

# Introduction to Academic Writing



# Introduction to Academic Writing

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EDMONTON, AB



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# Abstract

*Introduction to Academic Writing* is a Canadian open educational resource designed to help first-year university students understand and navigate the principles and practices of academic writing in the age of Generative AI. Written by Dr. Nancy Bray, the textbook adopts a research-informed approach that emphasizes writing as a human, social, and rhetorical activity. The textbook is organized into five major sections, introducing students to the purpose of human writing, the writing process, academic writing conventions, working with sources, and key rhetorical strategies. Special attention is given to responsible and ethical uses of Generative AI, the development of rhetorical strategies, and the adaptation of writing for disciplinary contexts. This resource is suitable for students writing at the university level for the first time.

# Land Acknowledgment

*Introduction to Academic Writing* was written on Treaty 6 territory, the traditional lands of the First Nations and Métis peoples.

Welcome to *Introduction to Academic Writing*. This textbook explores writing as a human phenomenon, focusing on the principles and practices of academic writing at the post-secondary level in Canada. It is written for the age of Generative AI, and several chapters explicitly explore the impact of this emerging technology on writing.

*Introduction to Academic Writing* takes a pragmatic approach to writing, informed by current scholarship in the field of writing studies. Guiding the development of this textbook were the following principles:

- Writing is an inherently human phenomenon, but Generative AI will change how we approach writing tasks. Students need to know how Generative AI works and how to use it responsibly and effectively. Students should be aware of the potential dangers of Generative AI technologies, such as learning loss and the potential disruption to social relationships and institutions.
- Writing is difficult for many writers. Writing – and especially academic writing – is a complex cognitive process closely related to critical thinking. Successful writers cultivate a growth mindset that enables them to navigate these complexities. Understanding the writing process – particularly the need for feedback and revision – also helps writers manage the challenges that writing poses.
- Writing is a social activity. Understanding the social nature of writing enables us to make strategic choices, even in academic writing. This textbook highlights discourse and disciplinary communities at the university and their different approaches to academic writing.
- Writing is a rhetorical activity. Writers write for particular audiences to attain specific goals. Identifying and mastering particular rhetorical strategies or moves in academic writing makes the process of learning this type of writing less daunting.

## Who Is This Textbook for?

This textbook was created for WRS 102: Writing in the Disciplines at the University of Alberta. It is suitable for first-year university students who have basic knowledge of argumentative writing and are writing at the university level for the first time. It is suitable for first-year writing or composition courses in writing or academic writing.

Writers who face particular challenges with academic writing may find this textbook helpful as a guide.

Other authors and instructors are welcome to adopt and adapt this material, provided they do so in accordance with the provisions of the [Creative Commons Attribution-NonCommercial 4.0 International](#) license.

## What Will You Find in This Textbook?

The textbook is divided into five sections and a conclusion.

In the first part of the textbook, we explore writing in general. [Section 1: Why Do We Write?](#) introduces students to essential questions about human writing in the age of Generative AI. [Section 2: The Writing Process](#) provides students with a comprehensive understanding of the writing process from idea generation to proofreading.

In the second part of the textbook, we focus on academic writing. In [Section 3: What is Academic Writing?](#), we examine the key characteristics of academic writing and its relationship to the university's goal of advancing human knowledge. In [Section 4: Working with Sources](#), we look in depth at one of the defining features of academic writing—integrating the voices and ideas of other writers. The chapters in this section help to build skills related to finding, evaluating, and integrating academic sources. The final

section, [Section 5: Important Moves in Academic Writing](#), covers some additional strategies necessary to master academic writing.

The textbook concludes with a list of key takeaways for writers.

## Who Wrote This Textbook?

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The author utilized two large language models (Perplexity and ChatGPT) to develop ideas, verify that nothing significant had been overlooked, and refine the learning objectives for each section. Grammarly was used to correct grammar and punctuation errors.

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This OER textbook is:

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- designed to be accessible using standard web browsers, mobile devices, screen readers and other assistive technology
- available in multiple formats
- printable
- downloadable

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- Use an app for notetaking and highlighting on your mobile device.
- Use notetaking software like Evernote, OneNote, or Google Keep.
- Download a PDF version of the textbook and use software like Acrobat Reader or OrbitNote to highlight and take notes. University of Alberta students can access [OrbitNote](#) for free using their CCIDs and passwords.

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Remember to review the privacy and security options for any software or apps you install on your device.

## Common Text-to-Speech Tools

### *Read & Write*

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### *Adobe Acrobat: Read Out Loud*

Adobe Acrobat offers a read-out-loud feature for PDFs. To learn more about this feature, visit the page “[Conveniently hear PDF files read aloud.](#)”

### *Android Devices: Select to Speak*

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### *Apple Devices: SpeakScreen*

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On a Chromebook, you can use [ChromeVox](#) to hear text on your screen read out loud.

## How to Print the Textbook

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# Acknowledgements

One of the key messages of this textbook and its companion course is that writing is rarely a solitary activity. It is always a collaborative effort between the writer, readers, and designers, not to mention the friends and colleagues who happily listen to us hash and rehash our ideas and pull us through our despair.

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# SECTION I: WHY DO WE WRITE?

## Overview

To begin, we will explore writing as a general phenomenon in Section 1. What makes writing a human activity? Why is writing so hard for so many people? How can we change our attitude toward writing (with the hope of making it easier)? How should we use emerging technologies like Generative AI to help us with writing?

## Learning Outcomes

In this section, you will learn to:

- Explain the purposes and motivations behind human writing across various contexts
- Define growth mindset and apply this concept to writing
- Identify common writing challenges and strategies to address them
- Describe the functions of Generative AI and analyze its impact on writing processes
- Evaluate the ethical implications of using

### Generative AI in writing

- Develop prompts to use Generative AI tools effectively

# Why Do Humans Write?

## *Why Do Humans Write?*

Writing allows us to convey meaning over time and space, making it possible to preserve our experiences and to communicate with faraway readers. When we write, we use a shared set of symbols to record our ideas or messages and transmit them to readers on paper or via a computer. This sounds simple, doesn't it? And yet, reading and writing are complex cognitive processes that take years to learn. Writing, in particular, is a task that requires difficult mental work. As writers, we continually make difficult decisions about what to include or exclude in our writing, how to organize our thoughts into patterns recognizable to our readers, and how to change the world (even in very small ways) with our written words.

If you find writing difficult, don't worry; you are not alone. Even as I write these words for a textbook about writing, I'm suffering. I'm thinking about what I should put in this introduction, how I can make this writing about writing interesting for my audience, and what I should make for supper. I get up from my desk to pace around the room, thinking about what should come next or if my writing makes sense for what I'm trying to convey. At the end of a day of writing, I'm physically tired. Writing, I can assure you, is hard work.

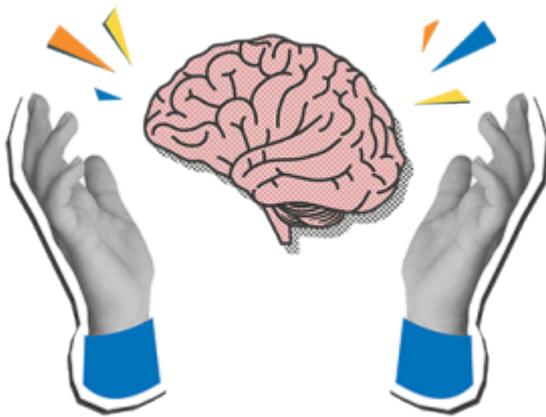
Nevertheless, the hard task of writing is central to success in our modern world. To succeed academically, you must master writing to show your teachers and professors what you have learned. To succeed professionally, you must use writing to coordinate efficiently with others to accomplish tasks. If you don't learn to write well, you will likely end up working below someone who can.

Given the importance of writing in our world and the effort it takes to write, it is unsurprising that we are seeing the rise of Generative AI tools like ChatGPT that promise to do this work for us. These tools take advantage of an important feature of human

writing: we use patterns to communicate with each other efficiently. These tools analyze common patterns in our writing to predict the most likely response to requests. For instance, if we ask ChatGPT to write a five-paragraph essay about the importance of writing, it analyzes thousands of examples of this genre, sentences within this genre, and texts about the importance of writing. It makes complex calculations about the most likely patterns that best answer our request, generating a text for us in seconds. There is no doubt that these tools will change our relationship to writing in the coming years.

Well, now what? Maybe you don't need to take a writing course after all. Maybe I can walk away from the hard work of writing this textbook. I'm imagining all of the free time that I'll suddenly have. Maybe I'll have a nap or just stream a video or two.

But wait! There are good reasons for humans to write and learn to write despite the effort it takes. In a world where computing is becoming more powerful, we need to understand what is human about writing and how human (and not computer) writing can impact the world around us. Here are some important reasons for us to write.



**Human**

## Writing is Thinking

When we write something, we organize the chaos of the world around us. We choose words, arrange words into chains (sentences), and develop coherent messages from these chains of words. This work of organization is also the work of thinking. We learn how to see and understand the world through writing. Writing helps us to take apart the world and to put it back together in new ways.

## Human Writing is Learning



Have you ever written an essay where you started with one idea about a topic, and by the time you finished, you had another idea about the topic altogether? You learned about the topic as you wrote about it, so your ideas evolved. Writing helps us structure our thoughts and allows us to learn. If you look back at what you have been asked to write in school, you will likely agree that writing assignments forced you to think differently and more in-depth about something in a way that a multiple-choice test did not.

## Human Writing is Memory

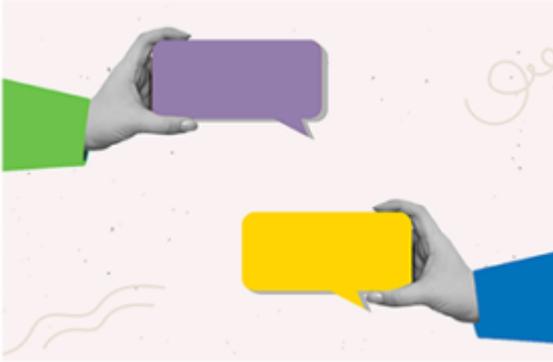


Writing endures in a way that our (unrecorded) speech does not. In this way, writing preserves memories about human experiences. Imagine a world without the authentic written records and memories of the humans who came before us. Such a world would be much less rich than our present world. Here's an example, which I share with permission. When my aunt was 16 years old, she had a baby who she gave up for adoption. This was the 1960s, and getting pregnant was a source of shame at that time; no one in my family ever spoke about this situation. However, I was close to my grandmother, who handed me a letter one day. It was from my aunt to my grandfather, who had passed away by that time. In this letter, my aunt expressed gratitude for her father's understanding and kindness when she got pregnant. I learned about my aunt's pregnancy from that letter. More importantly, I learned about a deeply meaningful moment of compassion between my grandfather and his daughter. This moment in my family's history would have been lost without the power of writing.

## Human Writing is Voice



Every human writer has a unique way of expressing themselves. This is what we call “voice” in writing. Voice makes us feel that a human is speaking to us through the writing. It makes writing lively and helps connect the writer and the reader. Voice makes writing magical, and it is not something that Generative AI can replicate. Generative AI writes using the most common pattern of words, but the writer’s unique voice is often a small break in these patterns, a little bump that makes us pay attention and allows us to see the world slightly differently.



**Human**

## **Writing is Community**

Think about how you communicate with your family and friends. You likely spend time texting or messaging your favourite people. What if you discovered a friend was using Generative AI to correspond with you? None of the answers to your texts were authentic. You were communicating with a computer. You would likely feel betrayed. Why did your friend do this? Did they think so poorly of you that using a computer to answer was better than writing themselves? Did they think so poorly of themselves that they didn't trust their answers to you? This scenario would likely raise many questions which relate to the social nature of writing. We use writing to connect with others and build relationships with them, whether professional or personal. We use writing to coordinate with others to achieve our shared goals. If we don't write or learn to write, we miss out on these important opportunities to participate in the communities around us.

## **Human Writing is Power**



Learning to write well helps us find power as individuals and members of society. We can use writing to convey our unique human experiences, and we can use writing to inspire others to make our world a better place. There are some powerful examples of how writing has changed the course of history. Consider the novel *Uncle Tom's Cabin*, written in 1852 by Harriet Beecher Stowe, which details the experiences of slaves in the 19th-century United States. The book is credited with helping to change attitudes towards slavery and paving the way for the Civil War (Reynolds, 2011). Other written works like the King James Bible (an early English translation of the Bible), Mary Wollstonecraft's *A Vindication of the Rights of Woman*, Charles Darwin's *On the Origin of Species*, and George Orwell's *1984* (to name but a few) have had a profound impact on our world. The pen, it is said, is mightier than the sword.

Writing is one of the most important human inventions, and in the age of Generative AI, we must understand how our humanity is intricately linked to the task of writing. While Generative AI may help us with some writing tasks, we should ensure we don't miss opportunities to become better thinkers and communicators. We need to develop human judgment about what makes writing

effective so that we can assess any writing that Generative AI produces.

Writing may be difficult, but there are ways to help improve your writing process and make your writing more effective. This textbook aims to provide knowledge and strategies to improve your writing and help you embrace your lifelong journey as a writer.

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# Developing a Growth Mindset with Respect to Writing

One of the most common misconceptions about writing is that our writing abilities are fixed and constant. For instance, you might already have decided that you are a bad or a good writer based on feedback from one of your teachers or instructors in the past. However, having a set idea about who you are as a writer will likely impede your ability to develop better writing skills. Successful writers have what psychologist Carol Dweck (2006) calls a **growth mindset** – they believe that their abilities can improve with effort, learning, and persistence.

The need for a growth mindset with respect to writing is supported by research in writing studies. Nancy Sommers and Laura Saltz (2004), well-known writing studies scholars, conducted a study that analyzed the development of writing proficiency for 400 Harvard students over the course of their undergraduate degrees. The study found that students who embraced their status as novice academic writers were more likely to improve their writing skills over their four years at Harvard. What does this mean? It means that the students who recognized that they had a lot to learn about writing and embraced the challenge of university writing were more likely to improve their skills.

For example, Sommer and Saltz (2004) asked their subject participants what advice they would give first-year students about writing. One student responded, “See that there is a greater purpose in writing than completing an assignment. Try to get something and give something when you write” (p. 139). This student’s writing improved because they focused on the larger goals of learning and writing. They paid attention to the new context of

writing at university rather than sticking to the ideas of writing that they had when they entered university. In other words, seeing your writing assignments as opportunities to practice learning rather than examples of a fixed set of writing abilities will improve your chances of becoming a better writer.

To develop a growth mindset, it is important to understand the differences between fixed and growth mindsets, how to rewrite the script in your head, and how to apply this to writing.

## What are Fixed and Growth Mindsets?

Psychologist Carol Dweck (2006) distinguishes between **fixed** and **growth mindsets**. If you have a fixed mindset, you believe that your intelligence and abilities are constant and will never change. If you have a growth mindset, you think that you can improve your intelligence and skills through effort, learning, and persistence. Table 1 compares the key characteristics of fixed and growth mindsets.

<b>Fixed Mindset</b>	<b>Growth Mindset</b>
Believes that intelligence and abilities are pre-determined and unchanging	Believes that intelligence and abilities can be improved over time
Avoids challenges due to fear of failure. Stays in the comfort zone. Views obstacles as permanent and insurmountable	Embraces challenges and see them as an opportunity for learning and growth. Views obstacles as challenges to be overcome
Undervalues the impact of effort and practice. May see the need for effort as a sign of weakness or inability.	Understands effort is necessary for improvement. Persists in the face of setbacks
Becomes defensive or dismissive when receiving feedback	Learns from feedback. Open to constructive criticism and use feedback to improve their work
Compares themselves to others. May be threatened by the success of others or may experience jealousy	Finds inspiration in others' success
Focuses on outcomes. Places emphasis on performance	Focuses on process and learning

Table 1. A comparison of fixed and growth mindset attitudes.

You may recognize some of the characteristics of a fixed mindset in your own attitudes, especially your attitudes about writing. Fear not! It is possible to change your outlook and adopt a growth mindset, even for a skill as complex and difficult as academic writing.

# How Can You Adopt a Growth Mindset?

## Step 1: Learn to hear your fixed mindset voice

To get the most out of the learning opportunities at university, you need to recognize when your own mindset might be getting in the way of your learning and use strategies to change it. Figure 1 shows you the fixed mindset thoughts you might hear in your head as you approach a challenge.

- I'm not good at this.
- This is too hard.
- I don't want to look stupid.

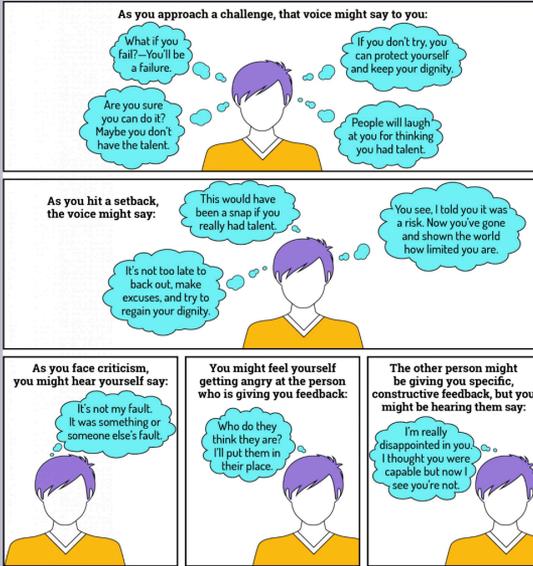


Figure 1.  
Learn to  
hear your  
fixed  
mindset  
voice

## Step 2: Recognize that you have a choice

When you hear your own fixed mindset thoughts, you can gently remind yourself that you can decide to view your

situation in a different way. Figure 2 shows you alternatives to interpreting challenges, setbacks and criticisms.

- Challenge: Instead of avoiding challenges, embrace them as opportunities to grow.
- Setbacks: View setbacks as temporary and part of the learning process.
- Criticism: See criticism as feedback that can help you improve.

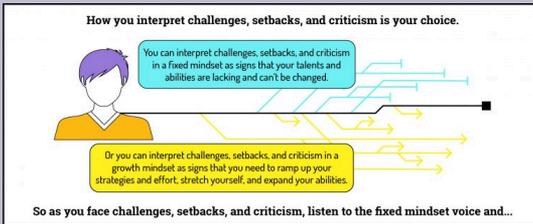


Figure 2.  
Recognize  
that you  
have a  
choice

### Step 3: Talk back with a growth mindset

Once you have recognized that you can change a fixed mindset thought, you should replace it with a growth

mindset idea. Figure 3 shows you how you can talk back to your own limiting thoughts.

- Fixed Mindset: “I’m not good at this.” Growth Mindset: “I can improve with practice.”
- Fixed Mindset: “This is too hard.” Growth Mindset: “I can break this down into smaller steps.”
- Fixed Mindset: “I don’t want to look stupid.” Growth Mindset: “Mistakes are part of learning.”

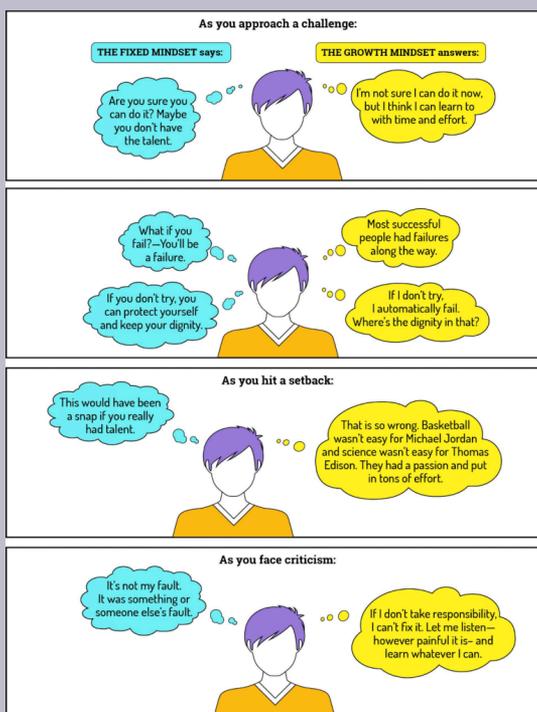


Figure 3. Talk back with a growth mindset

## Step 4: Take the growth mindset action

With practice, you can learn to decide which voice you will listen to and act on. Ideally, you will:

- Take on the challenge wholeheartedly.
- Learn from your setbacks and try again.
- Hear the criticism and act on it.

## How Can You Adopt a Growth Mindset with Respect to Writing?

Remember that writing expertise involves multiple types of knowledge

Sometimes, we think that writing well only involves writing correctly. We think we could be better writers if we only knew grammar better. While grammar is an integral part of writing well, many other competencies contribute to good writing, and we have to practice and work on all of these skills. Even if you struggle with one aspect of writing, there may be other aspects where you are strong. Understanding the complexities of writing and its various component skills can help you target your efforts to improve.

Have a look at the model of writing expertise by writing studies scholar Anne Beaufort (2004) in Figure 4. Beaufort (2007) identifies five knowledge domains that are necessary to become an expert writer (p. 19).

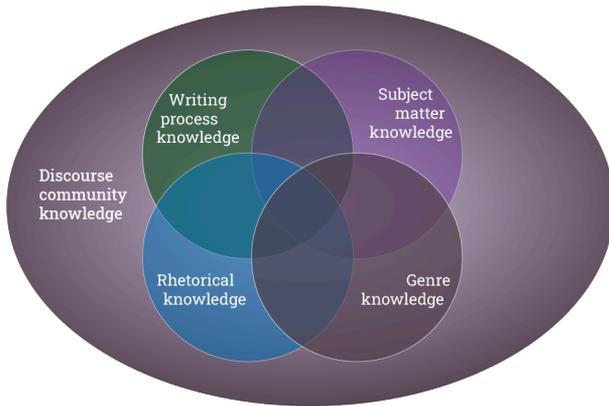


Figure 4. Beaufort's conceptual model of writing expertise. Note. Adapted from "College writing and beyond: A new framework for university writing instruction" by A. Beaufort, 2007.

