name, Bldg. No., Apt. No.)
SUB BLDG 39

20. City/State/Zip
NEW PALTZ NEW YORK 12561-0000

21. Location Code (TSLED)	23. No. of Victims	24. No. of Suspects	26. Victim also Complainant?
NEW PALTZ VILLAGE 5622	0	0	No

Location Type
COLLEGE

Figure 1: Incident Report. Image credit: "University Police report" by State University of New York University Police Department at New Paltz is in the Public Domain

ASSOCIATED PERSONS

25. TYPE	Name (Last, First, Middle, Title)	DOB	Street Name Bldg., Apt.No., City, State, Zip	Res Phone Bus Phone
PERSON REPORTING	, ASHLEY A			
PERSON INTERVIEWED	GRIFFIN, ROBERT			
PERSON INTERVIEWED	PEREZ-ROGERS, RALPH			

NARRATIVE

Date of Action	Date Written	Officer Name & Rank
04/04/2012	04/04/2012	KELSEY, JENELLE (PO)

Narrative

ON THE ABOVE DATE AND TIME, PO KELSEY RESPONDED TO THE STUDENT UNION BUILDING BASEMENT LEVEL NEAR RM62 FOR STUDENT DEMONSTRATORS. UPON ARRIVAL SPOKE TO F/S ASHLEY , WHO STATED THAT A WHITE MALE LEADING THE FOCUS GROUPS IN ROOM 62 FOR SODEXO RIPPED UP ONE OF THEIR SIGNS.

PO KELSEY SPOKE TO MR ROBERT GRIFFIN THE DISTRICT MARKETING MANAGER FOR SODEXO WHO STATED, THE FIRST GROUP IN HIS MORNING SESSION WAS DISRUPTIVE AND HAD THEIR OWN AGENDA. MR GRIFFIN ADMITTED TO BEING FRUSTRATED WITH THE DEMONSTRATORS POSTING PAPERS ON THE WINDOWS OF THE CLASSROOM AND DID RIP UP A SIGN. GRIFFIN REALIZED THAT HIS BEHAVIOR WAS NOT APPROPRIATE AND APOLOGIZED TO MS DRZYMALA AND THE OTHER STUDENTS. MR ROBERT GRIFFEN WAS ADVISED THAT THE UNIVERSITY DOES NOT CONDONE THAT TYPE BEHAVIOR AND WILL NOT TOLERATE IT FROM A VISITOR TO OUR CAMPUS.

RALPH PEREZ THE GENERAL MANAGER FOR SODEXO WAS IN THE AREA AND ADVISED OF THE INCIDENT. MR PEREZ TO HANDLE THE SITUATION THROUGH CORPORATE.

Case Study, Part One: Notes on the Incident Report

- Content
  - When the incident occurred
  - Where the incident occurred
  - Who was involved

- How many were involved
    - Who was interviewed
    - What happened (narrative)
    - Which precinct is responsible for investigating
    - Type of incident, people involved (victims/suspects), and location
    - Filing information (case and incident numbers)
- Form
    - Three distinct sections
    - Logistical info appears first, “associated persons” appears second, narrative of the event appears third
    - Narrative uses simple declarative statements, typically with *people* occupying the place of *subject*
    - Use of verbs is active but primarily neutral, with a focus on communication that transpired (“responded,” “spoke,” “admitted,” “realized,” “advised”), with two instances of the use of passive voice (“was advised”)
    - Narrative is described with a neutral tone and feels formal
    - Focus of narrative is on *actions* taken that
    - Narrative is described in chronological order, beginning with officer responding to incident, moving through the incident, and providing information on follow-up
- Presentation
    - Items used for referential or filing reasons are *numbered*
    - Information is organized into boxes and tables
    - Each section is clearly labeled
    - Abbreviations are used throughout
    - Report is typed

After you have answered these questions, it is time to start looking for patterns and connections that will help you draw conclusions about what these features mean. Doing so involves a kind of creative thinking that is best done by someone who has been involved in studying or practicing the profession under investigation. Generally speaking, it is best to give some consideration to how the features of a particular genre might be connected to goals, objectives, and values of a particular position, organization, and/or context, since it is that context that produced the need for that genre in the first place.