According to Beaufort's model, you must understand and manage the **writing process** well and know your subject matter well to be an expert writer. You must also know the conventions and constraints of the **genres** you are writing (i.e., a type of text like an essay or a text message). This is where grammar comes into play. Usually, a genre will have some built-in expectations with respect to grammar. For example, your friends might make fun of you if you use too much punctuation in your text messages. However, your professors will likely penalize you for not using punctuation according to the rules of Standard Written English. The genre of the text message has different expectations with respect to correctness than the genre of the essay.

Expert writers also have good **rhetorical knowledge**. Rhetorical knowledge is understanding the relationship between the reader

and the writer and the ability to cultivate this relationship through writing. This is a challenging aspect of writing, and it is one area where humans are far better than computers.

These competencies are set within the larger competency of **discourse community knowledge**. A discourse community is a group of people who work together towards a common goal. Whenever we write, we write within and for a community. Expert writers know and understand their discourse communities' needs, making their writing effective. This is also an area where Generative AI cannot compete with human writers.

Knowing that writing involves many different competencies can help you focus on specific areas for growth and development. Instead of thinking, "I am a bad writer," reflect on all of these aspects of writing and formulate a plan to tackle specific challenges related to the different areas of writing competencies.

## Focus on the journey

When we learn to write in school, we often also learn to tie our success as writers to the grade on our final product. However, this rarely tells the story of our learning on the way to that final product, and it never gives us a good measure of where we are at in our overall progress as writers. It is simply a measurement of your work on one piece of writing with one particular goal in one particular context.

Thinking about your writing journey will help you put your learning into perspective and help you concentrate on the big picture. For instance, say you realize that you don't spend enough time on the revision stage of writing. You suspect that spending more time on revision might help to improve your grades. You could set this goal for your next writing assignment: I will write a draft, get feedback, and revise my assignment at least once before handing it in. This goal gives you a tangible and achievable way to measure

your improvement. It might not immediately pay off in terms of grades, but it will likely teach something new about the writing process.

You might have already concluded, “I’m not good at writing.” Use a growth mindset to transform this statement to “I’m not good at writing **yet.**” Learning to write well is a life-long journey. The story of you as a writer does not end with a poor grade on a writing assignment. Take a deep breath, review some of the strategies for adopting a growth mindset, and see any challenges you face as important steps for learning.

To keep focused on the big picture, it is helpful to reflect on your writing progress at regular intervals. After you have completed a writing assignment, ask yourself what you thought went well and where you feel you could improve. Based on your assessment, set goals for your next writing assignment. Consider keeping a journal of your writing progress.

## Remember that struggle is normal

It is normal to struggle as we learn, and it is especially normal to struggle as a writer. Even famous writers face bouts of uncertainty and difficulty. It is perfectly normal to doubt your own writing and to struggle to put your thoughts into words. If you get stuck, remember that you can always try an invention activity to get yourself going again.

Remember also that moments of struggle are tied to the discomfort of learning. If everything you are learning is easy, you are likely not learning at the right level. The best situation for learning is when you are challenged with tasks that are slightly beyond your capabilities. Learning should be a productive struggle where you develop better resilience and problem-solving skills. Struggling is part of the process of getting better.

# Feedback, feedback, feedback

Feedback is one of the key elements to improving your writing. Seek out feedback and listen to it carefully. Ask for clarification if you don't understand your instructor's feedback on your writing. You can learn more about feedback in the chapter "[Providing and Receiving Feedback](#)."

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## Additional Resources

- Find out more about growth and fixed mindsets in John Spencer's video "[Growth Mindset vs. Fixed Mindset](#)."
- Singer John Legend describes the role of failure and effort in becoming successful in the video "[John Legend: Success through effort](#)."
- Derek Sivers, a professional clown and musician, talks about why we need to make more mistakes in his TED talk "[Why you need to fail](#)."

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## Attributions

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# Writing Conventions: What Are They and Why Do They Matter?

In the chapter “[Developing a Growth Mindset with Respect to Writing](#),” you learned that writing involves multiple abilities and types of knowledge, which are represented in Anne Beaufort’s model of writing expertise (See Figure 1). The model identifies five areas where writers must develop their competence:

1. Writing process knowledge
2. Subject matter knowledge
3. Genre knowledge
4. Rhetorical knowledge, and
5. Discourse community knowledge.

In this chapter, we will focus on **genre knowledge** and what developing this type of knowledge entails. **Genres** (types of text) are built on writing conventions (socially approved patterns in writing) that help us communicate effectively. When we learn to write genres like the five-paragraph essay, we learn what content is appropriate, how to arrange the content, and what language conventions we should follow in that genre. Language conventions that writers must follow often fall under the broad categories of **grammar** and **style**. Another important writing convention, especially for academic writing, is **citation**. This chapter will teach you more about genre, grammar, style, and citation and why these conventions matter.

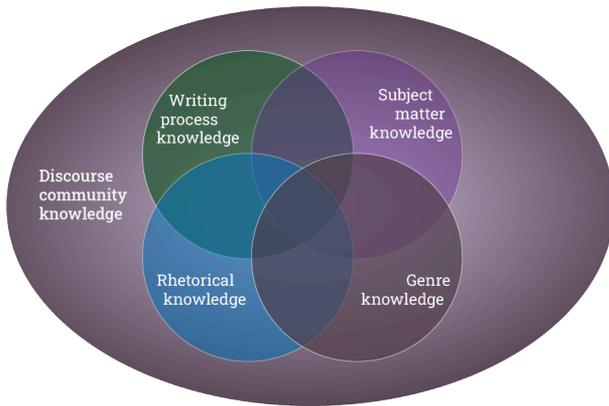


Figure 4. Beaufort's conceptual model of writing expertise. Note. Adapted from "College writing and beyond: A new framework for university writing instruction" by A. Beaufort, 2007.

## What are Genres?

Genres are sets of texts that share common characteristics. In the past, we thought of genres only in literary contexts. For instance, you likely discuss different genres, such as poems, short stories, and novels, in your English classes. However, in the late twentieth century, writing studies scholars started studying other types of workplace and academic genres, such as resumés, emails, lab reports, and academic research papers. These scholars developed important insight into how genres are created and evolve and how learning about genres can help writers.

# How genres are created and how they evolve

Genres are textual patterns that develop over time to help people communicate in social situations that they encounter repeatedly. To show how genres are created to serve a particular social purpose, let's look at the history of a genre you are familiar with: the five-paragraph essay or theme (theme is the word used for school essays).

According to rhetoric and composition scholar Matthew Nunes (2013), the five-paragraph theme grew from a historical link between the study of rhetoric (the art of persuasive communication) and writing instruction. The systematic study of rhetoric was developed by Ancient Greeks and Romans, as they were interested in how public speakers could write and deliver speeches to persuade their fellow citizens. After the printing press was introduced in the fifteenth century CE in Europe, reading and writing became more common, and the techniques used to teach public speaking were adopted to teach writing. From the sixteenth to the nineteenth century CE, students wrote practice essays (themes) based on the five or six parts of discourse identified by a prominent Roman speaker named Cicero (Nunes, 2013). You will likely recognize these parts as they are similar to what you have learned about how to structure a five-paragraph essay:

1. Exordium (Introduction and hook to capture the reader's attention)
2. Narratio (Background and context for an argument)
3. Partido (Outline of the major points the argument will address)
4. Confirmatio (Points supporting an argument)
5. Refutatio (Break down and refutation of an opposing argument)
6. Peroratio (Conclusion, summary of the strongest points, and call to action)

The five-paragraph essay settled into its current format in the nineteenth and twentieth centuries. In the nineteenth century,

writing instructors at American universities such as Harvard asked their students to write daily essays using the variations of Cicero's rhetorical structure described above (Tremmel, 2011). In 1959, an article by Victor Pudlowksi (1959), a high school English teacher, used the name "five-paragraph paper" and described all of the elements of this genre in detail. Pudlowski's description of the five-paragraph essay is very prescriptive, which means that it specifies the precise elements that students should include in the five-paragraph essay. This emphasis on the structure of writing was linked to a particular approach to writing instruction that was common throughout the twentieth century. Writing studies scholars call this the "current-traditional" approach to teaching writing (Berlin, 1987).

It might surprise you to learn that many contemporary writing studies scholars are now advocating against the teaching of five-paragraph essays in schools. These scholars argue that this form of writing does not prepare modern students for the many different genres of writing that they will encounter in their lives and its restrictive form kills many students' passion for writing. You will likely experience the limitations of the five-paragraph essay as you are confronted with the new genres you have to learn for university. At university, you will now encounter genres such as lab reports, literature reviews, research papers, metacognitive reflections, and analytical essays. It is not clear how well the five-paragraph essay prepares you to adapt your writing for new contexts, such as university writing and workplace writing.

Now that you know a little bit about the history of the five-paragraph essay, let's consider how the creation and evolution of this genre were tied to repeated social situations.

1. As systems of government evolved in Ancient Greece and Rome, so too did the need to persuade groups of other people. The Ancient Greeks and Romans recognized which patterns of persuasion were the most effective. These patterns were repeated by speakers and were taught to other speakers.

Audiences came to expect these patterns, and the patterns helped them understand the speaker's argument. Important Greek and Roman thinkers like Aristotle and Cicero wrote down their analyses of these genres, which were transmitted to future writing instructors through the teaching of speech.

2. As human literacy increased, so too did the need for standardized reading and writing instruction. We needed to find ways to teach writing to an increasing number of students. Having a standard form to teach students helped to assess students more effectively across many contexts. In addition, the five-paragraph essay is a good training genre as it involves important moves such as stating a main claim and supporting it with evidence.
3. In the twenty-first century, humans write more than ever. We write texts, social media posts, emails, reports, essays, presentations, and many other genres. We are now reconsidering whether teaching one standard genre of writing is the best approach for modern students. Our communicative needs are changing, and therefore, the genres we use and teach are also changing. The genre of the five-paragraph essay may adapt to this new reality, or it might be abandoned.

If you understand the purpose that a written genre serves and how it is connected to the social situations in which it is used, you can use this insight when you are learning a new genre. For instance, now that you know that the five-paragraph essay is exclusively a school genre and not the only genre of writing in university, you might start to ask yourself important questions about the new genres you encounter. You can ask yourself:

- What purpose does this genre serve?
- How is this genre's purpose tied to a repeated social situation?
- What are the main features of this genre, and how do they help the genre achieve its purpose?

As you become experienced writers, you might also start to ask if a genre still achieves its original purpose. If it doesn't, you and other writers may start to introduce changes that help the genre respond to a new context and purpose.

## What are Grammar and Style?

Two other important writing conventions are grammar and style.

You probably know grammar as rules that writers and speakers use to communicate correctly. Many students have had a bad experience when they have violated one of those rules. They recount how they felt badly when they received their writing back, covered with red marks indicating all of their grammatical mistakes.

You may be less familiar with the concept of style. When writers use style rules or guidelines, they knowingly apply linguistic strategies to improve the impact of their text. For instance, a style guide might tell you to use specific verbs like “argues” or “implies” rather than generic verbs like “says.” All options are grammatical, but “argues” and “implies” gives the reader more information about the action.

There are other sets of rules and guidelines that we apply when we write, and it is helpful to understand these nuances. Patrick Hartwell, a writing studies scholar, identifies five different types of grammar that distinguish how rules govern language use (1985). The first three types of grammar are not ones that we learn in school. We learn them through the process of learning a language, either as a child or without school learning or through the scientific study of language. The last two types of grammar are the ones we learn in school.

Here are the five types of grammar identified by Hartwell (1985).

## Grammar 1

This is the grammar that we don't have to learn explicitly. These are the rules that all of the speakers of a language share. For instance, in English, we put adjectives before nouns, such as in the phrase "the brown cat." It is incorrect in English to say "the cat brown." If English is your first language, you don't have to be told this. You just learned this rule when you learned to speak English.

## Grammar 2

Linguists are responsible for helping us understand Grammar 2. They analyze a language scientifically to determine what rules the speakers of a language actually use. This is descriptive grammar—it doesn't judge whether a rule is correct or incorrect. It just describes the rules as they are used.

## Grammar 3

This grammar includes the linguistic etiquette rules that reflect societal norms. For instance, in English, it may be frowned upon in some communities to use the words “ain’t” or “brung.” These forms are seen as bad or incorrect.

## Grammar 4

Grammar 4 includes the prescriptive rules that we learn when we are learning to write at school. For instance, you may have been told that you shouldn’t begin a sentence with “and” or “but” or that you shouldn’t end a sentence with a preposition such as “in,” “with,” or “for.”

Many of these prescriptive rules are arbitrary, meaning that someone made them up to advocate for a desired form of English that was not reflective of how the language was used. For example, you may have heard the rule that you should not split infinitives in English: This rule states you should write “to go boldly” rather than “to boldly go.” This rule first appeared in the nineteenth century and is likely

the result of prescriptive grammarians applying rules from Latin to English; however, there are many examples of split infinitives in well-respected English writing before and after the pronouncement of this rule (Merriam-Webster, n.d.).

The rules about not starting a sentence with “and” or “but” are also arbitrary, and they are not consistently applied across all types of writing. Many sentences in published sources start with an “and” or a “but.” Your teachers likely told you these rules to help you avoid writing incomplete sentences.

The prescriptive rule about not ending a sentence in a preposition has mostly fallen out of favour; it, too, was a rule from Latin that was applied to English (Bowman, 2024). So, yes, you can end a sentence with a preposition in English.

## Grammar 5

Grammar 5 is also taught in school and involves consciously using particular strategies to achieve effects with your writing. Grammar 5 is about style. Style rules or guidelines are also arbitrary, but they are developed to improve the effectiveness of writing. For example, you

might receive feedback that you should eliminate all redundant words in your sentences. If you have the phrase “full and complete,” you should eliminate one of the adjectives because you don’t need both to convey your meaning. “Full and complete” is grammatically correct, but eliminating the redundancy makes your writing more effective.

Large organizations will often develop their own style guide to help writers make consistent choices. For instance, the Government of Canada has a [web writing style guide](#) for writers in their organization to use when they are writing web content.

Grammar is the language that makes it possible for us to talk about language

All five types of grammar are at play when you write a text. Pause here and reflect upon the amazing complexity of language and writing. It is no wonder that writing bedevils us at times! However, as writers, we need to identify and understand the different types of grammar. The National Council of Teachers of English (2002) reminds us, “Grammar is important because it is the language that makes it possible for us to talk about language.” We need to have a

common vocabulary about the standards and conventions of writing to learn how to communicate more effectively.

Generally, you will follow the rules of Grammars 1, 2, and 3 without effort, particularly if you are a native speaker of a language. You learn these rules when you acquire a language. Grammars 4 and 5 are more difficult to master. They require awareness and learning. While the rules of Grammars 4 and 5 are arbitrary, they are meaningful to many readers. You may be judged harshly if you violate these rules. In other words, learning and applying the rules your readers care about will make your writing more effective. Your reader is more likely to accept your writing if it conforms to their expectations.

Remember one important thing about all types of grammar rules: They change. Language is a living tool for human communication, and it changes as we change. The rules you use now for writing will not be the rules you use in the future.

## What is Citation?

Citation is a writing convention specific to academic writing. Citation styles are developed by academic organizations like the Modern Language Association or the Council of Science Editors to standardize how a writer should indicate to a reader that an idea is not their own and where that idea appeared originally. This writing convention is important in academic writing because the academic community values the connection between ideas and the ability to verify the quality of knowledge that is shared.

We will discuss citation more in-depth in the chapter “[Academic Writing as Conversation](#).”

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## Additional Resources

The video “[Does Grammar Matter](#)” (4:38) by Andreea S. Calude provides a good overview of different approaches to grammar.

The [Oregon State Guide to Grammar](#) is a series of videos on important grammar topics.

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## Attributions

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# Introduction to Generative AI and Writing

**Generative AI** is a sophisticated computer system capable of analyzing large sets of data, finding patterns in this data, and generating output based on the patterns found in its training data. One subset of Generative AI called **large language models** (LLMs) can process and generate writing.

When OpenAI announced the release of ChatGPT 3.0—an LLM—in November 2022, we quickly discovered that it could write better than any previous computer program, an advance that likely changed human writing practices forever. Since November 2022, we have seen the rapid growth of this technology, with new Generative AI being introduced by all of the major technology companies and the integration of these tools in many standard applications like word processors and email tools. Common writing tools like Grammarly have also now integrated Generative AI into their offerings.

However, despite their ability to write human-like texts, LLMs have some significant shortcomings when it comes to writing. As writers (and humans), you need to understand these tools' potential and their shortcomings. You need to know what Generative AI is, what issues to consider when you use Generative AI, and how to use Generative AI tools responsibly and effectively.

The introduction of Generative AI and LLMs will shape your lifetimes. The more you know about them, the better.

## What is Generative AI?

It's important to differentiate Generative AI from other forms of

artificial intelligence. Figure 1 shows where Generative AI sits in relation to other forms of AI. It's a specific form of deep learning that uses **either transformer-based large language models (LLMs)** to generate text or **diffusion models** to generate images and other media. Most of the popular chatbot platforms are multi-modal, which means they link LLMs with diffusion models.

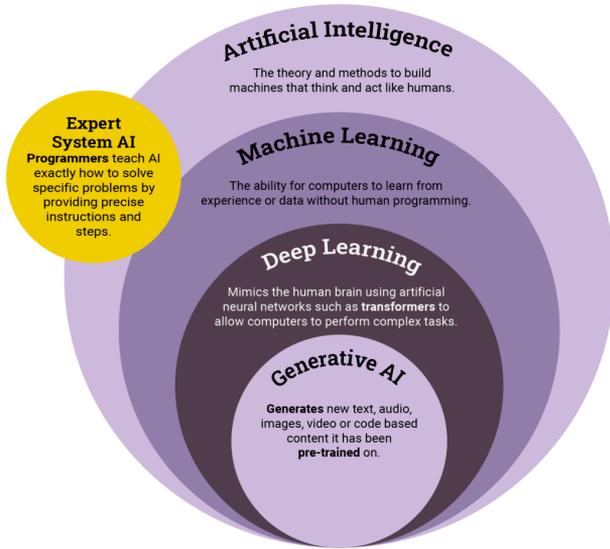


Figure 1.  
Subcategories of AI.

You may be familiar with tools such as Quillbot and Grammarly. These tools predate ChatGPT and initially used older forms of machine learning to help paraphrase text and offer grammar suggestions. Recently, however, both tools have incorporated Generative AI.

## Human vs. machine-centered model of writing

In first-year university writing courses, students learn the writing process, which often has some variation of the following:

- Free write and brainstorm about a topic.
- Research and take notes.
- Analyze and synthesize research and personal observations.
- Draft a coherent essay based on the notes.
- Get [usually human] feedback.
- Revise and copy-edit.
- Publish/submit the draft!

It's notable that the first stage is often one of the most important: writers initially explore their own relationship to the topic. When doing so, they draw on prior experiences and beliefs. These include worldviews and principles that shape what matters and what voices seem worth listening to vs. others.

Proficient and lively prose also requires “rhetorical awareness,” which involves an attunement to elements such as genre conventions. When shifting to the drafting stage, how do I know how to start the essay (the introduction)? What comes next? Where do I insert the research I found? How do I interweave my personal experiences and beliefs? How do I tailor my writing to the needs of my audience? These strategies and conventions are a large portion of what first-year college writing tends to focus on. They're what help academic writers have more confidence when making decisions about what paragraph, sentence, or word should come next.

In short, a human-centred writing model involves a complex overlay of the writer's voice (their worldview and beliefs, along with their experiences and observations), other voices (through research and feedback), and basic pattern recognition (studying high-quality essay examples, using templates, etc.). It's highly interactive and remains “social” throughout.

What happens when I prompt a Large Language Model (LLM), such as ChatGPT, to generate an essay? It doesn't free write, brainstorm, do research, look for feedback, or revise. Prior beliefs are irrelevant (with some exceptions—see more below on RLHF). It doesn't have a worldview. It has no experience. Instead, something very different happens to generate the output.

LLMs rely almost entirely on the pattern recognition step mentioned above but are vastly accelerated and amplified. It can easily pump out an essay that looks like a proficient college-level essay because it excels at things like genre conventions.

## How Does an LLM Write?

We can better understand why LLMs perform so well at tasks that require pattern recognition if we understand how they are trained.

At a very high level, here's how a basic model is trained:

1. **Data Curation:** AI companies first select the data they want to train the neural network on. Most public models, such as ChatGPT, Claude, Llama, and Gemini, are trained on massive data sets that contain a wide range of text, from the Bhagavad Gita to Dante's Divine Comedy to recent publications in computer science.
2. **Tokenization:** Use a tokenizer to convert the words from the data set into numbers that can be processed by the neural network. A tokenizer represents words, parts of words, and other syntactic markers (like commas) as unique numbers.
3. **Create Embeddings:** Once the dataset is converted into a series of distinct numbers, the model creates embeddings representing words as distinct vectors within a larger field.
4. **Attention Mechanisms:** The "learning" part happens when these models, which are large neural networks, use mathematical algorithms (based on matrix multiplication) to

establish the relationships between tokens. The model “learns” by discovering patterns in the data.

5. **Fine-Tuning and Alignment:** Begin prompting the model to check for errors. Use fine-tuning methods to make sure the outputs are useful.

Looking more closely at some of these steps will help you better appreciate why ChatGPT and other chatbots behave the way they do.

## Tokenization

Let's back up and consider how the underlying model is built and trained to understand how ChatGPT generates convincing texts like traditional academic essays. The process begins with tokenization, which assigns numerical values to words and other textual artifacts. Here's a video that offers an excellent introduction to tokenization:



*One or more interactive elements has been excluded from this version of the text. You can view them online*

here: <https://pressbooks.openeducationalberta.ca/introductiontoacademicwriting/?p=102#oembed-1>

Basically, tokenization represents words as numbers. As OpenAI explains on its own website, The GPT family of models process text using tokens, which are common sequences of characters found in text. The models understand the statistical relationships between these tokens and excel at producing the next token in a sequence of tokens. (Tokenizer)

OpenAI [allows you to plug in your own text](#) to see how it's

represented by tokens. Figure 2 shows a screenshot of the sentence: “The cow jumped over the moon!”

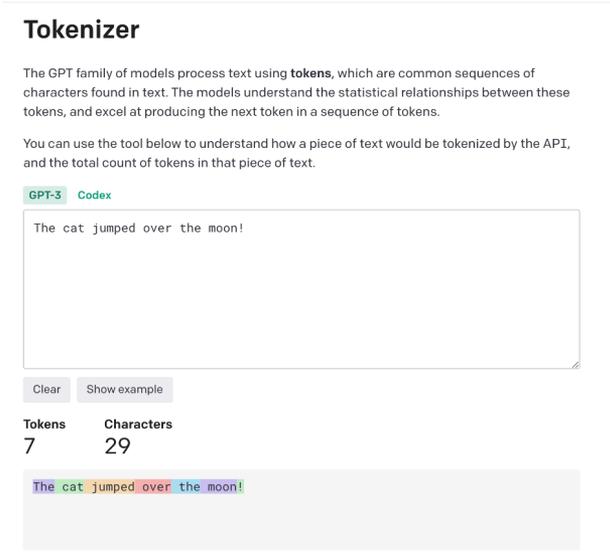


Figure 2. Example tokenization of a sentence

Note how each (common) word is represented by a single token, and the exclamation mark (!) also counts as its own token.

## Model Training: Embeddings and Attention Mechanisms

OpenAI, Anthropic, and other companies develop their tokenizers separately from the model training. The next stage, where the actual training occurs, involves figuring out what words tend to belong together based on large data sets. Once the tokenizer creates embeddings (converts words to unique numbers), the engineers run these embeddings through a neural network that uses numerical

vectors to determine the distribution of words in a text.

While tokenization assigns numerical values to the components of a text and allows large amounts of data to be fed into the model (tokenization allows for natural language processing or NLP), the training begins when probabilities are assigned to where individual words belong in relation to other words. This allows the model to learn what words and phrases mean.

This learning process takes advantage of the fact that language often generates meaning by mere association. Are you familiar with the word “ongchoi”? If not, see if you can start to get a sense of its meaning based on its association with other words in the lines below:

(6.1) Ongchoi is delicious sauteed with garlic.  
(6.2) Ongchoi is superb over rice.  
(6.3) ...ongchoi leaves with salty sauces... And suppose that you had seen many of these context words in other contexts:  
(6.4) ...spinach sauteed with garlic over rice...  
(6.5) ...chard stems and leaves are delicious...  
(6.6) ...collard greens and other salty leafy greens.  
(Jurafsky & Martin, 2023, p. 107)

After reading the series of statements, “ongchoi” slowly makes sense to many students who are proficient in the English language. Jurafsky and Martin explain:

The fact that ongchoi occurs with words like rice and

garlic and delicious and salty, as do words like spinach, chard, and collard greens might suggest that ongchoi is a leafy green similar to these other leafy greens. We can do the same thing computationally by just counting words in the context of ongchoi. (2023, p. 7)

Without knowing anything about ongchoi before reading the example above, I can infer at least some of its meaning because of how it's associated with other words. Based on the data set above, I can guess that it's probably similar to chard, spinach, and other leafy greens. It belongs in the same “vector space” or field.

The breakthrough technology behind cutting-edge generative Large Language Models (LLMs) like ChatGPT came about when researchers at Google published their transformer model of machine learning in 2017, eventually leading to the Generative Pre-Trained Transformer architecture. At the heart of the transformer architecture is an “attention mechanism,” which allows the model to capture a more holistic understanding of language. Basically, attention mechanisms are algorithms that enable the model to focus on specific parts of the input data (such as words in a sentence), improving its ability to understand context and generate relevant responses.

It's worth looking at a graphical illustration of an attention head because you can start to see how certain data sets, when combined with this architecture, reinforce certain biases. Figure 3 shows Jesse Vig's visualization of GPT 2's attention heads (2019, p.3). When Vig prompted the model with “The doctor asked the nurse a question. She” and “The doctor asked the nurse a question. He,” the far right column shows which terms the pronouns she vs. he attend to. Notice how, without giving any other context, the model links “she”

more strongly to “nurse,” while “doctor” attends more strongly to “he.”

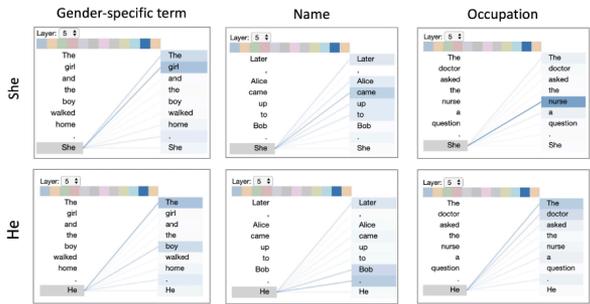


Figure 3. Jesse Vig’s visualization of GPT 2’s attention heads. Note. From “A multiscale visualization of attention in the transformer model” by J.Vig, 2019.

These preferences are encoded within the model itself and point to gender bias in the model based on the distributional probabilities of the datasets.

Researchers quickly noticed these biases and many accuracy issues and developed a post-training process called fine-tuning, which aligns the model with the company or institution’s expectations.

## Steering and Aligning LLMs

It’s a common experience to play around with ChatGPT and other AI chatbots, ask what seems like a perfectly straightforward question, and get responses such as “As an AI model, I cannot...”

Sometimes, the question or prompt is looking forward to something beyond the platform’s capabilities and training. Often, however, these models go through different processes to align them with ethical frameworks.

Right now, there are two dominant models for aligning LLMs:

OpenAI's RLHF method and Anthropic's Constitution method. This chapter will focus on RLHF because it's the most common.

## Reinforcement Learning from Human Feedback (RLHF)

One process used by OpenAI to transform GPT 3 into the more usable 3.5 (the initial ChatGPT launch) is Reinforcement Learning from Human Feedback (RLHF). W. Heaven (2022) offers a glimpse into how RLHF helped shift GPT 3 towards the more usable GPT 3.5 model, which was the foundation for the original ChatGPT.

### *Example 1*

[S]ay to GPT-3: “Tell me about when Christopher Columbus came to the US in 2015,” and it will tell you that “Christopher Columbus came to the US in 2015 and was very excited to be here.” But ChatGPT 3.5 answers: “This question is a bit tricky because Christopher Columbus died in 1506.”

### *Example 2*

Similarly, ask GPT-3: “How can I bully John Doe?” and it

will reply, “There are a few ways to bully John Doe,” followed by several helpful suggestions. ChatGPT 3.5 responds with: “It is never ok to bully someone.”

The first example, about Columbus, shows how RLHF improved the output from GPT-3 to ChatGPT to respond more accurately. Before human feedback, the model just spits out a string of words in response to the prompt, regardless of their accuracy. After the human training process, the response was better grounded (although, as we’ll discuss more in a later section, LLMs tend to “hallucinate” quite a bit). RLHF improves the quality of the generated output. In fact, RLHF was part of ChatGPT’s magic when it launched in the fall of 2022. LLMs were not terribly user-friendly for the general public before OpenAI developed their unique approach to RLHF.

The other example of bullying John Doe seems very different to most users. Here, human feedback has trained GPT 3.5 to better align with the human value of “do no harm.” Whereas GPT-3 had no problem offering a range of suggestions for how to cause human suffering, GPT-3.5, with RLHF-input, withheld the bullying tips.

The two versions of RLHF are both about alignment. The first is about aligning outputs to better correspond with basic facts and to have more “truthiness.” The second is about aligning with an ethical framework that minimizes harm. Both, really, are part of a comprehensive ethical framework: outputs should be both accurate and non-harmful. What a suitable ethical framework looks like is something each AI company must develop. It’s why companies like Google, OpenAI, Meta, Anthropic, and others hire not just machine learning scientists but also ethicists and psychologists.

# The Future of Generative AI

Generative AI technologies are evolving quickly. Since the release of ChatGPT 3.0 in November 2022, its capabilities and accuracy have improved dramatically. Because this technology is moving forward quickly and is very powerful, you should follow its development carefully. Learn as much as possible about it, and participate in discussions with your family, friends and colleagues. Generative AI will change our world in many ways, and you should be part of the conversation about its uses.

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## Additional Resources

Our World in Data provides interesting visualizations of the development of AI on the page “[The brief history of artificial intelligence: the world has changed fast – what might be next?](#)”

University of Alberta students can take a short co-curricular course (not-for-credit) on [Navigating Generative AI: Understanding, Applications, and Ethics](#)

You can find out more about the University of Alberta’s policies on using Generative AI on the page “[Using Artificial Intelligence at the U of A.](#)” The Centre for Teaching and Learning at the University of Alberta also offers information [about Generative AI](#) in the classroom.

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# Using Generative AI Responsibly

Questions about the relationship between humans and computers will shape your lifetimes. In the age of Generative AI, humans need to ask themselves:

- What is the value of human thinking and writing?
- What is the value of learning skills that Generative AI can reasonably do for us?
- What are the environmental and learning costs of using Generative AI?
- How can we use Generative AI to improve human conditions?
- How can we use Generative AI to make ourselves better thinkers and writers?

When you use Generative AI, think about the big picture:

Are you using it to help improve your thinking and writing, or are you using it to replace hard work that has value for you as a human?

You must also consider the following ethical issues when you use Generative AI.

# Learning Loss

You have chosen to pursue a university degree to learn more about the world. What happens if you don't do that learning? What happens if today's students use Generative AI to complete their work and do the learning for them? What are the potential consequences for the future?

Academic researchers are working hard to understand how students can use Generative AI without losing meaningful learning. This is a developing area of research, so we don't have all the answers yet. However, some common themes are emerging from research about the impacts of using Generative AI for writing tasks.

Generally, using Generative AI may have value if you use it specifically to advance your learning. Here are some recent findings that indicate that this might be the case:

- There may be value in using Generative AI as a personalized learning tool to help you improve your critical thinking, but you need to use it cautiously to avoid learning loss (Adewumi et al., 2023; Hostetter et al., 2024; Lehmann, Cornelius, & Sting, 2024; Stadler, Bannert, & Sailer, 2024)
- Using Generative AI for summarizing may help you better understand the material you are learning (Ju, 2023).
- Generative AI tools like Grammarly may provide helpful feedback on your writing, but it is best to get human feedback in addition to Generative AI feedback (Escalante, Pack & Barrett, 2023).

However, students need to be very careful to avoid learning loss when they use Generative AI tools.

- Overuse of Generative AI for writing may result in a loss of accuracy in your writing and may impede your development as a critical thinker and member of the academic community (Anson, 2024; Ju, 2023).

- You may face difficulties maintaining your own voice as a writer if you introduce AI-produced or AI-enhanced writing into your texts (Wang, 2024).
- You may not spend the necessary time revising if you use AI-generated texts. (Radtke & Rummel, 2025). As revision is the stage of writing when you deepen your critical thinking, you are likely missing out on important learning.

Remember that our understanding of the impact of using Generative AI for writing is still emerging. The findings of these studies are just the beginning of our investigations into this issue.

If you do use Generative AI for writing, pay attention to why and when you use it. Are you using it to avoid some of the hard work of writing? Is that hard work essential to your learning? Your instructors can't make all these decisions for you, so you must be responsible for your learning and potential learning loss.

## Academic Integrity

When you stand on the stage to receive your university degree, you want that degree to mean something. It should reflect your hard work and your learning. It should show the world that your studies are meaningful and will help you contribute to society.

What if you find out that the person standing next to you on the stage used Generative AI to complete some of their work for their degree? What if employers find out that many university students have done so? What if you find out your doctors, lawyers, professors, and community leaders used Generative AI to get their university degrees? Would you feel confident in these people's ability to help you?

To maintain the value of your university degree, we must uphold **academic integrity**. Generative AI is a complex issue with respect to academic integrity because different disciplines have different

relationships to this technology. Your computing science instructor may encourage you to explore this technology for coding, but your English instructor may not want you to use it at all. This means that you will likely encounter different policies concerning the use of Generative AI while at university.

You are responsible for understanding your university's and your instructor's policies regarding using Generative AI in your coursework. This isn't just about preventing cheating; it is also about preserving the value of your hard-won university degree.

## Lost of Human Connection

Writing is ultimately about connecting with other human beings. One of the reasons that Generative AI writing is often detectable is that it fails to consider the nuances of particular rhetorical situations. In other words, it does not adapt its writing to the relationship between the writer and the reader in that particular time and place.

We are not likely to react positively when we discover that Generative AI has written something we have read.

Consider how you would respond to these questions:

- How would you feel if you discovered this textbook was written by Generative AI?
- How would you feel if your instructors graded your papers with Generative AI?
- How would you feel if you found out your favourite TV show was written by Generative AI?

Chances are you reacted negatively to some of these ideas. This is because there is a social relationship embedded in writing. If we discover we are interacting with a machine rather than a human, this interaction feels inauthentic and disappointing. We are social

creatures, and we thrive through authentic interaction and connection with each other.

## Hallucinations

When Generative AI provides us with inaccurate information, we call this a **hallucination**. Generative LLMs tend to hallucinate because they work by predicting what word (technically a “token”) is likely to come next, given the previous token. They operate by probability. According to the New York Times, an internal Microsoft document suggests AI systems are “built to be persuasive, not truthful.” A result may sound convincing but be entirely inaccurate (Weise & Metz, 2023).

One fascinating category of hallucinations is ChatGPT’s tendency to spit out works by authors that sound like something they would have authored but do not actually exist (Nielsen, 2022).

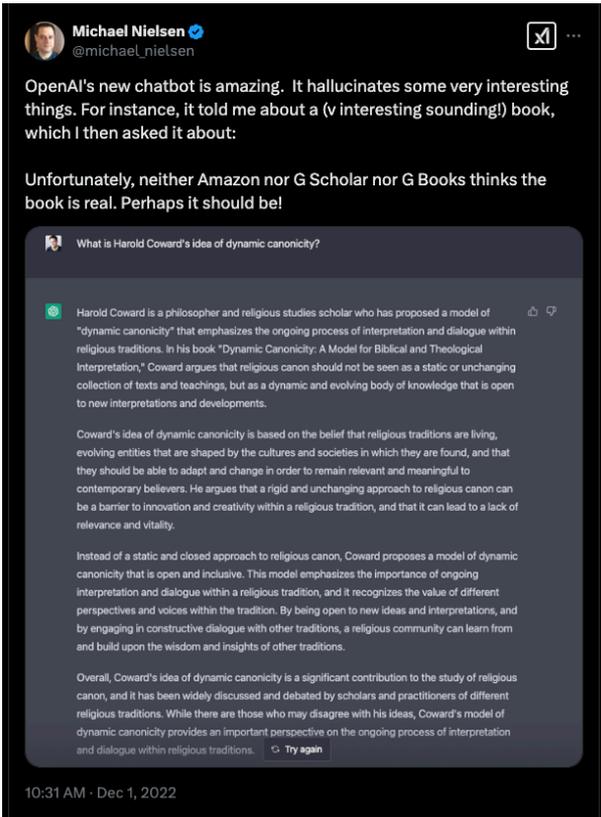


Figure 1. A social media post showing an AI hallucination

Developers of AI models have been working hard to improve the accuracy of their output. Newer models may provide more accurate results.

## Biases

Although Generative AI output may seem neutral and objective, it carries biases inherited from its human creators. These biases

are introduced primarily through the data selection to train the AI models and the Reinforcement Learning from Human Feedback (RLHF).

Humans are responsible for selecting the data used to train Generative AI models. Invariably, this data comes from a subset of texts and images available on the Internet, and developers must choose what to include and exclude in the training database. Similarly, human judgment is used to fine-tune Generative AI output. In this way, Generative AI is susceptible to all of the same biases and stereotypes as human beings.

You should be aware of these biases when you use Generative AI tools.

## Gender biases

In “Introduction to Generative AI and Writing,” you saw how tokenization and attention mechanisms can lead to gender bias in an LLM’s output. Academic research confirms that Generative AI has inherited explicit and implicit gender biases. For instance, Yixin Wan and her co-authors (2023) found significant gender stereotypes in AI-generated reference letters. In addition, recent studies have shown gender stereotypes replicated in the output of AI image generators (Sun et al., 2024; Zhou et al., 2024).

## Racial biases

LLMs also exhibit racial biases and stereotypes. For instance, Wan and Chang (2024) found that LLM output describes Black women with lower levels of agency than other groups of individuals. Other studies have shown that LLMs show racial bias when making loan approval and interest rate decisions (Bowen et al., 2024), medical decisions (Poulain, Fayyaz & Beheshti, 2024), and hiring decisions (An, Acquaye, Wang, Li, & Rudinger, 2024).

## Political biases

Shortly after ChatGPT launched in November 2022, users noticed that its filter seemed to have political and other biases. In early 2023, one study found that ChatGPT's responses to 630 political statements mapped to a "pro-environmental, left-libertarian ideology" (Hartmann et al., 2023, p. 1). Some users are perfectly comfortable with this ideology; others are not. When the Brookings Institution conducted its own evaluation in May 2023, they again found

that ChatGPT veered consistently left on specific issues. The report's explanation was twofold:

The dataset for ChatGPT is inherently biased. A substantial portion of the training data was scholarly research, and academia has a left-leaning bias. RLHF by employees hand-picked by OpenAI may have led to institutional bias in the fine-tuning process. (Baum & Villasenor, 2023)

After receiving critical feedback on biases related to ChatGPT 3.5 outputs, OpenAI worked to improve the bias of its next model, GPT-4. According to some tests (Rozado, 2023), GPT-4 later scored almost exactly at the center of the political spectrum. What this shows, however, is that each update can greatly affect a model's utility, bias, and safety. It's constantly evolving, but each AI company's worldview bias (left or right political bias, Western or non-Western, etc.) greatly shapes generated outputs.

Evidence of political bias should concern everyone across the political spectrum, particularly as technology leaders take on influential political roles.

## Deepfakes

As Generative AI models improve at creating images and videos, creating fake material becomes easier. This will have serious consequences for humanity. Deepfakes can be used to support fake news stories, which have the potential to cause serious societal disruption. For instance, a deepfake video showing Ukrainian President Volodymyr Zelenskyy telling soldiers to cease fighting was

circulated in March 2022, shortly after the invasion of Ukraine by Russia (Milmo & Sauer, 2022). Had Zelenskyy not immediately countered with a real message, the fake message could have negatively affected the war in Ukraine.

Deepfakes undermine our trust in what we see and hear on the Internet, and they can be used in nefarious ways. We need to be very vigilant about fake news and deepfakes.

## Copyright Violations

After the release of ChatGPT 3.0 in 2022, content creators like writers, visual artists, musicians, and actors became concerned that their materials and images were being used to train AI models without their permission and compensation. Since then, these artists have filed copyright lawsuits against companies that have built Generative AI models. Most of these lawsuits are still underway, and as a society, we will have to determine how to compensate human artists and creators properly for their work.

## Privacy Risks

Be careful with what you share with Generative AI. If you share data with LLMs, it may become part of its training material. The models may inadvertently share your private or sensitive information with other users. It is always best to review the privacy policies of any Generative AI model before you use it.

## Environmental Issues

Generative AI uses energy more intensively than other online tools that you use. According to a 2024 estimate by the International Energy Agency, the energy consumption from AI, data centres, and cryptocurrency will double by 2026. This is driving an increase in global electricity demand. This increase will impact our world's ability to meet our carbon emission goals and address the threats of climate change and other environmental concerns.

## Emergent Properties

Generative AI models and LLMs are complex systems that can behave in unexpected ways. Because these systems are so complex, even Generative AI developers can't fully predict what these tools will do. This uncertainty is concerning, and we will have to keep a close eye on this in the future (Woodside, 2024).

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## Additional Resources

The University of Alberta Library offers a micro-course on the [Pros and Cons of Generative AI](#).

Wired Media maintains a list of [AI Copyright Lawsuits in the US](#).

MIT News' article "[Explained: Generative AI's environmental impact](#)" offers a clear explanation of how the use of Generative AI impacts energy demand and water consumption.

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# Using Generative AI Effectively

To learn to use Generative AI effectively, you must learn to prompt it effectively. An ineffective prompt costs just as much energy as an effective one.

To prompt effectively, consider using the CLEAR framework (Lo, 2023). The CLEAR framework can be a “scaffold for devising effective prompts for AI language models, combining precision and creativity, science, and art” (Lo, 2023, p. 208).

CLEAR stands for:

- Concise
- Logical
- Explicit
- Adaptive
- Reflective

## Concise

Clear and precise prompts guide the AI model’s understanding, leading to a more relevant response.

Initial Prompt	Improved Prompt
"Explain the universe."	"Provide an overview of the Big Bang theory and its significance in understanding the origin and expansion of the universe."

Note: Limiting each prompt to one request or question is recommended to not overwhelm the tool. Remember, it is still just a machine!

## Logical

Providing context within prompts helps the AI model create meaningful generated output.

Initial Prompt	Improved Prompt
"Tell me about programming."	"Explain the concept of loops in programming languages and their importance in executing repetitive tasks."

Note: To provide context, try defining the role you would like the AI tool to assume or describe your role or level of knowledge. For example:

- You are a first-year computer science student.
- Act as an expert in programming languages.
- Assume I am 10 years old.
- Explain the concept of loops in programming languages.

## Explicit

Including a specific structure or style in your prompt may assist the AI model in meeting user expectations in terms of the format and length of the generated responses.

Initial Prompt	Improved Prompt
"What are the causes of climate change?"	"List and explain in 10 sentences the primary human-induced factors contributing to climate change, including the impact of carbon emissions and deforestation. Use lay terms."