Case Study, Part Two: Analysis of the Incident Report

The content, form, and presentation of the police incident report form work together to present a *verifiable*, *objective* account. Used internally, the design of the form helps to create uniformity by directing the officer to include the information that is likely to prove most salient for police purposes and for easy retrieval should future incidents occur. This streamlined approach to documentation keeps the focus on material and factual evidence, which clearly relates to the fact that this is a document that may be used in a legal context.

Generally speaking, a document that pays little attention to design, but has a great deal of detailed content, might derive from a situation where people place heavy emphasis on the development of ideas but don't necessarily need to *act* on those ideas; on the other hand, if a document makes heavy use of section headings in order to direct the reader more carefully, it might suggest a need for greater efficiency of time and/or a number of readers with different background knowledge. Of course, there are genres that will do both: include a great number of complex ideas, neatly organized into easily accessible sections. No matter what you find, there is an interpretation to be discovered and explained with evidence from the text itself. The connecting of evidence to interpretation/conclusion *is* genre analysis.

[Genre Analysis Essay video without captions; Genre Analysis Essay video with captions]

Interviews

Here are some general advice and reminders for getting organized to conduct an interview:

- Practice good manners when scheduling the interview. This is an opportunity to practice being professional in your communication: everything you know about audience analysis should come into play as you request someone's time and input.
- Be sure to practice your interview questions ahead of time. Questions that seem straightforward to you might not be clear to someone else; alternatively, they might clearly call for a different kind of answer than what you anticipated. The best way to know is to practice them on someone who is *not* your intended interviewee. Then, revise accordingly.
- Request permission to record the interview. You will be glad to have a record to return to if your interviewee says yes. Whether or not you record the interview, though, be sure to take notes in the interview (this is something you can and should practice in your practice interview as well). Recording devices can fail; writing during the interview can also help you to focus on what your interviewee is saying and to think of new, sometimes clarifying questions, as the interview proceeds.

Observation

Another powerful research tool is simply observing *where* the writing of a particular profession takes place. The values of a company or organization, the expectations they hold for their employees and various working conditions are often on display if you only look for them. For example:

- Is the workplace open to the public, or does it require secure entry?
- Do people work in offices or cubicles? Or maybe there is no individual work space at all?
- How many meeting rooms are there? How big are they?
- Are people milling around, or are they mostly on computers?
- How is the workplace decorated?
- What is the dress code?

The answers to these questions can lead to new insight regarding how genres are used and produced and help develop new questions for you to consider. Furthermore, observation also helps with *imagining* texts in use, which is so crucial to an effective analysis of your audience.

Genre Ecology Maps

A Genre Ecology Map, or GEM, is a visual representation of genres in action, interacting with one another. Let's consider an earlier example: the job description. We could explain, using words, that the job description leads to job applications, which (often) lead to interviews and background checks, the hiring of an individual and all the associated paperwork, as well as training materials. But if we wanted to represent that visually, it would look something like Figure 2. Alternate formats: Word version of Job Application GEM; PDF version of Job Application GEM.