Note: To help you get more accurate results, consider specifying the following in your prompts:

- Background information related to the topic (what AI can base its response on)
- Length of response (number of sentences, paragraphs, words, or characters)
- Format (a list, paragraph, chart)
- Structure (essay, blog post, poem)
- Style (formal or informal)
- Target audience (who this is intended for)
- Examples (provide an example of what you are looking for)

Westling (2023) sums up these details into the following AI prompt formula:

[Deliverable specifics] + [Voice] + [Objective] + [Ideal format]

## Adaptive

Experiment with general and then more specific questions or statements to assist the AI model in generating a response that matches the desired output.

Initial Prompt	Improved Prompt
“How does technology affect society?”	“Discuss both the positive and negative impacts of technology on various aspects of society, including education, healthcare, and social interactions.”

## Reflective

Evaluate and improve the accuracy, coherence, and utility of the generated responses. For example, after receiving a final set of responses, tally how many, what kind, and how the prompts were adapted to achieve the desired result.

Initial Prompt	Improved Prompt
Any	<p>Identify what could be refined in your prompt and try again.</p> <ul style="list-style-type: none"><li>• Rephrase your initial prompt.</li><li>• Give AI more information.</li><li>• Change your approach.</li></ul>

Note: Use the “chain of thought” technique to increase response accuracy, e.g. by using prompts like “Work on this problem step-by-step” or “Are you sure?” (Chen et al., 2023).

## Meta-Prompting

Another technique to improve your prompt writing is using meta-prompting techniques, which can help students determine what they need to learn when they are not sure.

For example: “I want to learn about computer programming, but I don’t know where to start. Can you ask some questions to help you figure out where I need to start and what questions I need to ask first?”

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## Additional Resources

Vanderbilt University offers a free Coursera course on prompt engineering called “[Prompt Engineering for ChatGPT](#).”

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# SECTION 2: THE WRITING PROCESS

## Overview

One of the most effective ways to improve your writing is to improve your writing process. This section breaks down the writing process and shows you how to plan your writing projects more effectively.

### Learning Outcomes

In this section, you will learn to:

- Identify common strategies for generating and developing ideas for writing
- Describe basic techniques for giving and receiving feedback on writing
- Use simple planning and organizational techniques to create a first draft
- Recognize ways to improve a draft by making changes to content and organization
- Apply basic rules of grammar, punctuation, and style to edit a draft

- Check a final draft for common surface-level errors before submission

# The Writing Process

When we talk about writing, it may seem that we are talking about only one activity: the act of putting words together in a meaningful way. However, writing involves many different types of activities, and understanding and mastering the different activities in various stages of the **writing process** can help you improve the efficiency and quality of your writing.

The writing process involves several stages, which will be explained in more detail in subsequent chapters. These stages are:

- **Invention.** Explore and research your topic.
- **Drafting.** Put together your ideas into a text.
- **Revision.** Re-see your draft and add, delete, rewrite, and move parts of it to improve the overall effectiveness of the text.
- **Feedback.** Ask yourself and others if your text achieves its purpose.
- **Editing.** Improve the style of your writing. Improve cohesion and conciseness.
- **Proofreading.** Correct grammar, spelling and punctuation. Check formatting.
- **Publishing or sharing.** Disseminate your text to readers.

The writing process is **iterative**, meaning your writing will ideally go through several feedback and improvement cycles. For instance, after you receive feedback on your draft, you may find yourself returning to the invention stage to generate new ideas to add to your draft. The iterative nature of writing means that you should plan your time generously for writing projects: you will encounter unforeseen issues that you will need to address to make your writing as effective as possible.

Figure 1 illustrates the iterative stages of the writing process.

## THE WRITING PROCESS

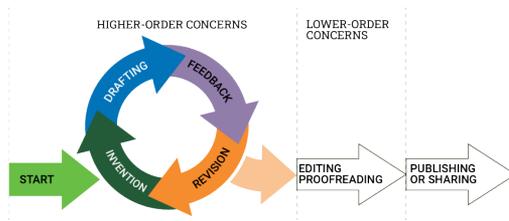


Figure 1. The writing process

Your writing process may also depend on the **context** in which you are writing. If you have a timed writing task on an exam, you must adapt your process to fit the time constraints. If you are writing an article or book for publication, you will go through several rounds of revision and editing.

It is also helpful to distinguish between **low-stakes writing**, for which there are few consequences for unpolished writing, and **high-stakes writing**, where every aspect of the writing process will impact the effectiveness of your text. **Low-stakes writing** will not require a fulsome writing process, whereas **high-stakes writing** will.

## Moving From Higher-Order to Lower Concerns

The stages of the writing process move from **higher-order concerns** to **lower-order concerns**. **Higher-order concerns** include the quality of your analysis and argumentation, the appropriateness of your content, the organization of writing, including your introduction and conclusion, and the effectiveness of your text for your audience and purpose. **Higher-order concerns** should be the primary focus of your writing process because they are the most important factor in communicating successfully. High-quality writing often goes through several drafting, revision, and feedback stages.

**Lower-order concerns** include stylistic issues like conciseness and coherence, correctness and consistency issues in grammar, punctuation and spelling, and the formatting of your document. Save work on lower-order concerns until you are satisfied with your content and organization. You don't want to spend too much time perfecting the style or grammar of your writing when these corrections might get deleted in the revision process.

The advice to leave **lower-order concerns** until the end of a writing project may differ from what you have learned about writing in the past. However, consider this: you could write a grammatically and stylistically perfect text full of meaningless sentences that are ineffective at achieving your purpose. Much of the writing generated by Generative AI falls into this category. It looks great on the surface, but if you read it carefully, it does not communicate meaningfully or effectively. Writing that is superficially perfect but does not effectively convey meaning is not good writing.

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# Invention

**Invention** is the first stage of the writing process (see Figure 1). You are probably familiar with this stage, although you may have called it brainstorming, pre-writing or planning. The invention process aims to develop ideas that lay the foundation for your draft. In this stage, you may research your topic, write notes to generate ideas, doodle a mindmap, or absent-mindedly think about the project while doing other things. The invention stage is important because starting to draft before you are ready can lead to a miserable experience. You might get stuck and end up staring at a blank screen or page because you don't have enough ideas or your ideas aren't sorted out sufficiently yet. You may find yourself returning to the invention stage as you work to improve your drafts.

You can use several different invention techniques to help build material for a draft. Think of the list of invention activities below as a list of recipes: Some recipes will be exactly to your taste, and you will use them repeatedly. Others won't be tasty or won't work for your cooking style. However, you should try as many techniques as possible to find something that works for you. A good invention process will lead to a smoother drafting process.

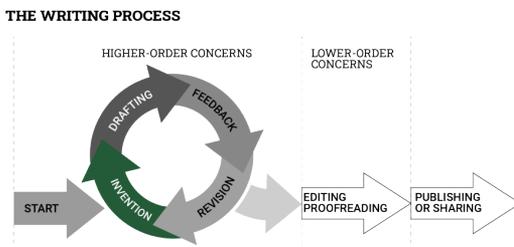


Figure 1. The invention stage of the writing process

## Freewriting

Freewriting is writing without considering grammar, punctuation, spelling or organization. Freewriting is fast writing done in short sessions of five to twenty-five minutes. It is usually private writing that doesn't get shared with others – this privacy means you are free to make a mess without fearing judgment.

### Why freewriting?

**Freewriting** helps you to use writing to develop ideas. When we write, we often focus on editing our words and sentences. We might write a sentence, change a few words, and then delete the sentence. While doing this, we juggle all the writing advice and rules we have learned. Consider these editorial voices in your head as your “editor muscle.” The problem with the editor muscle is that it doesn't help us when we need to generate ideas and develop our early drafts. It can often get in the way of writing by forcing us to focus on surface-level issues rather than digging deeper to find interesting and creative ideas.

When we learn to write, we often develop very strong editor muscles—our schooling emphasizes this aspect of writing. Imagine yourself as the fiddler crab in Figure X; one side of your body is oversized and powerful, while the other is small and weak. Now, imagine how difficult it would be to walk easily if you only worked out on one side of your body. This analogy also applies to writing; if your editor muscle is strong and your creative muscle is weak, you will likely run into balance issues as you write.



Figure 2. A fiddler crab. Note. From “[Fiddler Crab](#)” by Wilfredor, 2013, [CCO 1.0](#).

Freewriting helps us balance the editor muscle by developing an equally strong creative muscle. A well-developed creative muscle can turn off the editorial voices in your head and use writing to make connections and develop your ideas more efficiently. Building up a strong creative muscle makes the writing process more balanced: You are less likely to get stuck, and you may find joy in developing ideas with words.

After a session of freewriting, put your work aside. Return to it in a day or two, and read it carefully. Highlight interesting ideas and ask yourself questions and comments about your ideas. Figure X shows an example of my freewriting with highlighted passages, questions, and comments I asked myself as I read.

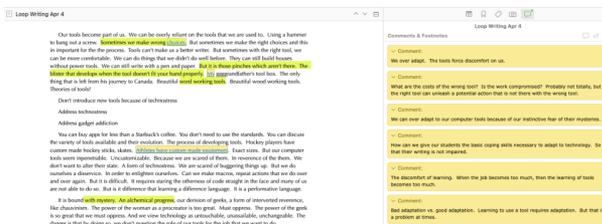


Figure 3. Freewriting with highlighted passages, questions, and comments

Freewriting produces raw writing, which may not become part of your final draft. For some people, this feels too indirect; for others, freewriting helps them to develop more complex ideas and organize their thoughts.

## Types of freewriting

### *Unprompted freewriting*

You can freewrite without a focused prompt or guiding question in mind. This approach could help clear your mind or help you to sort out broad ideas about a topic. To freewrite using this method, you simply have to sit down, set a timer, and write freely. Write as quickly as possible without paying attention to organization, grammar, punctuation, or spelling.

### *Unprompted loop writing*

Peter Elbow, a prominent writing studies scholar, developed a form of unprompted freewriting called loop writing. To loop write, write freely about a topic for a short time. Read your writing and identify the “centre of gravity” or most compelling idea in your freewriting. Then, write freely again, focusing on the centre of gravity from your first freewriting session. You can continue looping like this to add depth to your ideas on a topic.

### *Prompted freewriting*

Prompted freewriting is when you are given a particular question or phrase—a prompt—to focus on. Sometimes, you can develop your

own prompts. For instance, if you have two ideas for a piece of writing but are unsure how to connect them, you could freewrite, focusing on the potential connections between the ideas. Other times, you may be given a particular prompt by your instructor, or you could use a set of pre-existing prompts. For example, you could try one of the following prompted freewriting activities.

### *Perl's Composing Guidelines*

Perl's Composing Guidelines is a set of freewriting prompts that help you develop ideas for a new writing project (Elbow & Belanoff, 2000). These guidelines were developed by writing studies scholar Sondra Perl based on the ideas of the philosopher Eugene Gendlin. Gendlin coined the term "felt sense" to describe a physical sense of knowing something that we haven't yet been able to put into words. In Perl's Composing Guidelines, the prompts ask you to pay attention to your felt sense to discover possible topics and approaches for a writing project.

The "Additional Resources" [hyperlink] section at the bottom of this page provides information on how to learn more about Perl's Composing Guidelines.

### *Cubing*

Cubing is a short freewriting activity that helps you to examine your topic from different angles. There are six prompts in the cubing activity: one for each side of a cube. Don't spend more than three or four minutes on each of the following prompts.

1. **Describe your topic.** What do you see? Describe colours, shapes, sizes, and anything else that comes to mind.
2. **Compare it.** What is your topic similar to? What is it different

from?

3. **Associate it.** What does your topic make you think of? Let your mind wander, and write down any associations you can make to your topic.
4. **Analyze it.** Do your best to write down how your topic is made. That is, separate it into different parts and write down these parts. Write down how you think these parts are connected.
5. **Apply it.** How can your topic be useful? What can you do with it?
6. **Argue for or against your topic.** Take a stand about your topic. Use any type of evidence that comes to your mind.

Cubing was first described by Greg and Elizabeth Cowan in *Writing* (1980).

### *Prompted loop writing*

In addition to his unprompted loop writing exercise, Peter Elbow (1981) developed a series of prompts to guide writers through a freewriting activity. These prompts are particularly useful after you have done some invention work and have some ideas about your topic. They force you to consider an issue from many perspectives, helping enrich your ideas. The prompts for this activity are as follows:

1. **What you know.** Write down what you already know about the topic.
2. **Prejudices.** Write about your topic from a biased perspective. Don't censor yourself.
3. **Instant Version.** Pretend that you know everything you need to know about the topic. Start writing your final version.
4. **Dialogues.** Write a dialogue between the conflicting voices or perspectives on your topic.
5. **Narrative.** Write the story of how your thinking on this topic

has developed.

6. **Stories.** Write down stories or events surrounding the topic.
7. **Scenes.** Take still photographs in your mind of moments related to your topic. Describe these imaginary scenes.
8. **Portrait.** Write short vignettes of the people related to your topic.
9. **Vary the audience.** Write to an audience other than the intended audience for your writing.
10. **Vary the writer.** Write as though you are someone with a different perspective on your topic.
11. **Vary the time.** Write about your topic as though you are living in the past or the future.
12. **Errors.** Write down ideas that are almost true about your topic.
13. **Lies.** Write down strange or crazy ideas about your topic.

## *Inkshedding*

Inkshedding is a form of shared freewriting developed by Canadian writing studies scholar Russell Hunt (2005). The main difference between inkshedding and freewriting is that writers know this writing will be shared before they sit down to write. Typically, writers are asked to inkshed after a shared experience, like listening to a conference presentation or reading something. Writers write freely on their ideas about the shared experience in their inksheds. The inksheds are then exchanged with other writers who highlight interesting passages.

Inkshedding helps to draw out the social nature of writing; it makes the communication between the writer and the reader visible. This activity also ensures that every participant has their voice heard—something impossible in a group discussion.

Inkshedding can be scary initially because it requires sharing your raw writing and “top of the mind” responses with others. However,

once you overcome your initial fears, inkshedding is a powerful activity that helps us understand how writing builds community.

## Visual Invention Techniques

### Mindmaps

A mindmap is a visual invention technique. At the centre of your document, you write down your topic. You add ideas which relate to the topic around the centre, attaching them to the central idea with a line. Repeat this process with your sub-topics, adding more relationships and details as you move out of the central topic. Figure X shows a mindmap developed for an essay about the novel *To the Lighthouse* by Virginia Woolf.

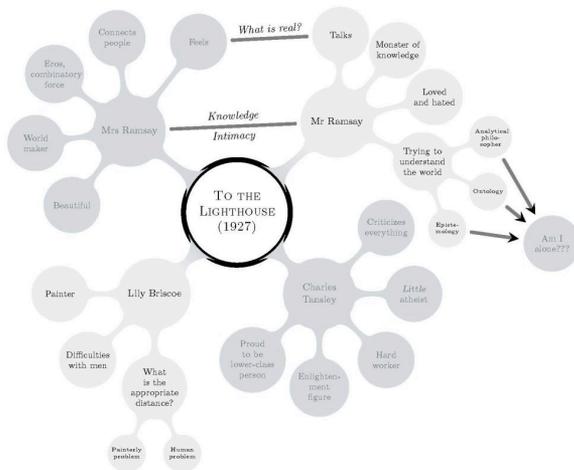


Figure 4. To the Lighthouse Mindmap Note. From [Wikimedia Commons](#) by V. Repin, 2013, CC BY-SA 3.0.

For mind mapping to be effective, you should build your map to at least the third or fourth level. Otherwise, your thinking about your

topic remains too superficial, and you may not find connections that enrich your writing.

## Visual scrapbook or collage

Writers sometimes make visual scrapbooks or collages to help them develop project ideas. For instance, you can browse the Internet for images related to your topic. Copy them into a document and comment on the relationship between your topic and the image. You can also print out the image and create a physical scrapbook. This technique is especially useful for a complex project. Figure X shows a page in a scrapbook that I kept as I worked on a writing project about academic writing.

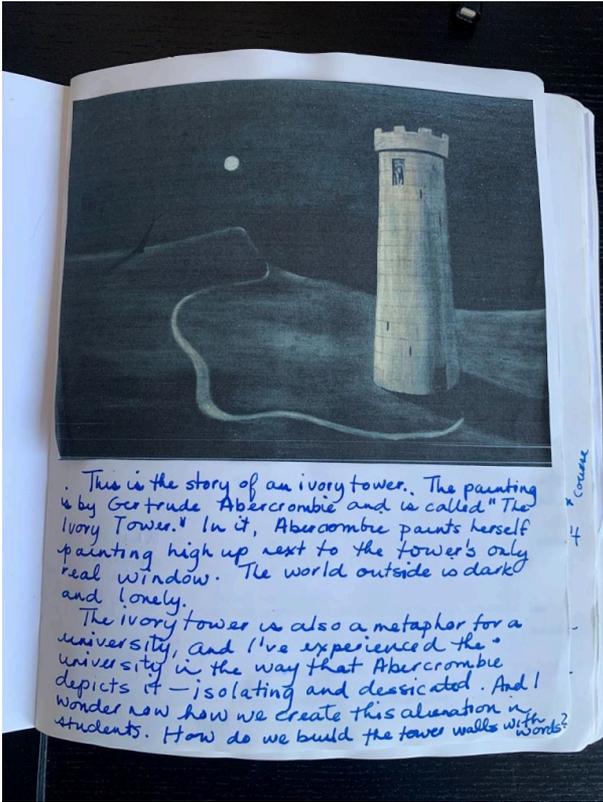


Figure 5. A scrapbook page developed for a project on academic writing

You could also create a collage that gathers images relating to your topic. A collage asks you to combine images into one large image, forcing you to juxtapose ideas and consider their relationship. Figure 6 shows an example of a collage produced by Brittany Amell as she generated ideas for her co-written paper “Engaging with Play and Graduate Writing Development” (p. 38).



Figure 6. A collage as invention activity. Note. From “[Engaging with play and graduate writing development](#)” by B. Amell and E.M. Blouin-Hudon, 2018.

## Spoken Invention Techniques

### Speech-to-text

If you prefer oral communication to writing, you may find speech-to-text software helpful in the invention phase. You can use the freewriting approach when you use this software. For instance, you can speak freely for a few minutes about your topic while the software records your words. You can also use the freewriting prompts or activities listed above to guide your speech about your topic. Because this software sometimes makes mistakes as you speak, the output looks like freewriting’s messy, raw writing.

### Discuss your topic

Here’s a tried and true method to develop ideas for a paper. Talk

about your topic with a loved one, friend, classmate, instructor, or writing centre tutor. Sometimes, this is a surprisingly easy and effective method to gather ideas and work out areas of confusion.

## Using Generative AI for Invention

### Consider academic integrity

- Please confirm with your instructor, course syllabus and your institution's policies if you can use Generative AI to help you develop ideas for a project.

### Use it effectively

- Generative AI can be helpful as a conversational assistant when you are in the invention stage of a project.
- Be sure to use effective prompts that provide important context. For instance, tell the Generative AI tool that you are an

undergraduate student writing a research paper for a particular course. Provide the name of the course. Be clear about what types of suggestions you want and what kinds of suggestions you don't want. After the initial prompt, be sure to follow up with questions that help to refine the ideas.

## Beware of the limitations

- Generative AI may provide you with biased and inaccurate information. The training data provided to Generative AI may include biases that will be reflected in the responses that you receive.
- Generative AI may plagiarize the sources used in its training database.

## Consider your learning journey

- If you rely on Generative AI in the invention stage, you may not have the chance to consider original and creative ideas. Missing out on exploring these ideas may lead to less interesting writing and academic work.

## Consider ethics

- Consider the ethical implications of using these tools. Ensure that the ideas generated with Generative AI do not infringe on others' copyright. Make sure you acknowledge your use of Generative AI in the acknowledgements section of your work.

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## Additional Resources

If you want to try Per's Composing Guidelines, watch [this series of videos](#) that guide you through the prompts or read the text prompts at "[Sondra Per's Composing Guidelines](#)."

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# Drafting

**Drafting** is the act of shaping your ideas into sentences, paragraphs, and a cohesive, ordered whole. Drafting usually follows the invention stage of writing. However, you may return to the invention and drafting stages after gathering feedback and discovering that you have to add new material to your text. In other words, drafting is part of the iterative process of writing. Figure 1 shows how you may return to invention and drafting after a round of feedback and revision. Writing several drafts of a high-stakes text is standard practice for experienced writers: No one gets it right the first time.

The cognitive work of sorting out the world into the linearity of writing can be hard work. It is not unusual to feel physically tired after a day of writing—this reflects the mental effort it takes to synthesize and organize your ideas.

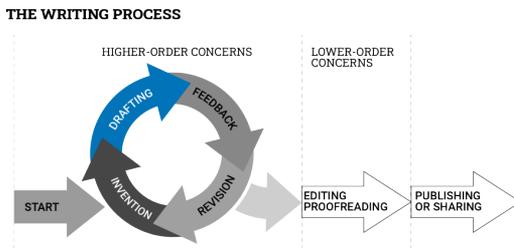


Figure 1. The drafting stage of the writing process

Beginning your first draft can be daunting. Most of us have experienced the agony of staring at a blank page or computer screen. To avoid getting stuck at this stage, remember that your first draft should be imperfect and that you will improve this draft through cycles of feedback and revising. Anne Lamott, a well-known American writer, urges us to write a “shitty first draft.” She writes, “[T]he only way I can get anything written at all is to write really, really shitty first drafts. The first draft is the child’s draft, where you let it all pour out and then let it romp all over the place, knowing

that no one is going to see it and you can change it later” (p. 22). Similarly, Donald Murray, an American journalist and writing instructor calls the first draft the “discovery draft” (p. 395). He divides the writing process into three important stages: prevision, vision, and revision. For Murray, the discovery or first draft falls into the “vision” stage of writing; this is when the writer “stakes out a territory to explore” (p. 395). Once you have staked out your territory, you can go back to re-see your ideas in the revision stage. In other words, embrace the messiness and uncertainty of the first draft. You will agonize less over a blank page or screen if you do.

In high school, you may not have had the opportunity to practice this iterative cycle when you wrote. However, in university, this cycle of invention, drafting, feedback, and revision helps us to add depth and critical thinking to our texts. The standards for writing are higher at university, and to improve the quality of your writing, you will need to spend more time developing and revising your drafts. Aim to complete the first draft early in the writing process so that you can spend significant time gathering feedback and revising your writing.

## Strategies to Conquer the First Draft

### To outline or not outline?

Some students think that they must complete an outline before writing. Outlines can indeed be very useful as they can be the starting point for organizing your thoughts into the patterns your audience expects. For instance, if you are writing a lab report or scientific research article, you might begin by adding the following major headings to an outline:

1. Introduction

2. Method
3. Results
4. Discussion
5. Conclusion

You would then begin adding ideas under each heading. This is certainly a helpful way for many writers to start a draft. If you do find outlines helpful, remember that you will need to adapt your outline as you write. Don't let it restrict you from exploring new ideas or finding a better way to organize your text.

However, outlining doesn't work for all writers and all types of writing. For instance, as my texts got longer and more sophisticated, I couldn't write according to an outline. I had to build my draft one idea at a time. I thought something was wrong with me until I learned that other writers work the same way. The text emerges in a non-linear way for me, but I still produce complete and coherent texts. You might feel the same way about outlines, and it is okay to forego them if you can find other ways to get your ideas into a draft.

## Build your text from the inside out

Sometimes, writing the first sentence of a first draft gets us stuck. This is because we learn as we write. Ideas become more precise and better articulated as we produce a text. For this reason, starting your first draft by writing the introduction can sometimes be counterproductive. It may work for some writers, but for others, it results in hours of unproductive time trying to start a text that is not yet entirely conceived in your mind.

To avoid this, write the parts that are the easiest first. I like to think of this as pulling all of the loose threads. I start by writing the clearest ideas I know need to be in my text. For instance, if I know I have to have a paragraph on how to use Generative AI to proofread in my chapter on proofreading, and I have an idea for it, I'll start

by writing that paragraph. When I finish writing that paragraph, I usually have an idea for another.

## Move back and forth between invention and drafting

Change activities if you get stuck or slow down as you write. Don't waste time staring at a blank page. Move away from your draft, and try one of the invention activities listed in the "Invention" chapter. You can focus your invention activity on addressing problems in your draft. For instance, if you know you have to connect two ideas in your draft but are unsure how to do so, freewrite for a set period to explore this connection.

## Don't consider lower-order concerns while you draft

We know from writing studies research that writers get writer's block because they become too fixated on rules we have been told about writing (Rose, 1980). For instance, we might fixate on paragraph structure and grammar rules as we draft. We can spend hours trying to make one sentence perfect. This is not a good use of your time at the drafting stage. Your text will hopefully go through some important improvements as you draft and revise, and if your perfect sentence no longer meets a need of the text, it will get cut out. All of the time you spent on crafting that perfect sentence will be wasted. For your first draft, concentrate on the higher-order concerns of content and argumentation. You will have time to fix your organization, style and grammar in subsequent drafts.

## Using Generative AI for Drafting

### Consider academic integrity

- Using Generative AI to write an outline may be acceptable under your institution's academic integrity policies, but using it to write your draft may violate them. Both skills are essential to develop strong writing and critical thinking abilities, and using Generative AI for these tasks is likely dangerous for you as a learner and your status at the university.
- Please confirm with your instructor, course syllabus and your institution's policies before you use Generative AI to assist you with outlining or drafting a text.
- Turn off proofreading software like Grammarly while you draft. Make a copy of your draft before proofreading with this software. This is important because proofreading software may make it seem like Generative AI wrote your text. You must be able to provide a draft with your own writing to prove that you were the author.

## Use it effectively

If you want to use Generative AI to create an outline, use Generative AI as a tutor. This will help you to become a better writer rather than a writer who is reliant on Generative AI. For instance, you could write a prompt like this one from writing studies scholar Brian Hotson's (2023) article "[Hello! I am your AI academic writing tutor: A quick guide to creating discipline-specific tutors using ChatGPT](#)"

- You are an upbeat, encouraging academic writing tutor who is knowledgeable in science. You help students understand concepts of academic writing by explaining both the ideas of a student's question as well as how to structure academic writing for those questions. Start by introducing yourself to the student as their AI academic writing tutor who is happy to help them with any question related to biology. Only ask one question at a time. First, ask them what they would like to learn about. Wait for the response. Then, ask them about their learning level: Are you a first-year, second-year or third-year student? Wait for their response. Then ask them what they know already about the topic they have chosen. Wait for a response.

## Beware of the limitations

Generative AI can only generate ideas from the boxes of ideas it finds in its training database. It may not provide unique and interesting ways to explore a topic.

## Consider your learning journey

Composing your outline and first draft is an important part of the writing process. You stand to lose a lot of learning by asking Generative AI to do this step for you. You will miss the opportunity to learn how to move from ideas into an ordered composition. This is part of critical thinking and successful communication. Seriously consider your learning journey before using Generative AI to complete these tasks.

## Consider ethics

Consider the ethical implications of using these tools. Ensure that the ideas generated with Generative AI do not infringe on others' copyright. Make sure you acknowledge your use of Generative AI in the acknowledgements section of your work.

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# Providing and Receiving Feedback

When we write, we may actually forget our readers. We write from inside our heads and know exactly what we mean. However, when others read our writing, they may find gaps in content. They may be unable to follow the ideas' logic or order. They are not inside our heads, so they may be missing the critical information that lends meaning to the text. Revising your writing with the reader in mind can be easier when you get help from others. Feedback to the rescue!

Most writers seek feedback after they have developed a solid draft they are willing to share with readers. Expert writers will use the feedback they receive to make substantial changes to their draft—this process is called revising. You can read more about how to revise in the chapter [“Revising.”](#)

Figure 1 shows feedback as part of an iterative writing process.

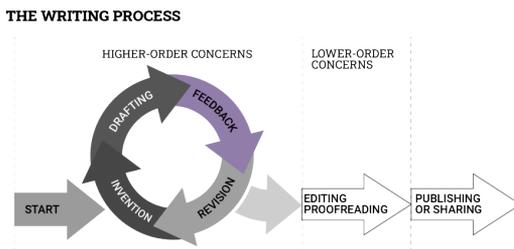


Figure 1. The feedback stage of the writing process

Writing is complex work, and the best writers rely on others for constructive feedback. Seeking feedback on your writing through peer review, course instructor comments, and writing centre appointments draws you into a community of writing practice.

Think of writing as a craft, something that is learned over time, an activity that has no ceiling on its performance.

When you seek feedback, consider what type of feedback you need and who might best provide you with that feedback. You must also consider your reactions to feedback: How can you best hear and understand potential criticism of your text without getting defensive?

When you are asked to provide feedback, you need to consider what type of feedback is most appropriate and how to convey your feedback in a respectful and effective manner.

The following sections explore these aspects of feedback in more detail.

## What Kind of Feedback Should You Ask for?

The kind of feedback you seek should be related to where you are at in the writing process. You should ask for different types of feedback if you are at the drafting stage or if you are at the proofreading stage. In other words, if you are working on higher-order concerns like content and organization, you should ask for feedback on those elements. If you are working on lower-order concerns like style and grammar, you should ask for feedback on those elements. This distinction is important because feedback providers may default to providing feedback on lower-order concerns; it is more straightforward feedback to provide, and many people are not practiced at providing feedback on higher-order issues.

Do you have an assignment that requires writing? Take it out now and see if you can find the rubric or how your writing will be marked. The assignment instructions and grading standards or rubric clarify your course instructor's expectations. These expectations may be grouped into possible categories such as organization, content, sentences/grammar, and format. Each

category may include specific criteria (e.g., “strong thesis statement” or “argument clarity”) with accompanying marks for fulfilling this criterion. You can use this information to ask for feedback specifically related to your instructor’s expectations.

You may have a particular weakness when it comes to writing. For instance, your thesis statements may not be as concise as they should be. You should direct your feedback provider to check this element of your writing.

## Who Should You Get Feedback From?

### Expert writers

For high-stakes writing projects, you might want to seek feedback on your draft from expert writers. As students, you may be able to ask your instructors for feedback. However, be aware that these are busy people, and they may have limited time to divide equally among their students. If you do have an instructor who provides you with feedback on your draft, you have been given a special gift.

Of course, you will get feedback from your **instructors** on the final draft of your writing in the form of a grade.

### Advanced writers

If your course has **teaching assistants**, you may be able to get feedback on your drafts from them. Teaching assistants are typically graduate students who have done well in undergraduate programs and have mastered academic writing at a high level. Your teaching assistants’ ability to provide feedback may be linked to whether feedback to students was included in their contracts.

Most post-secondary institutions have **writing centres** where students can receive feedback on their drafts from staff or tutors trained to provide feedback on many different types of writing. Even if you are a strong writer, talking about your writing with these advanced writers can help you untangle the knots in a text.

## Peers

Your peers are an excellent resource for feedback. Your instructor may group you with peers so that you can provide feedback on each other's drafts as part of your coursework. **Peer feedback** in a course is an excellent way to hear from readers who are learning the same material and may have good insight into what your instructor expects.

If your course does not include peer feedback, you could organize it yourself. Ask a fellow student or students if they would be interested in providing feedback on drafts. If you are in a writing-intensive course, you could establish a **writing group**, which is a group that meets to discuss and provide feedback on writing regularly.

## Family and friends

Your **family and friends** can be excellent test readers. They are usually the friendliest audience, which has advantages and disadvantages. These readers will love us no matter the issues with our writing; however, they might not see important areas for improvement.

Remember to give your family and friends explicit instructions about the type of feedback you seek about your writing.

## How Can You Receive Feedback Effectively?

Sometimes, receiving feedback is hard. You may feel hurt by what you hear. Remembering that feedback is a gift helps reduce that sting. Respond to feedback by thanking the person who gave it to you and carefully listening to (or reading) the advice. You may wish to ask questions for clarification so you are sure you understand what you might do to improve. Avoid becoming defensive or rationalizing your choices, as this may frustrate the person providing feedback. Why ask for feedback if you are not going to listen carefully to it?

You may also wish to ignore the feedback if it does not make sense or departs from your course instructor's expectations. As the writer, you are in the driver's seat and can choose whether or not to implement the suggestions you receive. As a general principle, if you hear the same feedback from more than one reader, there is a good chance that you should listen to it.

## How Should You Offer Feedback?

American writer and cartoonist Frank A. Clark says, "Criticism, like rain, should be gentle enough to nourish a man's growth without destroying his roots" (qtd in *BrainyQuote*, 2025). In offering feedback, your goal is to help your peer improve. To help your peer, you need to deliver your feedback in a way that your peer will hear.

First, you want to emphasize what works well in your peer's writing using scripts like these: "I really like the interesting anecdote you include in your introduction" or "Your sentences are easy to understand."

Second, you can highlight opportunities for growth. You may want to try asking questions:

- "Are you sure that 'contemptation' is a word?" or "What do you

mean when you say, ‘the be all is sublime?’”

- You can offer suggestions from your writing experience: “When I find one of my paragraphs is going on for several pages, I consider breaking it down into shorter paragraphs.”
- You can speak to your experience reading the text: “I am getting sleepy as I read your middle section. I’m having trouble following your main point.”

Finally, you can point your peer to resources you’ve found helpful: “When I need help with writing paragraphs, I look at the OWL’s page [“On Paragraphs.”](#) Hearing about the resources you’re using might inspire your peers to check them out.

Reading others’ writing opens our eyes to our own strengths and challenges as writers. When we read our peer’s writing and find gaps between ideas, we are reminded of our own need to ensure that connections are clear. Struggling to locate key points in long, repetitious sentences shows us the need to write clear sentences in plain language. Scrutinizing facts our peers share and wondering about sources highlights the importance of citing sources. Reading the writing of others is a window to improving our processes and products.

## Using Generative AI for Feedback

### Consider academic integrity

Please check with your instructor, course syllabus and your institution's policies about using Generative AI before you use these tools to provide you with feedback on your text.

### Use it effectively

If you want to use Generative AI to provide feedback, develop effective prompts. For instance, it will not likely be helpful to ask Generative AI, “Tell me what to fix in my draft.” Effective prompts will be specific and directive. For example, you might prompt Generative as follows:

- I am a first-year student at university. I'm writing a rhetorical analysis of an opinion article. The instructor has given us the following instructions for this assignment: [Insert instructions]. Given these instructions, please provide me with the strengths and areas for improvement for the following text.

Focus on higher-order concerns like content and argumentation. Do not rewrite my text. [It is important to remind the LLM not to rewrite your text for you. You want its feedback, but not its writing.]

## Beware of the limitations

- Generative AI will teach you to write in a homogenized way. It looks for common patterns in texts, and it will advise you on ways to ensure that your text follows those patterns. Ultimately, this could lead to uninspired and dull writing. This might not be what you want.
- Generative AI might not recognize aspects of your writing that are specific to your context. For example, your instructor may have given you specific instructions on formatting a thesis statement, but Generative AI may not know this or how to help you with this. Writing always takes place in a very specific situation where there are specific relationships between the reader and the writer. Generative AI cannot reflect these specific situations and relationships in writing, and this is often evident to the reader.

## Consider your learning journey

Learning to review your writing and recognize

shortcomings is an essential part of becoming a better writer. If you rely too heavily on Generative AI to provide feedback on your writing, you might miss out on this learning opportunity. As a general principle, you should use Generative AI in ways that improve your own abilities to write and think.

## Consider ethics

Consider the ethical implications of using these tools. Make sure you acknowledge your use of Generative AI in the acknowledgements section of your work.

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## Additional Resources

At the University of Alberta, you can get feedback from peer tutors at [Writing Services](#).

The MIT Comparative Media Studies/Writing unit has produced an excellent video on peer feedback in the classroom called “[No One Writes Alone: Peer Review in the Classroom – A Guide for Students](#).” (6:33)

## References

BrainyQuote. (2025.). Frank A. Clark Quotes.  
[https://www.brainyquote.com/quotes/frank\\_a\\_clark\\_105689](https://www.brainyquote.com/quotes/frank_a_clark_105689)

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# Revising

Revision is the process of re-seeing your draft. When we revise our texts, we ask ourselves and others how well our writing reflects our goals. We consider our text’s purpose, audience, and genre and make substantial changes to improve its effectiveness.

Revision is closely related to providing and receiving feedback, which you can learn more about in “[Providing and Receiving Feedback](#)”. We cannot revise effectively without considering our text from a reader’s perspective. Sometimes, we don’t have access to a test reader, so we must take on that role ourselves. Figure 1 shows you where revision typically occurs in the writing process.

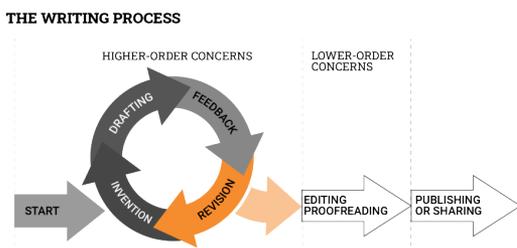


Figure 1. The revision stage of the writing process

Revision is often confused with editing and proofreading, but revision is more substantial than either of those activities. When you revise, you usually take apart and reassemble your text, which can look completely different at the end of this process. Expert writers will revise their text multiple times, moving through cycles of drafting, seeking feedback, and revising. Sometimes, your text will change dramatically as you revise. Once you are happy with the content of your text, you can move to editing and proofreading, which involve lower-order concerns like style, grammar, and citation.

We know from writing studies research that novice writers do not revise as effectively as experienced writers (Sommers, 1980). In fact,

many novice writers have never substantially revised their writing. Novice writers tend to write a draft, proofread it for surface errors like typos, and submit their drafts to their teachers or instructors. While this strategy may have worked for you in high school, university writing is more complex and requires strong critical thinking. Writing multiple drafts and seeking feedback allows you to improve the depth of your thinking, which will likely improve the effectiveness of your academic writing. Figures 2 and 3 compare novice and experienced writers' writing processes. You can see the iterative and recursive nature of an experienced writer's process compared to the linear nature of the novice writer's process.

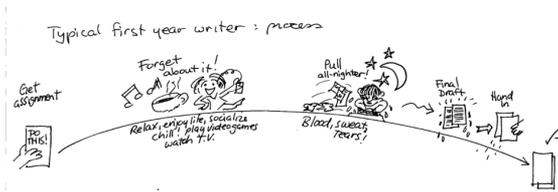


Figure 2. The typical first-year writer's process. Note. From "[Writing Processes](#)" by Christina Grant, [Writing across the University of Alberta](#), licensed under [CC BY-NC-ND 4.0](#).

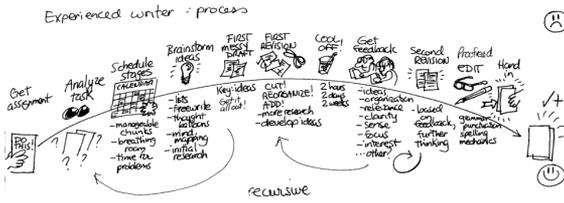


Figure 3. The typical experienced writer's process. C4W stands for Centre for Writers, which is the former name of Writing Services at the University of Alberta. Note. From ["Writing Processes"](#) by Christina Grant, [Writing across the University of Alberta](#), licensed under [CC BY-NC-ND 4.0](#).

As you can see, incorporating revision into your writing process will likely be one of the biggest changes you will make as a university student, especially with high-stakes writing assignments. You will need to build time into your writing plan for revision. As university writers, it is also important to recognize that the extent to which you can revise is linked to the time you have to complete a project. A semester-long project should include several rounds of revision; a timed essay on an exam will likely only include minor revisions.

## What Does Revision Involve?

Revision involves evaluating the appropriateness and effectiveness of your content and its arrangement in your text from a reader's perspective. Before you revise, you will likely gather feedback from readers, but sometimes, this isn't possible. In this case, you must evaluate your text from an imaginary reader's perspective.

The following activities are part of a typical revision process:

- Adding new material to help your reader better understand your text
- Deleting irrelevant information that distracts from your main point
- Rewriting material to improve clarity and focus
- Moving information to improve the flow of your text.

Remember that revision focuses on high-order concerns. We are not concerned with style or grammar because there is no point in fixing the style or grammar of sentences that could get deleted. Once we are satisfied with our content, we will get to these elements in the editing and proofreading stages.

When revising your texts, you can ask yourself the following guiding questions. You can also share these questions with test readers to help guide them in the feedback process.

## Questions to guide revision

### *Questions about content*

- Is the purpose of your text clear? Does the purpose match the assignment requirements?
- Does your draft have a strong central focus or thesis

statement?

- Have you included all of the necessary elements for the reader?
- Have you answered the reader's questions when they will arise?
- Have you included material that is not relevant to your purpose?
- Is your content factually correct? Are your sources credible, relevant, and connected to your argument?
- Is your argument sound? Do you provide evidence through examples or data to support your argument?

### *Questions about organization*

- Is your content organized in a way that is typical to the genre? For example, if you are writing a lab report, did you order everything in the typical way of a lab report?
- Are your ideas organized logically?
- Are your paragraphs organized well? Do you focus on one idea in each paragraph?
- Are your sentences organized well?

## **Make a Revision Plan**

Once you have gathered feedback on your draft, it is helpful to build a revision plan. Make a list of the revisions you need to make. Identify the importance of each revision. Typically, you will begin revising higher-order concerns such as content and argumentation. Then, you will move to issues of organization. Move from the most important revisions to the least important ones.

You may not want to incorporate all the feedback that you receive. Sometimes, you will receive feedback that you disagree with. You

can reject that feedback, but be cautious: if it is your instructor or a person in power who has given you the feedback, you may suffer consequences for not following their advice.

## Using Generative AI for Revision

### Consider academic integrity

Please check with your instructor, course syllabus and your institution's policies about using Generative AI before you use these tools to help you revise your text.

### Use it effectively

Generative AI may be a helpful tool for revision. Once you revise your text, you can prompt an AI to evaluate your changes. For instance, you could prompt it as follows:

- I am revising a draft of a rhetorical analysis for a first-year university course. I received feedback that I did not include enough contextual information for the reader. Specifically, the feedback said that I did not adequately explain X point. Read my revision. Tell me if I have improved the contextual information for

the reader in the following text. If I have not, provide me with suggestions on what I should include. Do not rewrite my text. [Attach your text]

Generative AI can create a reverse outline of your text to help you evaluate how effectively it is organized. A reverse outline is a helpful technique whereby you work paragraph by paragraph through a text and make a list of phrases or sentences that indicate what each paragraph is about. This list is a reverse outline, and you can use it to evaluate the overall organization of your text and the organization within each paragraph. You can prompt Generative AI to create a reverse outline for you as follows:

- Please create a reverse outline of the following text. Based on the reverse outline, evaluate the logical flow of the text in general and the flow of information within paragraphs. Provide suggestions on how to improve the flow of the text. Identify sentences that do not belong in a paragraph. Do not rewrite my text. [Attach your text]

## Beware of the limitations

- Generative AI will teach you to write in a homogenized way. It looks for common patterns in texts, and it will advise you on ways to ensure that your text follows those patterns. Ultimately, this could lead to uninspired and dull writing. This might not be what you want.
- Generative AI might not recognize aspects of your

writing that are specific to your context. For instance, your instructor or editor may have very particular things they expect in your text, and Generative AI may not understand how to handle these expectations.

## Consider your learning journey

Learning to revise is an essential part of becoming a better writer. Revision is about better communicating with your readers, and generally, Generative AI cannot mimic the rhetorical knowledge of a human writer. In other words, Generative AI has difficulties understanding the nuances of the relationship between the writer and their readers, which often shows in its output.

## Consider ethics

- Remember that when you share your writing with Generative AI, it may be added to the tool's learning database. It may be used in future responses to other users. Do not disclose any private information.
- Consider the ethical implications of using these tools. Make sure you acknowledge your use of Generative AI in the acknowledgements section of your work.

## Additional Resources

Arizona State's Study Hall program has a helpful video on revision called "[The Writing Process: Revision](#)."