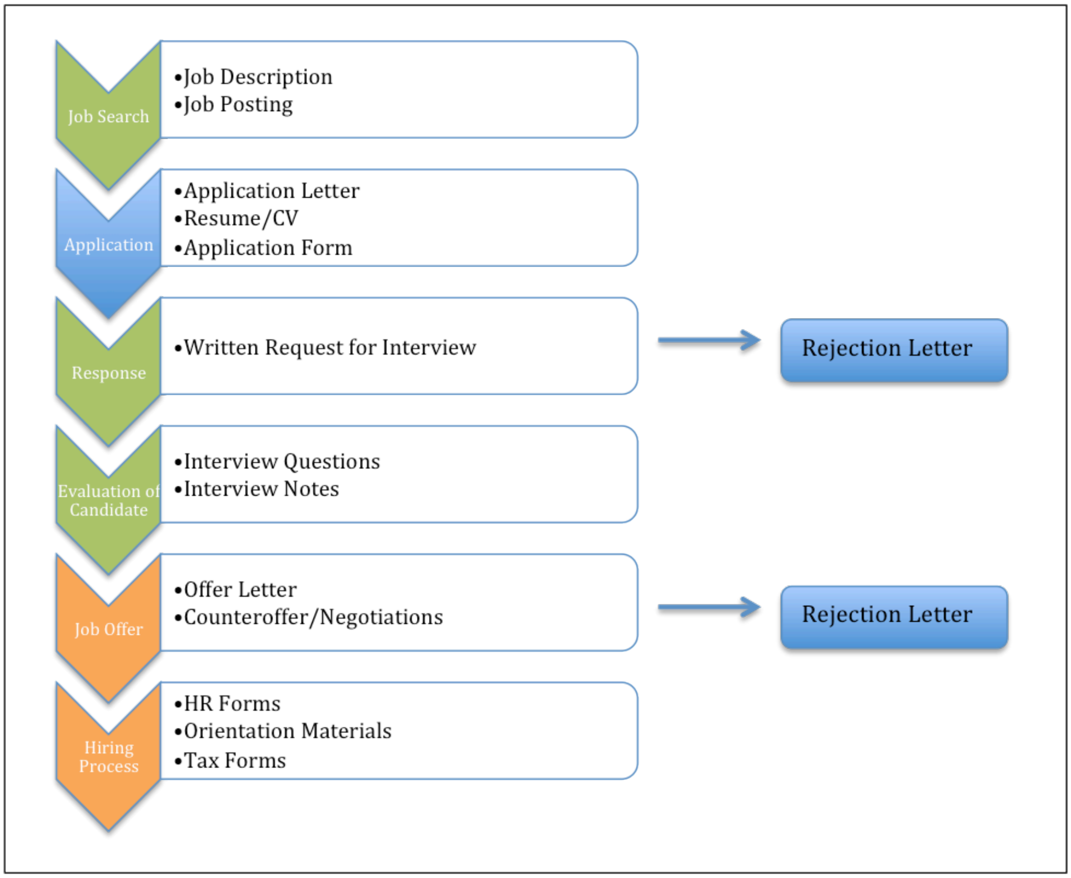

Figure 2: Job Application GEM

All of a sudden, with a visual illustration, we have a slightly different understanding of the complexity involved in the production and circulation of different kinds of writing. Figure 3 provides another example, one that captures the intersection of different writers, positions, and stakeholders (put another way: the intersection of different genre sets in the college classroom). Alternate formats: Word version of Classroom GEM; PDF version of Classroom GEM.

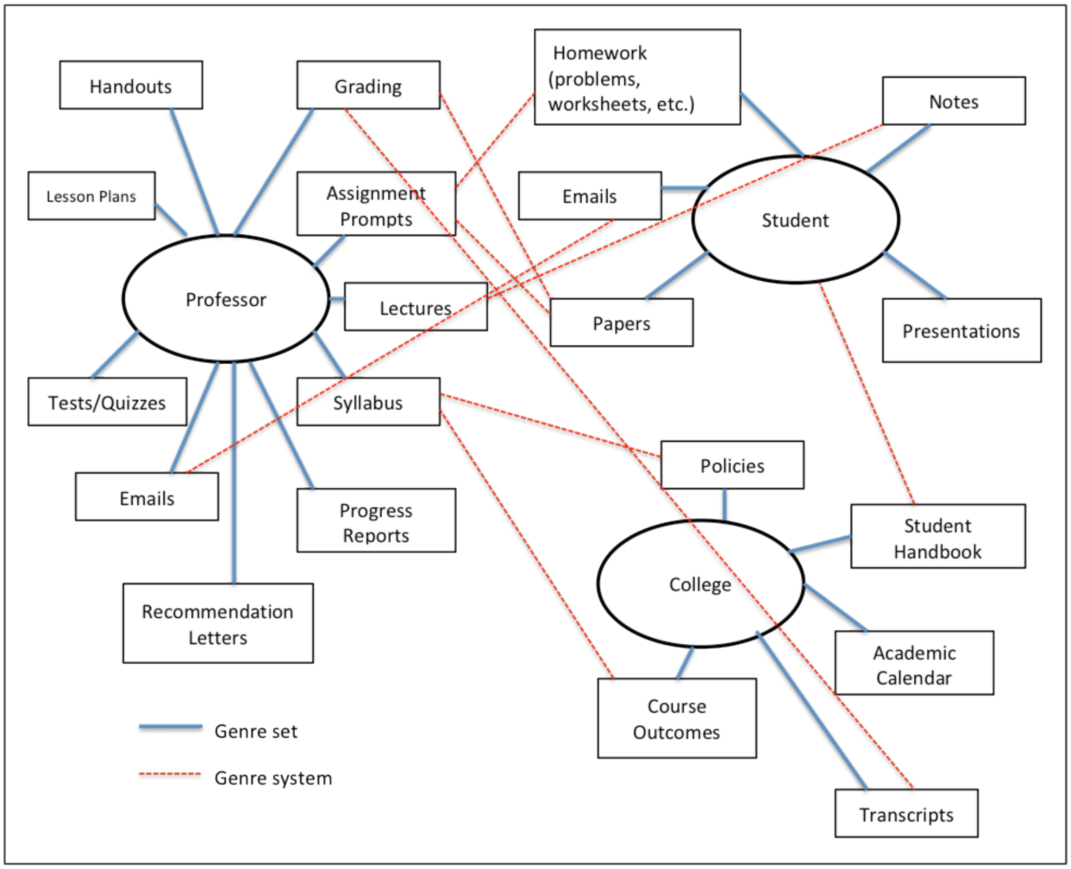

Figure 3: Classroom GEM

Particularly if you are a visual learner, maps like those above can help you to "see" genres in a way you might not otherwise and to reinforce what I have noted in sections above about how writing is not static but actually performs "actions" in various workplace settings.

15. Model formal report

Bennett and Bingham, Inc. (BBI)

2300 Darcy Ave

Austin, TX 78705

December 12, 2019

Bennet and Bingham, Inc.

2300 Darcy Ave

Austin, TX 78705

Dear PWG Managers,

Attached is the formal proposal, "Sustainability Dispute Resolution," submitted in accordance with my agreement with CEO Gracie Allen and COO George Burns. I expect that this report will help you inform the PWG members about sustainability to get them on board with the proposed sustainability changes to solve the current dispute.

As directed, the report addresses the PWG managers and member concerns raised. My work has been monitored by George Burns and this report is structured in accordance with the outline that he approved. I appreciate your cooperation as BBI works through addressing this difficult issue.

Sincerely,

PR *Operations Manager*

____

PROPOSALS FOR ADDRESSING SUSTAINABILITY DISPUTES AT BBI

Prepared for the Project Working Group Managers

Prepared by , Document Manager, Research Division

December 12, 2019

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Executive Summary

CEO Gracie Allen believes that the organization should become more sustainable. Before implementing such changes, she wants to get a consensus from BBI employees to make sure they stand behind the proposed changes. Her proposal has caused pushback from the PWG members because they believe sustainability is just a PR issue, it will cause an added burden to their workload, and they are apprehensive about the new CSO position because they are professionals who do not need to be watched over. This report address the PWG member concerns with credible research from a variety of sources to convince the PWG members to support the sustainability initiative.

The PR issue is addressed with research from published professional journals and technology news media outlets to prove that sustainability has a direct connection to other areas beyond PR. These sources show how sustainability is linked to circular economic principles and the financial outlook of BBI as a strategy for lowering manufacturing costs.

Second, the burden issue is addressed by acknowledging that sustainability will in fact cause an added burden on PWG members, but it cannot be avoided because it is too important of an issue for BBI to ignore. Research exemplifying its importance to BBI's customers and competition proves its relevance to the PWG members.

Third, the CSO issue section begins with a discussion about how a majority of the added burden previously mentioned will be alleviated through the creation of this new position. Additionally, the PWG member concern that this new employee will watch over them is addressed by explaining the flexible job description of the CSO, so BBI can ensure that this employee will not assume a managerial role. Finally, the CSO issue is concluded with evidence of how CSO's have helped other companies save money, to illustrate to PWG the types of benefits BBI can experience from hiring a Corporate Sustainability Officer.