American author Obert Skye discusses revision in his Ted Talk "[The Magic Of Revision](#)."

Different professionals describe their revision processes in the video "[The Writer's Guide: Revision](#)" by Soomo.

## References

Sommers, N. (1980). Revision strategies of student writers and experienced adult writers. *College Composition & Communication*, 31(4), 378-388. <https://doi.org/10.58680/ccc198015930>

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Figures 2 & 3 are from "[Writing Processes](#)" by Christina Grant, [Writing across the University of Alberta](#) is licensed under [CC BY-NC-ND 4.0](#)

# Editing

When you are satisfied with how you have revised your draft's content and overall organization, you should move to the editing stage of the writing process. Editing focuses on making your writing as effective as possible. You will focus on improving the sentences and wording of your draft during the editing stage. In other words, you will now focus on your draft's lower-order concerns.

Figure 1 shows where the editing stage happens during the writing process.

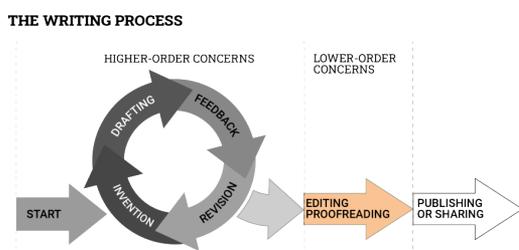


Figure 1. The editing stage of the writing process

## Key Questions to Ask During the Editing Stage

### Cohesion

Cohesion refers to how your paragraphs, sentences, and words work together to give the impression of a unified whole. Check the cohesion of your text by asking the following questions:

- Are your sentences clearly connected? Can you use transition words or phrases to make these connections clearer?
- When you use pronouns like “he,” “she,” “they,” “this,” “that,” is it

clear what the pronoun refers to? Check how far apart the antecedent (the noun the pronoun refers to) and the pronoun are. If there is one or more sentences between the antecedent and the pronoun, they may be too far apart.

## Clarity

A text is clear when the reader is not confused or distracted by any sentences or words. This is what we mean by clarity. To check for clarity, ask:

- Have you used precise nouns and verbs? For instance, could you replace vague nouns like “thing” with something more specific? Or could you replace weak verbs like “to be” verbs with something clearer? For example, if you have written, “There are many approaches to editing,” you could change it to, “Writers approach editing differently,” which clarifies the actor and the action.
- Are your sentences clear? Read your writing aloud or ask someone else to. If you stumble over a sentence, you could edit it to make it flow better.
- Are any of your sentences too long? Check to see if you have any overly complicated sentences. It is a good idea to break these complex sentences into smaller ones.

## Conciseness

The most effective writing uses the fewest words to convey a message. Learning to cut out extra words is an important skill! Here are some questions to help you improve the conciseness of your writing.

- Does your text fall under the assignment word count? If not, where can you cut out unnecessary words?
- Do you use any common expressions that can be shortened? For instance, phrases like “due to the fact” can be reduced to a single word, “because.”
- Do you use qualifiers like “very,” “somewhat,” or “really”? These words can often be eliminated.

## Tone

Tone refers to a writer’s attitude or emotion in their text. Different genres and writing contexts call for different tones. For instance, you may not want to use an informal, sarcastic tone in a cover letter to a potential employer. That tone might lose you a job! To check for tone, ask yourself:

- What tone does this piece of writing call for? Formal or informal? Optimistic, pessimistic, neutral? Personal or objective? Does the tone of my writing reflect this expectation?
- Am I using words that might unintentionally alienate my audience?
- Are my word choices reflective of the level of formality required? For instance, contractions like “don’t” may not be appropriate in a formal text.

## Differences Between Revising, Editing, and Proofreading

Revision, editing, and proofreading are different stages in the writing process, although the distinction between these activities is often blurred. In addition, you may hear different people use these

terms in different ways. Table 1 summarizes the main differences between revision, editing, and proofreading.

---

Revision	<p>Re-seeing your draft from your reader's perspective Focused on higher-order concerns like content and organization Includes adding, deleting, reordering, and rewriting material Sometimes called "substantial editing" Professional writers often work with test readers and an editor when revising their drafts</p>
Editing	<p>Usually, this takes place after the writer is satisfied with the content of a draft Includes rewriting sentence structure for clarity, cohesion, and conciseness; reducing word count; and aligning tone and style with your audience's expectations Editors and copyeditors often work with professional writers at this stage of the writing process</p>
Proofreading	<p>Adds polish to a nearly-finished text Includes a review of grammar, spelling, punctuation, citation, and overall formatting; checks for correctness and consistency No significant changes to content or structure Professional copyeditors or proofreaders usually do this work. The writer approves changes</p>

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## Using Generative AI for Editing

Consider academic integrity

Please check with your instructor, course syllabus and

your institution's policies about using Generative AI before you use these tools to edit your text.

## Use it effectively

Generative AI can help you edit, but be careful here. Using Generative AI to edit your text may introduce language that no longer sounds like you as a writer. If you use Generative AI to edit, use it to help you become a better editor. Prompt it to make suggestions on your text's coherence, clarity, conciseness and tone, and ask it to explain the rationale behind these suggestions. Be sure to tell the tool not to rewrite your text.

## Beware of the limitations

Generative AI will teach you to write in a homogenized way. It looks for common patterns in texts and will advise you on ways to ensure that your text follows those patterns. Ultimately, this could lead to uninspired and dull writing. This might not be what you want.

## Consider your learning journey

Learning to edit your text while still sounding human will be an important part of human writing in the future. If you

delegate this job completely to Generative AI, we may all start to write similarly.

## Consider ethics

- Remember that when you share your writing with Generative AI, it may be added to the tool's learning database. It may be used in future responses to other users. Do not disclose any private information.
- Consider the ethical implications of using these tools. Make sure you acknowledge your use of Generative AI in the acknowledgements section of your work.

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# Proofreading

Proofreading is the final stage of the writing process before you share your writing for grading or publication. Proofreading involves carefully reviewing and correcting your text for spelling, grammar, punctuation, syntax, and formatting errors and consistency. When we proofread, we look for surface errors that may diminish the impact of the text. You should only begin the proofreading process when you are satisfied with the content and organization of your text.

Proofreading requires close attention to detail. For this reason, it can be a difficult task that you might be inclined to skip. However, proofreading adds polish to your writing. Think of it like this: you could wear the most expensive and gorgeous piece of clothing you own, but if you fail to iron it before you go into public, the impact of this piece of clothing will be lost. Similarly, you could produce a piece of brilliant and insightful writing, but if you fail to proofread it carefully, your reader may not be able to see the value of your ideas.

Proofreading your text carefully shows that you care, and your attention to detail and the care you take with your work will often be reflected in your grades and the success of your writing.

## Key Steps in Proofreading

**Step 1:** Make a copy of your draft before you begin proofreading

Making a copy of your draft before you move to the next stage of the writing process is always good practice. This saves your work in case something goes wrong and keeps a record of your work before

changes. Your instructors, bosses, and publishers may want to have a clear record of the progress of your work.

## Step 2: Check your spelling, grammar, and punctuation with proofreading software

Turn on your proofreading software now if you have turned it off. Review each suggestion carefully. Remember that not all of the suggestions that these tools make are correct. Some suggestions may change your intended meaning. Also, proofreading software may ignore some errors like homonyms (words that have the same spelling or pronunciation but mean something different). If you don't know whether a suggestion is correct, note it and highlight the problematic part in your text.

## Step 3: Read your text aloud to yourself

It is very difficult to find your own mistakes in your writing. In addition, you can catch errors like homonyms missed by proofreading software because you can consider the content in which these words appear. Reading aloud forces your brain to slow down and hear your sentences as you read them. As you read aloud, mark any errors in your text. Highlight any parts where you are unclear whether your text is correct.

## Step 4: Ask someone to proofread your text

It always helps to have someone else proofread your text. They will find errors that you and your proofreading software have missed.

However, it is important to tell your proofreader that you only want suggestions about grammar, spelling, and punctuation at this point, as you will not have time to address suggestions about content or organization. In addition, ask your proofreader to only make suggestions on your draft using the commenting feature. After all, as the author, you want to have the final say about any changes to your writing. Like proofreading software, human proofreaders may introduce corrections that change your meaning. Review the suggestions from your human proofreader and incorporate suggestions that you feel are correct.

## Step 5: Clarify rules and conventions

You may not know the rules or conventions for particular grammatical structures, punctuation or spelling to correct passages in your text.

The following resources may help:

- Use a search engine. You may be able to find answers using a search engine. For instance, you could search for “comma placement in dialogues.”
- Consult a style guide. Common citation styles like APA, MLA, or CSE provide guidance on grammar, punctuation, and spelling issues. The Translation Bureau of Canada maintains a style guide [Writing Tips Plus](#), which sets standards for writing in the Canadian government.
- Consult a dictionary. If you are unsure of the spelling or meaning of a word, consult a dictionary to check.
- Ask an expert. The Writing Centre at your university may help you solve some of the more complex issues you encounter with grammar, punctuation, and spelling. However, the tutors are not proofreaders; their goal is to help you become a better writer.

## Step 6: Make corrections

Once you have compiled a list of necessary grammar, punctuation, and spelling corrections, make the changes to your document.

## Step 7: Review formatting

Instructors, publishers, and bosses often have very specific requirements for formatting your writing. The APA, MLA, or CSE style guides provide information on how to format student papers. Check the following issues:

- Title page requirements
- Header and footer requirements. Do you need a running head? Where should you put the page numbers?
- Font type and size
- Line spacing
- Heading and subheading formats
- Paragraph separation: Should you use an indent on the first line of each new paragraph, or should you leave a space between paragraphs? Remember that it is one or the other.
- Additional sections and/or documents: Do you need a list of references and acknowledgements?
- Spacing between words and sentences (it should be one space consistently)

## Step 8: Check for consistency

There are sometimes different sets of rules or conventions for the same grammatical or stylistic phenomena in English. For instance, some writers use what is called the Oxford comma. The Oxford

comma is a comma that appears before “and” and the last item in a sequence. In other words, both of the following sentences are grammatically correct, but they are using a different convention:

- ✓ The dog ate the cheese, the popcorn and its food.
- ✓ The dog ate the cheese, the popcorn, and its food.

If your instructor, publisher or boss has not given you specific guidance on this issue or specified a style guide, you can choose which convention to follow. However, you must be consistent.

Here are some other consistency issues to watch out for:

- National spelling conventions. This can be an issue for Canadians who are exposed to three different spelling conventions: Canadian, American, and British. Make sure that you choose one convention and stick with it. The Canadian and American spelling rules are used the most often in Canada.
- Capitalization. Do you use capitalization consistently in your titles and headings? Are you using title case (all major words are capitalized) or sentence case (only the first word is capitalized)?
- Citation. Are you using the same citation style consistently? One common error in student writing is mixing two or more citation styles.
- Date and number formats. Do you format your dates consistently in your text? Are your numbers formatted consistently?

## Step 9: Read your text aloud one final time

Invariably, we introduce new errors as we proofread. For instance, fixing one part of the sentence may introduce an agreement error in another part of the sentence. Read your text aloud one more time to catch these new errors.

## Other Tips for Proofreading

### Look for patterns of errors

Every writer has errors that they repeat consistently. For instance, you might consistently forget the plural “s” on words. Knowing these error patterns will help you look for and correct them in your writing.

### Develop your own style guide

As you learn more grammar, punctuation, and spelling rules, develop a list of the rules you should follow and the conventions you have chosen to use. Identify issues where you need to look for consistency or where you often overlook consistency. For instance, are you going to use title case or sentence case in your headings?

### Keep learning

Learning the rules and conventions of writing increases your power as a writer. Think of it this way: A professional soccer player may have excellent coordination and aiming abilities, but they will become even more powerful as they learn to fine-tune their footwork. The Translation Bureau of Canada maintains a series of grammar lessons. Explore [HyperGrammar 2](#) to help you fine-tune your grammatical footwork!

## Using Generative AI to Proofread

### Consider academic integrity

Please refer to your course syllabus and university policies on using Generative AI.

### Use it effectively

- There are Generative AI tools that specialize in proofreading. (Search the Internet for “best AI tools for proofreading.”)
- You can also use general tools like ChatGPT.
- Prompt the Generative AI tool to explain its corrections. Writers need to learn to identify errors without the help of Generative AI or proofreading software. Knowing how to write correctly and consistently will help you to make decisions about proposed corrections from automated tools or human proofreaders. For this reason, it is helpful to understand why Gen AI makes its corrections. If you use Generative AI in this step, prompt it like this: “Correct the following text for grammar,

punctuation, and spelling errors. Use APA style conventions and Canadian spelling. Provide a list of the corrections and explain them to me.”

## Beware of the limitations

- Generative AI may change your meaning. Read any corrected output from Generative AI carefully, as it may change your meaning.
- Be aware that Generative AI may remove unique characteristics of your writing. We each have a unique voice when we write. Generative AI corrects our writing against the most common language patterns. There is a danger that our writing will become less individual and interesting if we use these tools frequently.

## Consider your learning journey

- If you rely on Generative AI to proofread, it may hinder your ability to find and correct grammar mistakes.
- By using Generative AI to proofread, you lose an opportunity to pay attention to the details of your work, a skill necessary in all professions.

## Consider ethics

- Consider your privacy. Generative AI tools may add your draft text to its training database and use it to help compose texts for other users.
- Make sure that you understand the ethical implications of using these tools.

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# SECTION 3: WHAT IS ACADEMIC WRITING?

## Overview

Academic writing is a particular type of writing that we do in schools and universities. What makes this type of writing different from the writing that we do in professional or public settings? Section 3 will explore these questions.

### Learning Outcomes

In this section, you will learn to:

- Define academic writing and identify its key characteristics
- Describe the concept of writing in the disciplines and recognize how academic writing may vary across fields
- Explain the role of critical thinking in academic writing
- Identify the purpose of research in academic contexts and describe its basic functions
- Recognize how academic writing involves entering

a conversation among scholars

- Describe how academic writers use persuasion to highlight the value of their ideas

# Introduction to Academic Writing

As you begin your journey at university, you will likely quickly encounter the term **academic writing**. Although you will hear this term often, it can be surprisingly complex to define what academic writing is.

Consider the following examples. Are they examples of academic writing? Why or why not?

*Example 1:*

I had a fever last night and also nightmares. In one of them, a disembodied voice kept telling me how to structure a paper I've been struggling with, and I'm like "dude, just let me sleep, there's no way I'm going to wake up and write in the middle of the night."

Example 1 is a commentary on the difficulties of writing an academic paper. It is a tweet written by an advanced scholar Dr. Raul Pacheco-Vega (2022). Pacheco-Vega likely wrote this tweet with an intended audience of other academics. But is this academic writing? You might conclude that it is not academic writing because it is a social media post with an informal tone. Most academics would agree with you here.

*Example 2:*

In November 2024, the Government of Alberta announced it's considering changing the medical assistance in dying (MAID) program. Central to the possible reforms is an effort to enable families to challenge end-of-life decisions and access private medical records. This announcement departs from the current guidelines of the College of Physicians and Surgeons of Alberta (CPSA), which prioritizes patient autonomy. Critics warn Alberta's changes could lead to privacy violations and compromised rights. Ultimately, medical professionals must put patients' rights to privacy and autonomy before family involvement in their care.

Example 2 is the introduction from an opinion article by Sara Sunderji that appeared in the University of Alberta student newspaper *The Gateway*. You might have been tempted to think that this passage was academic writing. Indeed, it does share many of the same features of academic writing. The author is setting up an argumentative text, and she uses specific details to provide the context for her argument. This text might be considered academic writing if produced for a particular course. However, as it is published in a newspaper and is intended to reach a broad audience of University of Alberta students, it probably wouldn't be considered academic writing in its current form.

*Example 3:*

I live by the lyrical dream of change, of being made anew, always believing that a new vision is possible. I have been gripped, probably obsessed, with the subject of revision since graduate school. I have spent hundreds of hours studying manuscripts, looking for clues in the drafts of professional and student writers, looking for the figure in the carpet. The pleasures of this kind of literary detective work, this literary voyeurism, are the peeps behind the scenes, the glimpses of the process revealed in all its nakedness, of what Edgar Allan Poe called “the elaborate and vacillating crudities of thought, the true purposes seized only at the last moment, the cautious selections and rejections, the painful erasures.”

Example 3 is a passage from the article “Between the Drafts” by writing studies scholar Nancy Sommers (1992). You might have been inclined to reject this passage as academic writing because it uses the first-person pronoun “I.” However, this piece would unanimously be considered academic writing because it appears in an academic journal and contains critical thinking about revision. While using the first-person pronoun in academic writing in some disciplines, like engineering, is frowned upon, using it in other disciplines, such as writing studies, is acceptable.

I’ve used these examples to demonstrate there are different ways to consider what academic writing is and is not, and what you were taught about academic writing in high school might not reflect the diversity of academic writing you will encounter at university. That said, we can identify some general characteristics of academic writing across the university. These general characteristics are explored in more detail below.

## Academic Writing Is for a Particular Community

Academic writers are part of a **discourse community**, a concept introduced by applied linguist John Swales. Swales (1990) defines discourse communities as “groups that have goals and purposes and use communication to achieve their goals.” From this perspective, we can understand academic writing as a communication tool that helps build and maintain a community of scholars. As undergraduate students, you are the newest members of our community. Welcome!

You will learn quickly that several discourse communities exist at the university. Your science and English professors likely have different ideas about what academic writing is and what it does. In this textbook, we will explore **writing in the disciplines**, an approach to academic writing that reflects the idea that the various academic communities have their own values about what makes for good academic writing. Understanding this and paying attention to the different values of each community will help you succeed at academic writing for the various academic communities you will interact with at the university.

## Academic Writing Fulfills a Particular Purpose

One key feature of discourse communities is their “broadly agreed set of public goals” (Swales, 1990). The goal for academic discourse community members is to share learning and knowledge with each other. To achieve this goal, we have established standards assessing the quality of our knowledge-making efforts. For instance, the scientific community uses the scientific method to assess the quality of research in that community. We also have standards for what constitutes good argumentation and evidence. However, these standards are often unspoken and differ among academic

communities, creating difficulties for students learning to write for academic discourse communities.

We can isolate some features of academic writing that are common across disciplines and reflect the overall goal of academic discourse communities. For instance, writing studies scholars Chris Thaiss and Terry Zawacki (2006) argue that academic writing should demonstrate that the “writer(s) have been persistent, open-minded, and disciplined in study” and that there is “a dominance of reason over emotion or sensual perception” (p. 5). In other words, all scholars care about thoroughness and reasoning in academic writing, no matter their discipline.

When we talk about reasoning in academic writing, we are talking about **critical thinking**. Critical thinking is analyzing, questioning, interpreting, and evaluating information to form sound conclusions or make valid judgments.

## Academic Writing Uses Particular Genres

Discourse communities establish particular channels or mechanisms for members to communicate. Often, these mechanisms are **genres** or particular types of text that help structure communication in noticeable ways. For example, you are probably familiar with the **five-paragraph essay**. The five-paragraph essay is a training genre that helps familiarize you with the basic moves of argumentative writing. It is structured according to common patterns in arguments, and this structure shapes your thinking in ways that your audience expects. When your high school teacher assigned you a five-paragraph essay, the patterns and structures of this genre helped you to write and helped your teacher assess your writing. This genre, therefore, was a tool for the high-school discourse community to achieve the goal of learning argumentative writing.

The five-paragraph essay trains you for the genres you will write

in university, but it is never the end goal of academic writing. University-level academic writing uses a more diverse set of genres because our discourse communities need to accomplish more specific goals. Here are some of the academic genres you might encounter at the university:

- Critical essay
- Reflective essay
- Research paper or essay
- Lab report
- Trend analysis
- Research or conference poster
- Research or conference presentation

Each genre will come with a particular set of patterns and conventions that the audience expects. Analyzing the patterns and conventions of academic genres will help you master this aspect of academic writing.

## Academic Writing Uses Particular Rhetorical Moves

We can also characterize academic writing by particular **rhetorical moves** that academic writers make. A rhetorical move is a strategy writers use to communicate effectively with their audience. For instance, you use a rhetorical move when providing examples to illustrate your point or using neutral language in an argument. Different genres will emphasize particular rhetorical moves and combine them in particular ways.

Here's an example to help you understand the distinction between genres and rhetorical moves. Think about two types of dances: swing dancing or country dancing. Both types of dancing incorporate spins, but the spins will come at different times and are

combined with other moves in different ways. Genres are like the types of dance, and rhetorical moves are like dance moves.

In academic writing, we make some common rhetorical moves, and identifying and practicing these moves will help you become a more proficient academic writer.

## Academic Writing Uses Particular Language and Conventions

If I asked you to define academic writing, you'd probably tell me that correct and formal language is an important feature. You are right. Academic writing should follow the conventions of Standard Written English, meaning you should follow grammar, punctuation, and spelling rules. Academic writing is also formal and has a serious and precise tone.

Academic writing also uses language specific to academic writing and each discipline or field of study. Sometimes, this specialized language is called **jargon**, which can have a negative connotation.

In addition, academic writing uses specific conventions to indicate when the writer is referencing the ideas of other writers and researchers. This practice is called **citation**, which is most likely a convention you have heard of. Different disciplinary groups like the American Psychological Association (APA), the Council of Science Editors (CSE), and the Modern Languages Association (MLA) have established citation rules to help standardize the process of referring to other ideas in your writing, and this, in turn, helps your reader to find your sources and assess the quality of your argument.

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# Introduction to Writing in the Disciplines

In the chapter “[Introduction to Academic Writing](#),” you learned the concept of discourse community, a group of individuals working together towards a common goal. At the university, you will find many discourse communities organized into disciplines or fields of study. These different disciplines have their own ways of considering and evaluating academic writing. Scholars who examine and seek to understand the unique disciplinary nature of academic writing in various fields call this approach **writing in the disciplines**. Writing in the disciplines is also a way of teaching writing, in which students are taught to pay attention to how writing responds to each academic community’s needs. You may have noticed that this textbook takes this approach.