Overall, this persuasive research directly addresses the concerns of the PWG members to convince them to support Allen's sustainability initiatives because it will allow BBI to improve our economic and financial standing, appeal to customers and compete against others in the business, and hire a new employee dedicated to working on these issues so that BBI can experience the same benefits that other companies have from engaging in more sustainable practices.

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Introduction

The purpose of this final report is to persuade the PWG members to support the sustainability initiatives by providing them with arguments based on credible research. This report will address the PWG member concerns about the sustainability initiative proposed by Gracie Allen. The first concern this report will address is the PR issue with evidence of the economic and financial impacts of sustainability. Second, the burden issue will be addressed through research that proves its importance to the PWG members by way of customers and competition. Finally, this report will address the CSO issue by detailing that it is not an added burden, it is a defined position, as well as evidence of other companies with a CSO.

The Public Relations Issue

- Problem

The PWG members believe that the only reason that Gracie Allen is pushing the new sustainability practices is to maintain the company's positive public relations. For this reason, they believe that this initiative is not of their concern, as they are not working under the PR department. Based on research, I will show PWG members that sustainability is an issue that encompasses much more than PR through sources that show it is an economic and financial issue.

- Economic Argument

Sustainability is not just a PR issue, in fact, it is also a practice that will affect BBI's economic utility. By converting to sustainable packaging of its products, BBI will engage in circular economy principles which means that products and materials will be at their highest utility and value, which is cost effective for the company as a whole (Steenis, Van Der Lans, Van Herpen, & Van Trijp, 2018, p. 854). Circular economy as defined by the World Economic Forum as an " industrial system that is restorative or regenerative by intention and design and aims for the elimination of waste through the superior design of materials, products, systems and business models" (You Matter, 2018). In other words, sustainable packaging is one way that BBI can engage in circular economic principles that will work to reduce our costs associated with manufacturing, such as waste and energy expenses. By reducing waste and energy used in our packaging process, BBI can save money and in turn increase our profits. These economic benefits that BBI can experience from engaging in more sustainable practice shows that sustainability's positive effects go beyond the realm of PR. Not only can BBI gain more positive PR by engaging in sustainability, it can also give us an economic advantage.

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- Financial Argument

As previously mentioned, Manufacturing costs are a financial issue for BBI that sustainability will impact. The economic benefit and financial benefit BBI can receive from sustainability practices are directly linked. Currently, PWG members believe sustainability is of no interest to them, however, cost and BBI's bottom line is a concern for all BBI employees. There is a common misconception that the implementation of sustainability practices is costly. However, according to author and manufacturing expert, Mark Albert, "Saving the planet and making a profit are not in conflict or irreconcilable. They are, in fact, complementary impulses that can propel manufacturing into a safer, greener, more sustainable level of operation" (Albert, 2016, p. 18). This quote explains the rationale behind BBI's push for sustainability in that becoming more sustainable is not just a recurring cost that BBI is looking to take on, rather it is an investment our organization is looking to make in order to operate more sustainably to increase our profit margin. While initial investment to redesign packaging may be costly, the long term cost of manufacturing sustainable packaging will be lower in comparison to current packaging methods making it a worthwhile investment of BBI's hard earned assets. So, although the initial costs associated with redesigning packaging may be expensive, in the long run it is more cost effective because it will cut manufacturing costs in BBI's factories.

Overall, this research gathered from published professionals and technology news media outlets, should prove to PWG members that sustainability encompasses other departments besides Public Relations, as it is clearly linked to BBI's economic and financial success.

The Burden Issue

- Problem

The PWG members complain that their current workload is putting them under enough stress as it is, and are hesitant to get on board with Allen's sustainability initiative because of the perceived burden that sustainability will add to their existing workload. In this section, I will address that sustainability may be an added burden, but it is worthy of PWG employee concern because of the impacts it will have on our customers and competition.

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- Importance to PWG Members Argument

While implementing sustainability at BBI may be an added burden, it is important for PWG members to be concerned with these practices because it directly effects our customers and competition, two groups that should be of every BBI employees' concern.

- Customers

Those in opposition to implementing sustainability believe it is a waste of time for companies to spend time and money on something that customers do not even care about. Customers are concerned with paying the cheapest price for their products, so companies do not need to be bothered with how much energy goes into packaging our products, because it is not something that is consistently factored into their purchase decisions (Laughland & Bansal, 2011, p. 3). While this may have once been the case, the behavior of consumers is changing, in fact the above source is from 2011 because it is hard to find an argument against sustainability in 2019 because research shows that it is on consumers' minds. Consumers today are doing more research and being more conscious about the environmental effect their purchases have which is why sustainability is a current consumer buying trend that BBI needs to adopt in order to maintain our loyal customer base. Forbes described five key consumer buying trends, three of which can be addressed through adopting sustainable packaging. Customers are searching for green products, prioritizing values, and looking for differentiation from companies on attributes other than price which are features BBI can deliver on if we adopt the proposed sustainability practices (Barr, 2019). Forbes magazine is not the only observer of these market trends, in fact a professional research study published by Global Cosmetic Industry found that "54% of shoppers claim to consider elements of sustainability when selecting both products and stores" (Scherer, 2012, p. 50). As a company we cannot afford to ignore this large percentage of the consumer population that is looking for more sustainable products to purchase. This should prove to PWG members the sense of urgency that BBI is faced with to move forward with sustainability practices. Put simply, if BBI does not address the concerns of the customer, we will lose customers and profits, so while this may be an added burden it should be an area of concern to all PWG members. A third reason sustainability is important to BBI's customer relations is because a company's brand image is closely tied with its sustainability practices, so it would be in BBI's best interest to invest it it's future by committing to sustainable packaging.

A marketing study found that consumers have a positive attitude towards sustainably packaged products and associate products packaged sustainably to be of higher quality (Steenis, Van Der Lans, Van Herpen, & Van Trijp, 2018, p. 854). This article provides research that supports BBI's sustainability initiatives and proves that it will help the company as a whole maintain its completive edge and positive reputation. Customers are essential to BBI's profitability and our livelihood as a company. The future of BBI should be every employee's concern, and one of the best ways to ensure a profitable future is to maintain our loyal customer base. BBI can maintain our loyal customer base and continue to deliver quality products by initiating more sustainable practices because sustainability is a key attribute consumers are looking for in their products.

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- Competition

Sustainability is a concern that our competition has made strides to address, and BBI needs to take similar action in order to stay relevant in this competitive industry. As a seller of office products, BBI's main competitor is Staples. On their corporate website, Staples details their sustainability practices in terms of packaging. In 2012, Staples launched a "Smart-Size Packaging System" that allows them to reduce their carbon footprint as a company (Staples, 2019). Since 2011, they have decreased the packing materials used for shipping by 8% and it is their goal to get to 20% by 2020 (Staples, 2019). Since Staples is our main competitor, BBI cannot afford to ignore their actions to become more sustainable. In order to compete, BBI must match Staples' efforts in sustainability, as it is an important value consumers are looking for in the brands and products they purchase.

While adding sustainability may be an added burden to PWG current workload, it is important for BBI to address in order to stay relevant in this industry, as it is something that our customers are looking for and our competition is aiming to deliver on. When posed with the option between buying from BBI and our competition, we want customers to choose BBI and feel satisfied that their purchase meets their expectations and standards. Ultimately, BBI must adapt to the changing market tastes or risk losing our loyal customer base to our competition.

The CSO Issue

- Problem

Many PWG members are unfamiliar with the CSO position and worry that if BBI moves forward with hiring one, they will feel like they are being babysat while they do their job. The PWG members are offended at the idea of hiring a CSO because they are competent, responsible professionals who do not need a new employee telling them what to do. Based on research of the CSO, I will address how this new employee can help with the burden issue under a specific job description that doesn't put this individual in a managerial role, and how other companies have succeeded with the help of a CSO.