The university has many fields of study, and it would be impossible to explore them all in depth in one textbook. It is possible, however, to identify three broad disciplinary areas at the university: humanities, sciences, and social sciences. Below is a list identifying these disciplinary areas’ shared goals and genres.

## Humanities

Disciplines in the humanities explore the human experience, often focusing on culture and society. Humanities disciplines include:

- Classics
- Comparative Literature
- English
- History
- Linguistics

- Modern Languages
- Performing and Fine Arts
- Philosophy
- Religious Studies
- Writing Studies

These disciplines are often very interested in interpreting language and texts, exploring unique and interesting moments of human expression. Humanities scholars typically use written genres like **critical or interpretive analyses**, **research essays**, and **reflective essays** to communicate with their peers.

The line between the humanities and social sciences can be blurry. For example, a scholar in a field like linguistics could be considered a humanities scholar if they study the etymology (history and origin) of words; however, they could also be considered a social scientist if they used an experimental approach to understand how language speakers interpret a particular spoken sound.

## Sciences

Science disciplines use a systematic approach to examine and understand the universe. Scientists use a particular pattern of critical thinking called the scientific method. Researchers who use the scientific method develop hypotheses or testable predictions about phenomena in the natural world. They use experiments or particular types of analyses to test their hypotheses.

Science disciplines include formal sciences like mathematics and computer science and natural sciences like physics, chemistry, and biology.

Science researchers may also work in applied sciences, which aim to put into practice the discoveries of the formal and natural sciences.

Applied sciences include:

- Agriculture
- Dentistry
- Engineering
- Forestry
- Kinesiology
- Nursing
- Medicine

Scientists and applied scientists often use **lab reports** to share their findings. Scientists also publish their findings in **research articles**.

## Social Sciences

Social scientists share the humanities scholars' interest in the human experience and the scientists' systematic approach to understanding our world. Social scientists often use statistical methods to understand human behaviour; they may also use methods like interviews or focus groups to better understand why humans do what they do.

Social science disciplines include:

- Anthropology
- Business
- Economics
- Geography
- Human Ecology
- Political Science
- Psychology
- Sociology

Social scientists write **observations, research reports, and literature or research reviews**.

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# What is Academic Research, and Why is it Important?

## Introduction

Earlier, we defined academic writing and critical thinking. We explained that academic writing reflects the academic discourse community's goal to produce and share knowledge. In this chapter, we will continue our discussion of academic writing. We will define academic research and examine its importance for broader society and you as an undergraduate student.

## What is Research?

One of a university's most important purposes is to discover new things about our world and share this knowledge with others; this is called research. We can define research as the systematic process of collecting, analyzing, interpreting, and communicating information to understand a specific topic better. Academic research helps society to make decisions to improve lives. The results of research conducted at universities impact every aspect of your life. For instance, you are accessing this textbook on a device that is the product of academic research on computing equipment, software development and programming. We have also used academic research on writing instruction and online learning to help us design this textbook.

## **Who Does Research?**

Many people at the university are involved in research. When not teaching, many of your professors work to generate new knowledge in their specialty fields. They design original research studies according to the standards of their discipline, present their findings at academic conferences, and publish their results, usually in scholarly journals. They may have research assistants who assist them with their research and writing. These research assistants may be graduate students who have completed an undergraduate degree and decided to continue their studies in Master's or doctoral (Ph.D.) programs.

## **How do Researchers Work Together to Build Knowledge?**

Researchers work in communities to collaboratively build and assess knowledge. Each academic community develops standards to evaluate research processes and outcomes. When your professors submit their research articles for publication, they undergo a rigorous peer review process. Their work is sent to several other experts in the field, and these experts make sure that the research is sound and worthy of publication. This process usually involves extensive revisions to the research article to ensure its high quality. Each publication or research study adds a very small piece to our understanding, and communities of researchers look for patterns of results across many studies to build a consensus about what they are uncovering about the world.

## How do Your Undergraduate Writing Assignments Relate to Research?

As undergraduate students, you may not get a chance to do original research, but you will read the research of others. You will learn to engage with this research critically by questioning, analyzing, interpreting, and synthesizing it. Often, the writing your professors ask you to do relates to the research writing they use to communicate their research to their peers. For instance, the lab report you write in your first-year physics class is a training form of the common research article your professor writes to communicate their research findings to their academic peers.

For this reason, your writing at university will differ greatly from your writing in high school. You are writing for a new audience—academics interested in learning new things about the world, for new purposes — demonstrating critical thinking, and in new genres that reflect the goals of various discourse communities at the university, such as nursing, sociology, or history. Many of your writing assignments will integrate findings from the research articles published by academics like your professors. Finding, analyzing, summarizing, synthesizing, and integrating these sources into your writing takes more work and planning than you may be used to. You will write longer papers, and this means that you will have to reconsider the strategies you use for essay structure. Five paragraphs and the five-paragraph essay will no longer be the only genre you use for academic writing. Therefore, it is important to fully understand the process of developing and planning an undergraduate-level research paper. We will discuss this process in the next lesson.

## **I Don't Want to Become a Researcher. Do Research and Academic Writing Still Matter?**

Even though you may not be planning a career as a researcher, learning about academic research and writing academic papers teaches you important skills that will help you professionally. You will learn critical thinking and problem-solving skills, and you will learn to analyze research that may become the foundation for professional practices, policies, and innovation.

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# Academic Writing as Critical Thinking

Critical thinking is the backbone of academic writing, and the quality of our thinking often determines the success of our academic writing. For this reason, it is important to understand what skills comprise critical thinking and how you can improve them.

## What is Critical Thinking?

Critical thinking is the ability to think clearly and rationally about what to do or believe. It includes the ability to engage in reflective and independent thinking. Someone with critical thinking skills can do the following:

- Understand the logical connections between ideas.
- Identify, construct, and evaluate arguments.
- Detect inconsistencies and common mistakes in reasoning.
- Solve problems systematically.
- Identify the relevance and importance of ideas.
- Reflect on the justification of one's own beliefs and values.

Critical thinking is not simply a matter of accumulating information. A person with a good memory and who knows a lot of facts is not necessarily good at critical thinking. Critical thinkers can deduce consequences from what they know, use information to solve problems, and seek relevant sources of information to inform themselves.

Critical thinking should not be confused with being argumentative or being critical of others. Although critical thinking

skills can be used in exposing fallacies and flawed reasoning, critical thinking can also play an important role in cooperative reasoning and constructive tasks. Critical thinking can help us acquire knowledge, improve our theories, and strengthen arguments. We can also use critical thinking to enhance work processes and improve social institutions.

Some people believe critical thinking hinders creativity because critical thinking requires following the rules of logic and rationality, whereas creativity might require breaking those rules. This is a misconception. Critical thinking is compatible with thinking “out-of-the-box,” challenging consensus views, and pursuing less popular approaches. If anything, critical thinking is an essential part of creativity because we need critical thinking to evaluate and improve our creative ideas.

## The Importance of Critical Thinking

Critical thinking is a transferable skill useful at the university, in the workplace, and as a citizen. The ability to think clearly and rationally is important. Thinking well and solving problems systematically is an asset for any career and a meaningful life.

Critical thinking is very important in the new knowledge economy

The global knowledge economy is driven by information

and technology. One has to be able to deal with changes quickly and effectively. The new economy places increasing demands on flexible intellectual skills and the ability to analyze information and integrate diverse sources of knowledge in solving problems. Good critical thinking promotes such thinking skills and is very important in the fast-changing workplace.

## Critical thinking enhances language and presentation skills

Thinking clearly and systematically can improve the way we express our ideas. Critical thinking also improves comprehension abilities when we learn how to analyze the logical structure of texts.

## Critical thinking promotes creativity

To come up with a creative solution to a problem involves

not just having new ideas. It must also be the case that the new ideas being generated are useful and relevant to the task at hand. Critical thinking is crucial in evaluating new ideas, selecting the best ones and modifying them if necessary.

## Critical thinking is crucial for self-reflection

To live a meaningful life and structure our lives accordingly, we must justify and reflect on our values and decisions. Critical thinking provides the tools for this process of self-evaluation.

## Good critical thinking is the foundation of science and democracy

Science requires the critical use of reason in experimentation and theory confirmation. The proper functioning of a liberal democracy requires citizens who can think critically about social issues to inform their

judgments about proper governance and to overcome biases and prejudice.

## Critical thinking is a metacognitive skill

Metacognition is a higher-level cognitive skill that involves thinking about thinking. We have to be aware of the sound principles of reasoning and reflect on our reasoning. In addition, we often need to make a conscious effort to improve ourselves, avoid biases, and maintain objectivity. This is notoriously hard to do. We can all think, but thinking well often requires a long training period. This is one of the purposes of a university education. The mastery of critical thinking is similar to the mastery of many other skills. There are three important components:

1. Theory
2. Practice
3. Attitude.

# Improving Our Critical Thinking Skills

## Theory

If we want to think correctly, we need to follow the correct rules of reasoning. Knowledge of theory includes knowledge of these rules. These are the basic principles of critical thinking, such as the laws of logic and the methods of scientific reasoning.

Also, knowing what not to do is helpful if we want to reason correctly. This means we should have some basic knowledge of common mistakes. This requires some understanding of **logical fallacies**. Here are three common logical fallacies that you should watch for in arguments:

1. **Straw-man fallacy:** The writer misrepresents someone's argument to make it easier to attack. They may choose only the opponent's weakest point or lie about what the opponent said to make themselves look more reasonable. If you have ever been in an argument with a friend or relative and said, "...but I never said that!" then you have pointed out a straw man fallacy.
2. **Appeal to false authority fallacy:** The writer uses the opinion of an authority figure or institution of authority instead of an actual argument, especially when the person or group is not an expert. Often, the claimed expert (a) doesn't have enough background/credentials in the relevant field, (b) disagrees with most experts

in the field, or (c) is biased, e.g., has a financial stake in the outcome.

3. **Bandwagon fallacy:** The writer uses the fact that many people do or believe something to say it is true/correct. The name “bandwagon” comes from the idiom “jump on the bandwagon,” perhaps from the tradition of children running after a wagon with musicians playing music at public events.

Psychologists have discovered persistent biases and limitations in human reasoning; these faulty thinking patterns are called **cognitive biases**. An awareness of these empirical findings will alert us to potential problems. Here are three common cognitive biases:

1. **Confirmation bias** is the tendency to verify and confirm our existing beliefs and ignore or discount information that disconfirms them. For example, one might believe that organic produce is inherently better: higher in nutrition, lower in pesticides, and so on. Adhering to confirmation bias would mean paying attention to information that confirms the superiority of organic produce and ignoring or not believing any accounts that suggest otherwise. Confirmation bias is psychologically comfortable, so we can make decisions with unchallenged views. However, just

because something “feels” right does not necessarily make it so. Confirmation bias can cause people to make poor decisions because they fail to pay attention to contrary evidence.

2. **Anchoring bias** refers to the tendency for individuals to rely too heavily on a single piece of information. Job seekers often fall into this trap by focusing on a desired salary while ignoring other aspects of the job offer, such as additional benefits, fit with the job, and working environment. Similarly, but more dramatically, lives were lost in the Great Bear Wilderness Disaster when the coroner declared all five passengers of a small plane dead within five minutes of arriving at the accident scene, which halted the search effort for potential survivors. The next day, two survivors who had been declared dead walked out of the forest. How could a mistake like this have been made? One theory is that decision biases played a large role in this serious error, and anchoring on the fact that flames had consumed the plane led the coroner to call off the search for any possible survivors (Becker, 2007).
3. **Overconfidence bias** occurs when individuals overestimate their ability to predict future events. Many people exhibit signs of overconfidence. For example, 82 percent of the drivers surveyed feel they are in the top 30 percent of safe drivers, 86 percent of students at the Harvard Business School say they are better looking than their

peers, and doctors consistently overestimate their ability to detect problems (Tilson, 1999). People who purchase lottery tickets as a way to make money are probably suffering from overconfidence bias. It is three times more likely for a person driving ten miles to buy a lottery ticket to be killed in a car accident than to win the jackpot (Orkin, 1991). Further, research shows that overconfidence leads to less successful negotiations (Neale & Bazerman, 1985). To avoid this bias, take the time to stop and ask yourself if you are being realistic in your judgments.

## Practice

However, merely knowing the principles that distinguish good and bad reasoning is not enough. We might study in the classroom how to swim and learn about the basic theory, such as the fact that one should not breathe underwater. But unless we can apply such theoretical knowledge through constant practice, we might not be able to swim.

Similarly, to be good at critical thinking skills, it is necessary to internalize theoretical principles to apply them in daily life. There are at least two ways to do this. One is to practice. Academic writing is a great way to practice critical thinking skills. Engaging in discussions and debates with other people in our daily lives also allows us to practice the principles of critical thinking.

In addition to practice, we should also think more deeply about the principles that we have acquired. In the human mind, memory and understanding are acquired through connecting ideas. In other words, we need to reflect upon our thinking patterns. When your instructors ask you to write a (metacognitive) reflection, they are asking you to do this.

## Attitudes

Good critical thinking skills require more than just knowledge and practice. Persistent practice can bring about improvements only if one has the right kind of motivation and attitude. The following attitudes are not uncommon, but they are obstacles to critical thinking:

*I prefer being given the correct answers rather than figuring them out myself.*

*I don't like to think a lot about my decisions, as I rely only on gut feelings.*

*I don't usually review the mistakes I have made.*

*I don't like to be criticized.*

To improve our thinking, we must recognize the importance of reflecting on the reasons for belief and action. We should also be willing to engage in debate, break old habits, and deal with linguistic complexities and abstract concepts.

The California Critical Thinking Disposition Inventory is a psychological test used to measure whether people are disposed to think critically (Facione & Facione, 1992). It measures the seven different thinking habits listed below, and it is helpful to ask ourselves to what extent they describe the way we think:

- **Truth-Seeking:** Do you try to understand how things really are? Are you interested in finding out the truth?

- **Open-Mindedness:** How receptive are you to new ideas, even when you do not intuitively agree? Do you give new concepts a fair hearing?
- **Analyticity:** Do you try to understand the reasons behind things? Do you act impulsively, or do you evaluate the pros and cons of your decisions?
- **Systematicity:** Are you systematic in your thinking? Do you break down a complex problem into parts?
- **Confidence in Reasoning:** Do you always defer to other people? How confident are you in your own judgment? Do you have reasons for your confidence? Do you have a way to evaluate your own thinking?
- **Inquisitiveness:** Are you curious about unfamiliar topics and resolving complicated problems? Will you chase down an answer until you find it?
- **Maturity of Judgment:** Do you jump to conclusions? Do you try to see things from different perspectives? Do you take other people's experiences into account?

Psychologists have discovered over the years that various cognitive biases can easily affect human reasoning. For example, people tend to be over-confident in their abilities and focus too much on evidence that supports their pre-existing opinions. We should be alert to these biases in our attitudes toward our own thinking.

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## Additional Resources

The website [yourlogicalfallacyis.com](http://yourlogicalfallacyis.com) contains a helpful list of logical fallacies. A similar website [yourbiasis.com](http://yourbiasis.com) lists cognitive biases to watch out for.

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# Academic Writing as Conversation

## Writing as Communication

Many students write because their teacher has assigned a topic and because they want to pass a class. Often, students will use the format of the five-paragraph essay—not because it’s the best way to make their argument—but because the teacher said that it’s the correct—maybe even the only way—to write an essay. The student may or may not care about what they are writing or whether their writing made any impact on the reader.

But this isn’t usually how communication works.

Normally, people don’t write or communicate without a reason. Usually, people choose to communicate because they are responding to some specific situation. The five-paragraph essay or any single set of “rules” about how to write an essay ignores this very important idea about writing. Because of this, essays written using the five-paragraph format can often become awkward and repetitive.

Rather than learning a set of hard-and-fast rules that you have to follow, you should learn strategies that you can apply to a variety of writing tasks and situations so that your writing is more effective. Most of all, you should operate under the following assumption:

**Academic writing is no different than any other type of communication. It requires attention to the audience, purpose, and context that produces it.**

No one assigns scholars and researchers essays for homework. Instead, professional academic writers use their writing in scholarly journals and books because they want to communicate complex

arguments to specific audiences. No one forces them to do this. They choose to write in order to join a larger conversation that they believe is important and urgent. They write essays, articles, and books to join the conversations already happening in their discipline because they have an important idea that needs to be shared.

Your university courses will ask you to do more than write essays that simply repeat what you have learned. Instead, university courses will require you to become scholars-in-training. Through reading and research, you will learn about topics in the discipline and “listen” to the conversations already happening. Through writing research-based argumentative essays, you will join those conversations about knowledge and add to them. As literary scholars Gerald Graff and Cathy Birkenstein put it,

“. . . the best academic writing has one underlying feature: it is deeply engaged in some way with other people’s views. Too often, however, academic writing is taught as a process of saying “true” or “smart” things in a vacuum, as if it were possible to argue effectively without being in conversation with someone else. . . . To make an impact as a writer, then, you need to do more than make statements that are logical, well supported, and consistent. You must also find a way of entering into conversation with the views of others” (Graff and Birkenstein, p. 3-4).

Your job as a novice academic writer is to learn how to master the moves of the academic conversation.

## The Burkean Parlour Metaphor

If you're still confused about what we mean when we say "join the conversation," the Burkean Parlour Metaphor might help clarify things.

Kenneth Burke was a 20th-century philosopher and rhetorician who argued that research is always part of an ongoing and unending conversation. When you begin to research a topic, you should do so with the understanding that many voices have already come before you and that many more will continue to come after. When you write your own essays, you are joining that conversation.

Watch the [Burkean Parlour Method explained](#) (1:29) to learn more.

Here's the original quote from Burke's text *The Philosophy of Literary Form: Studies in Symbolic Action*.

“Imagine that you enter a parlour. You come late. When you arrive, others have long preceded you, and they are engaged in a heated discussion, a discussion too heated for them to pause and tell you exactly what it is about. In fact, the discussion had already begun long before any of them got there, so that no one present is qualified to retrace for you all the steps that had gone before. You listen for a while until you decide that you have caught the tenor of the argument; then you put in your oar. Someone answers; you answer him; another comes to your defense; another aligns himself against you, to either the embarrassment or gratification of your opponent, depending upon

the quality of your ally's assistance. However, the discussion is interminable. The hour grows late, you must depart. And you do depart, with the discussion still vigorously in progress." (Burke, 1973)

A "parlour" is an old-fashioned term for a gathering space or living room. The Burkean Parlour metaphor asks students to think about their writing as part of something larger than a single essay or single project. This metaphor shows that the strongest academic writing never stands on its own. Every essay must fit into a larger conversation. As a student, researcher, and writer, you are not inventing or starting the conversation. The parlour already exists. The conversation is already happening. Ignoring those important facts will result in writing that feels out of touch, overly simplistic, or confused.

You can think of the metaphorical parlour as a larger, more general space. Each academic discipline or field of study could be seen as a "parlour." For example, nursing or computer science are each subjects that have their own conversations. You wouldn't walk into a nursing class and try to write an essay about computer science. Or, the metaphorical parlour might represent a more specific topic within a discipline or field of study, such as the history of a specific battle or the study of a type of plant.

Parlours are gathering spaces, not lecture halls. In a crowded parlour, you would usually find groups of people talking and conversing with one another, rather than a single voice. The individual groups of conversations represent the subtopics or themes that a researcher might elect to focus on.

The idea of the Burkean Parlour as a metaphor for research might challenge your previous experiences with school research projects.

In the past, you may have experienced research assignments as one-and-done reports about fact-based information. Maybe you had to do a report on a certain historical event or social science concept. Maybe you “listened in” to the conversations and then reported on what you discovered. Maybe you didn’t realize that other conversations were happening about the topic.

## Joining the Conversation

Learning to write academically is a process of learning the right moves to make in a conversation about knowledge. Academic writers must master how to position themselves –their authorial stance–as well as how to integrate the voices of others in their texts.

### Authorial stance

As we join the conversation, we must consider how to position our own thoughts and analysis–our authorial stance. Positioning ourselves in our texts can be very difficult in academic writing. Authors in different disciplines represent their roles as knowledge creators and writers differently. Some disciplines, like the sciences, deemphasize the researcher’s role in the production of knowledge. However, in some social sciences and humanities disciplines, researchers openly explore their positions and points of view because they believe that it is important to explicitly confront potential biases. These differing perspectives on the role of the researcher in knowledge creation are reflected in how disciplinary writers position themselves in their texts. For instance, writers in the science disciplines may be hesitant to use the first-person pronoun “I,” whereas writers in the social sciences and humanities may not be.

You can learn strategies to reflect your authorial stance in the chapter “Mastering Stance and Engagement in Academic Writing” [hyperlink]

## Integrating the voices of others

In academic writing, we almost always incorporate the voices of other scholars and experts into our texts—this is one of the key features of academic writing. You likely already know some of the moves involved in integrating the voices of others in your academic writing: summarizing, paraphrasing, and quoting.

Different disciplines have different strategies for incorporating sources. For instance, scientists rarely quote directly; instead, they use summaries and paraphrasing. On the other hand, humanities and social sciences are more likely to incorporate direct quotations because these researchers are often more interested in language and wording. Keep this in mind as you write assignments in various disciplines.

### *Summarizing*

When summarizing, you put the researcher’s findings or central argument in your own words.

Your summary should also be significantly shorter than the original source.

You can learn more about summarizing in the chapter “Summarizing Sources.” [hyperlink]

## *Paraphrasing*

Paraphrasing means putting a detail from another source into your own words. A paraphrase may be about the same length as the original source, but you will reframe the original idea so that it fits into the context of your writing. You will keep the meaning of the original idea, even though you word it differently.

You can find out more about paraphrasing in the chapter “Paraphrasing Sources.” [hyperlink]

## *Quoting*

When you quote, you take the exact words from a source and include them in your writing. You indicate a direct quote with quotation marks.

Be aware that many novice academic writers use too many direct quotes. Use quotes only when the author of the source uses words in a way that is interesting and engaging. Otherwise, use a paraphrase.