- Not a Burden Argument

As previously discussed, sustainability will be an added burden on PWG members. However, hiring a CSO ensures that one person is dedicated to thinking about sustainability, taking much of the burden off the individual employee. According to Inc., hiring a CSO can help companies gain the competitive edge, without adding a burden to the current employees (Kline, 2014) . Hiring a CSO ensures that one person is dedicated to thinking about sustainability, taking much of the pressure off the other employees (Kline, 2014). PWG members can be assured that by implementing these sustainability practices they will not receive added unnecessary burden to their current workload because the CSO will take on the added work.

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- Defined Position Argument

The job description of a CSO can be tailored to BBI specifically to ensure that the PWG members do not feel like this new employee will assume a managerial role. The job description of a CSO tends to vary from company to company, so BBI can specifically decide what makes sense for the CSO to do within our organization. Serafeim and Miller, two business professionals, surveyed nearly seventy CSOs and found that their primary job duties are usually to help companies in one of the following stages: compliance, efficiency and innovation (Gerdeman, 2014). Compliance refers to the beginning stages of their work in which a CSO helps make sure the organization is compliant with industry sustainability regulations (Gerdeman, 2014). Second, efficiency is about finding ways to save the company money through becoming more sustainable (Gerdeman, 2014). Finally, innovation is the more advanced stage in which sustainability becomes a company core value and a long term view is taken with the goal of maximizing profits and influencing world change (Gerdeman, 2014). Using these concepts as a guide for defining the CSO job description, BBI can explicitly define what the CSO can do for our organization regarding sustainability so that it works within the current company structure. The CSO will be concerned with sustainability, not the management of employee's, so PWG members can be assured that they will not feel as though they are being babysat by this new employee.

- Examples of Companies with effective CSO

There are many companies that have seen success from hiring a CSO including our competition Staples, as well as many other well-known companies such as Google, Nike, MasterCard, Target, and Ikea (Townsend, 2018). Our closest competition, Staples, has had Jake Swenson as their Director of Sustainability for eight years. During this time he has focused on corporate sustainability and has implemented the service that Staples now offers called Staples Advantage. Through this program your company can hire a Staples sustainability representative to help the organization find sustainable solutions, eco-conscious products, green expertise, and reporting tools (Staples, 2019). One company Swenson worked to help was the University of Colorado. His challenge was to reduce cleaning costs without sacrificing performance, and his work lowered their costs by 23% (Swenson, 2012, p.29). Additionally, Swenson was also hired by the State of Kansas and he was able to lower their costs by 30%. (Swenson, 2012, p. 30). Staple's work with the University of Colorado and the State of Kansas is just a small example of what a CSO could offer to BBI. Through hiring a CSO to look at our spending habits and implementing more sustainable practices, BBI can save money and increase our profits. Sustainability will give BBI the opportunity to increase our profits and put us in good standing against our competitors in an industry aimed at becoming more sustainable. Other organizations have seen substantial costs savings from introducing more sustainable practices to their businesses, and BBI can experience similar benefits as these other companies by hiring a CSO.

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Conclusion

PWG members should get on board with Allen's sustainability initiative because sustainability should be every BBI employees' concern as it effects our economic and financial standing as well as greatly impacts our customers and competition, and therefore our profit. Customers are looking for more sustainable brands and products and our competition is aiming to deliver on this attribute, so we may be at risk for losing our valued consumers if we do not adapt to their changing evaluative criteria. Naturally, all these changes seem to warrant an added workload to the PWG members, but they can be assured that by hiring a CSO, the sustainability issues, practices, procedures and protocol will all be dealt with by this new BBI employee, who will be focused on sustainability, not the management of PWG members. For these reasons I urge the PWG members to be concerned about sustainability and support BBI's initiatives so that as a company we are setting ourselves up for a successful and profitable future.

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16. Model short report

ACME WIDGET CORPORATION

MEMORANDUM

TO: Lynn Harris

Vice President for Human Resources

FROM: Harry Edwards

Director of Personnel

DATE: February 1, 2020

RE: Absenteeism

INTRODUCTION

At the recent managers meeting there was lengthy discussion about our absenteeism policies. The current practice is to permit each manager to establish and implement his or her own policy. Discussion last week, though, indicated that the disparities among policies, and in their enforcement, was very great. Some managers were concerned about the appearance of fairness and about employee morale. There was also disagreement over whether absenteeism was so serious that we need to respond at all. You agreed to look into the problem.

When you and I met, you requested that I investigate employee absenteeism at Acme to determine if there is a serious problem, and if so to submit a report recommending a solution. Based on my investigation and research, I recommend that you approve the creation of an absentee policy at Acme, specifically the one known as the bonus policy. That policy will most effectively address the growing absenteeism problem we have at Acme at the least cost and the most benefit. This report will discuss why I believe the problem is serious enough to justify the policy, and then it will compare the three available policies to show why the bonus policy is the best one to address the problem.

ABSENTEEISM PROBLEM AT ACME

There is no simple definition of what makes absenteeism serious or not. I have determined that Acme's employee absenteeism problem is serious enough to require that we take action, for two reasons. First, absenteeism at Acme is growing sharply, and second, absenteeism at Acme is high compared to other companies in our industry.

Rate of Growth. According to the Personnel Office's daily absenteeism reports, from 1995 to 2010 absenteeism in all our divisions averaged a steady 2.2% of work hours, substantially lower than the industry norm.
Beginning in 2011, however, absenteeism began a steady rise, as the following table shows.

2010 2.2%

2011 2.3%

2012 2.6%

2013 2.9%

2014 3.5%

2015 3.7%

2016 3.9%

2017 4.1%

2018 4.2%

2019 4.4%

Note the especially sharp rise since 2013. The Personnel Office has not found a specific cause for this, though it corresponds to an expansion of Acme's workforce after the 2012 mergers.

Absenteeism at other companies. Other companies on average have lower absenteeism than Acme. At companies in our industry, absenteeism has averaged a steady 3.3% since 1990. But there's an interesting difference among the ten companies I investigated. Five of those companies have formal absenteeism policies, and their absentee rates are 2.1%, 2.2%, 2.4%, 2.4%, and 2.6%. The five companies without absentee policies have rates of 3.2%, 3.3% 3.3%, 3.5% and 3.5%. (Jones, 2018) The complete results of the research and analysis of the data are in the appendix to this report.

AVAILABLE POLICIES

It appears, then, that adopting an absentee policy would effectively solve Acme's absenteeism problem. Of the three policies widely used in the industry (Smith, 2012), the bonus policy seems the most effective for the cost, compared to the other two.

> **1. Bonus policy.** The bonus policy provides a bonus to workers who do not exceed five absences a year. Companies using this have an absentee rate averaging 2.4%, and their productivity is 2% above industry norm, apparently because of financial incentive (Smith, 2017). The policy would be the least expensive to administer, costing an estimated $200,000 a year (factoring in savings from the rise in productivity) (Acme CFO estimate, 2019).
>
> **2. Discipline policy.** The discipline policy penalizes workers for absences. The penalties range from one point for an absence with documented excuse to six points for a no-excuse absence. Forty points in 12 months means being fired. Companies with this policy have an absentee rate averaging 2%, but because of its severity morale is low and productivity is 1.5% below industry norm (Smith, 2017). This policy would cost about $470,000 a year to administer (factoring in the lower productivity) (Acme CFO estimate, 2019).
>
> **3. Job enrichment policy.** The job enrichment policy makes workers feel part of the company. They meet with managers to discuss problems and make suggestions. They are given bonuses for improved productivity and useful suggestions. Companies with this policy have a 3.1% absentee rate, but because morale is so high productivity is 4% above industry norm (Smith, 2017). It costs about $410,000 a year, factoring in rise in productivity. (Acme CFO estimate, 2019).

CONCLUSION

For the reasons given in this report, I believe you should approve the bonus policy for Acme. It would effectively address the growing absentee problem at the least expense, and with minimal impact on morale and productivity. It would also put our absenteeism in line with other companies in the industry that also have such a policy. I would be happy to meet with you to discuss this further. I'm available most mornings before 10:00.

If you would let me know of your decision within the next two weeks, I can bring it up with the department managers at our regular “third Wednesday” meeting.