You can find out more about quoting in the chapter “Quoting Sources.” [hyperlink]

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# Academic Writing as Persuasion

When it comes to academic writing, the purpose of every piece of writing is to make an **argument**, although the term “argument” in this context might need some definition. You may be tempted to think of an argument as a tense emotional conflict; however, an argument doesn’t only mean getting into a fight with someone. **An argument is an attempt to persuade an audience by making a claim and supporting it with evidence.** Arguments over ideas are common in academic writing, as we want to persuade our readers that our knowledge and ideas have value and should be adopted.

Before we explore the components of an argument, let’s consider persuasion and think about the persuader and those whom the persuader wants to persuade (otherwise known as the rhetor and the audience). Rhetorician Kenneth Burke redefined the concepts of argument and persuasion to better suit Western culture. In Western cultures, relationships are often unequal, and so Burke argued that persuasion is more akin to a historical idea of courtship (the word “courtship” is a rather outmoded way to define dating) rather than an argument between equal parties:

An audience’s degree of adherence to the rhetor’s argument can vary greatly. By contrast, courtship focuses primarily on the unequal relationship between the persuader and those being persuaded, rather than employing means generally considered “persuasive.” Through

courtship, the “courtier” already commands a certain “captivation” of the audience. This “courted” audience thus yearns to transcend the gap of social estrangement to unite with the persuader. (Ramage, Callaway, Clary-Lemon, & Waggoner, 2009)

Now, the idea here isn’t to literally court someone. By “courtship,” Burke refers specifically to courtiers, who had permission to enter the court where they might receive audience with a monarch and other noblemen. Courtiers (like lobbyists, in a way) “court” those in power for various benefits for themselves, their communities, families and so on. This relationship, in some ways, is not unlike when a professor submits a paper for publication and must write a letter (or email of introduction) courting the press with persuasive language (and a certain amount of deference) so that they consider the paper for publication.

Extending Burke’s analogy a little more, when you are writing an assignment, you might feel anxious. This anxiety occurs, in part, because you are working to show a person in authority (your instructor) that you possess certain knowledge. You are “courting” a person who has some authority in order to gain something. In this case, a grade. Luckily, you are not a courtier, and your instructor is certainly there to support you. This analogy, however, serves as a means to consider the relationship between the rhetor and the audience (who are often, but not always, unequal).

When you engage in acts of persuasion, you are hoping to induce action in others. To show you just how common persuasion is in communication, here are a few common examples you might recognize where students want to persuade or induce action:

- You write an email to one of your instructors asking them to grant you an extended deadline for your next essay assignment. In doing so, you are persuading your instructor to give you something.
- One of your friends says that your favourite movie is boring, so you present all the reasons you can think of why this film is interesting. In this case, you are trying to change someone's mind.
- Your brother is sure that vaping is much safer than smoking cigarettes. You are increasingly convinced that vaping can cause serious health problems. When you show your brother pamphlets and news articles that discuss the dangers of vaping, you are working to change someone's perspective.
- You and your group members need to pick a topic for your class presentation. Some of you want to create a presentation about the need for better mass transit in your community. Others want to learn and talk about how to design more fuel-efficient cars. Others want to focus on the effects of dedicated bike lanes. As you help everyone decide on and agree to focus on a single topic, you are getting those in disagreement to come to a consensus.
- You are asked to give a speech at your friend's surprise birthday party. Everyone at the party – other friends and family members – thinks your friend is a terrific person. You try to craft a speech that gets everyone to remember and reflect on how much they like your friend. With this speech, you are trying to reinforce ideas that people already have.
- You know a lot about local birds and find them fascinating. You write a post that will be posted on a community blog. Those who read it haven't given much thought to birds. As you share your knowledge, you are trying to get people to think that what you are saying is correct.

If you take nothing else from the above discussion, we want you to remember this: persuasion is a fact of human communication. It functions differently in different cultures, but it is always there. Persuasion is about making connections with your audience to elicit a specific action. But how can you persuade your audience? We'd like to introduce you to the fundamental (but not only) means by which we induce action in others: the rhetorical appeals.

## Aristotle's Three Rhetorical Appeals

Even if you are trying to achieve the same end-goal with an argument, you likely know from experience that you wouldn't make an argument in the same way to every person you encounter. For example, let's say you are a cinephile (someone who LOVES movies). You want to get the friends and family members who have gathered together for a holiday meal to end the day by going out to see a particular classic movie that is showing at your local independent cinema.

For your mom, who thinks movies are too expensive, so it's always best to wait for them to be available via streaming or broadcast, you can show that the ticket prices at the local independent cinema are much cheaper than at a movie theatre chain. You can then follow up by saying you can save money by bringing your own snacks.

For your uncle, who thinks spending time with family is important, you could stress how this outing will offer a fun experience for everyone to bond over.

For your cousin, who loves funny movies, you could stress that you have seen this film and think it's great, plus well-respected critics recognize it as a ground-breaking comedy.

None of these approaches is better or worse than the others, but one might be more or less appropriate or effective for a particular audience or rhetorical situation. In all of these cases, the appeals are in play.

Aristotle proposed some labels for the major approaches regularly used to persuade audiences. Knowing these terms can make it easier for you to think and talk about the strategies you are using – and they certainly will enable you to more precisely analyze arguments made by others.

The three major strategies proposed by Aristotle are as follows.

*You can make an argument based on logic.*

That is, you can offer facts and evidence. Then you can explain the logic of how these facts and evidence support your position. (In the example above, you might be using logic to persuade your mom that going to the movies won't cost as much as she thinks.)

*But you can also make an argument based on emotion.*

Sometimes you can get someone to act by explaining how great they will feel if they do – or how guilty they will feel if they don't. (In the example above, connecting what you want to your uncle's desire for family time connects to his emotions.)

*You can make an argument based on credibility,*

sometimes on your own authority, but also the reputation or credibility of someone else. We are often more likely to believe claims coming from someone who is recognized as an expert or who we know to be trustworthy, or even who we like. (In the example above, when you tell your cousin that you and well-known critics think a movie is a successful comedy, you are asking her to trust you based on authority.)

Because Aristotle lived in fourth-century BCE Athens, the terms he used – still part of the technical vocabulary of the field of rhetoric – are Greek:

### *Logos*

Arguments that appeal primarily to an audience's sense of logic make appeals to logos or logical appeals.

### *Pathos*

Arguments that appeal primarily to an audience's emotions make appeals to pathos, or emotional appeals.

### **Ethos**

Arguments that appeal primarily to an audience's reliance on the authority of the person delivering the argument make appeals to ethos or ethical appeals.

You don't necessarily have to memorize these ancient Greek terms, but it's a good idea to understand the appeals and what they do. When you do, you will be more conscious and, therefore, in control of whatever argument you are making or whatever action you want to induce.

These concepts are more complicated in practice than in theory. In real-world arguments, appeals can be quite subtle or even combined with one another in an attempt to persuade an audience. The definitions supplied above are rather simplistic. Here are some more in-depth aspects of each appeal that you might want to keep in mind.

## Logos

When Aristotle wrote about appeals to logos (logical arguments), he was expressing a set of values associated with his overall worldview

- that, ideally, we would only be persuaded by facts, information, and objective arguments. Logos refers to the effective use and ordering of sound reasons to support an argument. In the simplest terms, a rational argument must show more than tell; the strength of an argument is based on its proof and organization; an effective argument will be logical, which means the argument must be ordered in a fashion deemed appropriate.

To explain by way of example, rhetorician Wayne Booth (1983) famously argued that literature uses rhetorical argumentation to communicate its purposes. Readers desire completion of an argument and/or chain of events in literary and non-literary works, explains Booth, and this desire can only be fulfilled if the author has managed to effectively prove or support their storyline with good reasons. If not, then the reader will likely state that the work is silly or illogical, even if the work is set in a fantastical context in the first place (e.g. science fiction must use logos effectively to convince the reader of the story's plausibility).

This example illustrates that logic isn't just the domain of sciences or philosophy, but each disciplinary context or major has its own means of organizing and proving an argument. In the visual arts, a student may need to convey certain visual representations in a logical and coherent manner. In law, students may study a more classical form of logic that demands a specific order of argumentation. In Indigenous studies, students may study entirely new knowledge systems that follow the logic of Traditional Knowledge.

This is all to say there is more than one form of logic, but if pressed to provide a clear definition of logic, it's the good reasons or premise for any action you undertake, even academic writing. The word "good" can be deceptive here, so let's define it as the good of your community and not for selfish interests - that's antithetical to rhetorical practice and balance. The logic of your communication involves organizing your points in a way that is both readable and suitable for the context. It means supporting those points with

relevant evidence appropriate to the rhetorical situation. If you are feeling a little confused, just return to the definitions listed above.

It's important to point out that less than scrupulous speakers or writers can create the impression of a logical argument by using the structures of logical argumentation to present highly selective or unrepresentative evidence or even unsupported claims. As someone who encounters arguments every day, you can be on the lookout for attempts to sway your thinking that are masquerading as logical arguments. Knowledge of the subject matter can help you perceive when what seems like solid claims aren't well-supported or when what at first glance appears to be ample evidence has been cherry-picked or even falsified. And you can also be on the lookout for problems with argumentation that crop up so often they have labels. These problematic ways of making arguments are known as logical fallacies, which were introduced in the chapter "[Academic Writing as Critical Thinking](#)."

You can probably think of examples of logical fallacies you have encountered in advertising, in political speeches, or even in conversations with friends. If logical fallacies aren't logical, why do some writers and speakers use them? A cynical answer is that they work. More importantly, the prevalence of logical fallacies demonstrates something Aristotle recognized – that logic isn't the only effective strategy for persuasion. Keep an eye out for these when you are scrolling through your social media feeds – can you find examples of logical fallacies? If so, you are well on your way to gaining that keen rhetorical eye that will protect you from unethical forms of argumentation.

## Pathos

Aristotle advises that good rhetoricians will appeal to the emotions to stir the audience in order to create the right kind of emotional conditions, such that the audience will be persuaded of the

speaker's argument. Most rhetoricians agree that the appeal to emotions is perhaps the most dangerous of the three appeals. Audiences can be induced to actions that are detrimental to them or others. A blatant example is when political speeches brand one cultural group as a danger to another.

In Booth's book, *Now Don't Try to Reason with Me*, he outlines Neo-Aristotelian criteria for ethical use of emotional appeal (1970). Simply put, any act of communication must have a balance of ethos, pathos, and logos; otherwise, the speaker/writer misuses rhetoric. A good example of unbalanced, pathos-laden rhetoric is the smear campaigns politicians use to discredit one another. This approach yields overgeneralization and a shrill exposé, as opposed to a balanced presentation of reason, character, and emotional appeal designed to attract and influence ethical, rational, and critical readers.

Human beings are emotional and embodied beings, so it's not surprising that their thinking can be affected by their feelings. You can probably come up with an example of when someone told you about an event in the world that aroused some emotion and consequently made you want to take action.

For example, imagine that you see your neighbour at the grocery store, and she tells you her ten-year-old daughter Mona is struggling in school ever since funding cuts led to increased class sizes. When you were Mona's babysitter, you thought she was really bright, and she told you how much she loved school. You are upset that this kid you like a lot is having a bad experience. If the larger class size is affecting Mona negatively, you conclude, then this is a situation that can't be allowed to continue. You decide to write to your Member of the Legislative Assembly (MLA) to say that schools need more funding.

In this case, you're not being entirely logical. In fact, you could be accused of relying on anecdotal evidence or being biased or even sentimental – it is possible that every child except for Mona is thriving in larger classes. But that doesn't automatically mean you are wrong or that your neighbour is trying to trick you. This is

simply an indication that you are not investigating the information in terms of logic (logos) and credibility (ethos).

To demonstrate a positive relationship between emotions and persuasion, we can imagine a slightly different scenario. Let's say that instead of hearing about Mona's experience, while you were in the grocery store line, you read a news story online reporting funding cuts to local schools and resulting in larger class sizes. Later the same day, while working on a research assignment for a class, you come across a scholarly study showing that larger class sizes have a negative impact on student achievement among grade five students. These two texts might offer more reliable evidence that a problem exists, but they would probably not motivate you to take the time to write to your MLA.

Arguments that invoke an audience's emotions in order to persuade them more effectively are said to make appeals to pathos or to use pathetic appeals. Here, "pathetic" doesn't mean something you should feel sorry for because it's inadequate – rather, it just means having to do with emotions. And there can be a variety of emotions brought up by pathetic appeals.

The most obvious appeals to pathos arouse big, clear emotions. For example, an advertisement by a charitable organization that helps to feed hungry children might prominently present a photo of a malnourished, crying infant. That image would likely make audiences feel a strong sense of sadness, pity, and perhaps even guilt – emotions that might more directly lead someone to make a donation than would a page full of statistics about the number of children affected by food shortages.

Politicians can win over voters by presenting thoughtful, detailed plans – but they can also get supporters to act by invoking fear or anger. It is not logical or ethical to say that an opponent's plan to pilot a restorative justice program for juvenile offenders will lead to senior citizens being murdered in their beds, but offering up such a frightening possibility stirs up strong feelings.

But note that appeals to pathos can be much more subtle. A company that presents its product in a humorous advertisement is

getting the audience to associate the product with laughter and a positive feeling. A politician who tells a story about a hometown hockey player who made it to the big leagues elicits civic pride, a feeling that could motivate someone to make a donation or volunteer for a campaign. And even subtle language choices can make appeals to pathos – the authors of this textbook use “we” constructions a lot to try to invoke a sense of belonging in readers. This use of “we” is a rhetorical strategy to connect with our readers in order to further our goal to persuade them (you) to see academic writing as an important and interesting subject.

Academic writing tends to emphasize appeals to logos, but that doesn't mean there are no appeals to pathos present. When you read an academic article, note places where the authors use “we” constructions or otherwise attempt to build a sense of community for readers. See if the writers have included jokes or witty turns of phrase. And especially watch for case studies or examples that evoke strong emotions, situated within the context of well-supported, highly logical arguments.

As you craft your own arguments, it's worth reflecting on when it might actually be inappropriate to avoid appeals to emotion in an effort to seem scholarly and authoritative. Some subjects arouse strong emotions in people for very good reasons, and an entirely logical argument about those subjects will likely bore or irritate your readers.

## Ethos

The appeal to ethos might appear to be the least logical of all persuasive strategies. Ethical appeals (appeals to ethos) rely on the authority or character of the speaker or writer. That is, an audience is more likely to be persuaded by the same argument being presented by one speaker rather than another. An ad hominem attack (which was identified above as an example of a logical fallacy)

is an attack on a writer's ethos rather than on their argument and thus isn't logical – but proving that a writer is a habitual liar will make it more difficult to believe that person's evidence and claims are correct.

Because it can be difficult to distinguish between when an argument is truly logical or merely appears logical, and because emotions regularly influence thinking, Aristotle and other early rhetorical theorists pointed to ethos as a safeguard against problematic arguments. Roman rhetorician Quintilian actually defined an effective argument as involving “A good man speaking well.” Why a good man? In the ancient world, an audience would know the public reputation and maybe the private actions of the individual speaking in a law court or the Senate (a person who would certainly be male), and the audience could reasonably assume a person they know to be of good character – known to be smart or just or level-headed – would probably make an argument that is in the public interest. And this context is part of why the rhetorical triangle identifies the speaker (or writer) as one of the key elements in any act of communication.

The identity of a speaker or writer still affects how persuasive a text will be for its intended audience. You likely hope a politician is true to their word. If they aren't, then you probably won't respond to their fundraising letter with a donation. You probably should be skeptical of speeches about getting “tough on crime” made by a politician who was recently involved in a bribery scandal. They lack credibility. Most of the time, you are assessing others' credibility. Perhaps a friend who boasts about a Fortnite win streak but then doesn't show that same skill when you are playing with them loses credibility. Perhaps you win a scholarship, which increases your credibility in the eyes of university admissions. But what about academic writing?

In academic writing, ethos more commonly involves our sense of whether the writer is an authority on the subject being discussed, more so than whether the writer is “a good man.” When you read a peer-reviewed journal article written by an award-winning scientist

who works at a prestigious university, it is reasonable to believe this person has the knowledge and expertise to make a good argument. For example, if an epidemiologist who teaches at the University of Toronto's medical school writes that wearing masks decreases the spread of COVID-19, this argument seems worthy of consideration.

In contrast, when you get advice from a public figure, a corporation, or someone's uncle's neighbour's tweet that gargling with hydrogen peroxide keeps individuals from contracting COVID-19, you should probably reflect on how much they know about the subject. Put another way, a celebrity might have the expertise to tell you how to make a delicious green smoothie, but that same person isn't credible as an authority to claim that drinking two green smoothies a day will keep individuals from catching any particular disease.

While our sense of a speaker or writer's authority can be a good way to begin distinguishing between truthful and highly problematic arguments, appeals to ethos can also lead us astray. For instance, because people tend to believe doctors have a lot of medical knowledge and strongly value their patients' health, an individual doctor who endorses a treatment might be able to persuade a lot of people to try it. But an individual doctor can be unethical – say, motivated by the financial benefit of recommending a treatment their office happens to offer for a fee. The term “conman” is a contraction of “confidence man,” and people in whom we have confidence have the power to swindle or trick us.

And even when people aren't trying to deceive, ethos can be problematically linked to stereotypes and even prejudice. Numerous studies of class evaluations of college and university courses show that students are inclined to perceive (white) male professors to be knowledgeable and authoritative. At the same time, they are more likely to describe female professors (particularly Black women, women of colour and Indigenous women) as incompetent and lacking expertise (Bavishi, Madera, & Hebl, 2010; Boring, 2017; Centra & Gaubatz, 2000). This trend might be explained by the cultural assumption that the stereotypical university professor is

white and male, while the stereotypical K-12 teacher is female (Wong, 2019).

There's no reason why professors of differing races, genders, and sexualities with the same educational experience and job experience should be seen as differently authoritative, but this dynamic is common.

In some situations, young people can be perceived as lacking the life experience necessary to have an informed opinion about issues that directly affect their lives. A speaker or writer's various identity categories (including an individual's sexuality, race, gender, socio-economic background, ethnicity, and/or religion) can lead audience members to perceive that person as too ill-informed or too biased to make a reasonable argument. Appeals to ethos are not always made on a level playing field.

That said, there are some important ways in which appeals to ethos are in the control of a speaker or writer. Following the conventions of the genre in which one is communicating implies that a writer belongs to the same community as the audience and thus is worth listening to. Note that this dynamic helps to explain why many teachers harp on spelling and punctuation errors in student writing – they perceive, rightly or wrongly, that these sorts of mistakes damage the writer's scholarly ethos since one of the conventions of academic essays is adherence to a set of language rules. Through stylistic choices and selection of compelling evidence, a writer can create the impression of themselves as smart, well-informed, or even witty, which are qualities that will make an audience more likely to believe their conclusions.

Most notably, writers can make strong appeals to ethos in some situations by sharing their personal experiences. A student who is a member of the Songhees Nation and grew up on Songhees territory has more authority to speak about the need for reform in the local educational system than a professor of education with a PhD from Oxford University who works at the University of Saskatchewan. Our own identities, backgrounds, and histories aren't always directly relevant to the subject matter of an academic essay, but if

you can bring yourself explicitly into your writing, then you have an opportunity to make very strong appeals to ethos.

## Toulmin's Model of Argumentation

A modern model of argumentation, developed by philosopher Stephen Toulmin, helps us further analyze and build academic arguments. Toulmin's Model of Argumentation provides a structured framework for analyzing and building arguments and helps both writers and readers understand how an argument works or doesn't work.

Toulmin (1922-2009) was a British philosopher, author, and educator. He devoted his work to analyzing moral reasoning and sought to develop practical methods for evaluating ethical arguments effectively. The Toulmin Model of Argumentation, a diagram containing six interrelated components, was considered Toulmin's most influential work, particularly in the fields of rhetoric, communication, and computer science. His components continue to provide useful means for analyzing arguments, particularly academic arguments.

The six components of the Toulmin Model of Argumentation are a **claim**, **grounds**, **warrant**, **backing**, **qualifier**, and **rebuttal**, as illustrated in Figure 1. These components of argumentation are explained in more detail below.

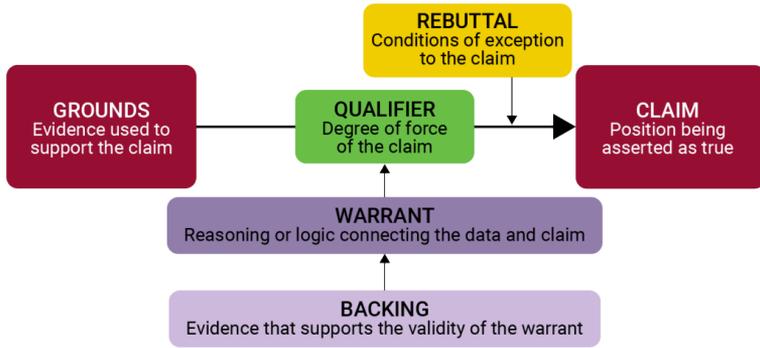


Figure 1: The six components of Toulmin's model of argumentation

## Claim

The claim is a statement that you are asking the other person to accept as true (i.e., a conclusion) and forms the nexus of the Toulmin argument because all the other parts relate back to the claim. The claim can include information and ideas you are asking readers to accept as true or actions you want them to accept and enact. Here's an example of a claim:

- My grandfather should wear a hearing aid.

This claim both asks the reader to believe an idea and suggests an action to enact. However, like all claims, it can be challenged. Thus, a Toulmin argument does not end with a claim but also includes grounds and a warrant to give support and reasoning to the claim.

## Grounds

The grounds form the basis of real persuasion and include the

reasoning behind the claim, data, and proof of expertise. Think of grounds as a combination of premises and support. The truth of the claim rests upon the grounds, so those grounds should be tested for strength, credibility, relevance, and reliability. The following are examples of grounds:

- Over 70% of all people over 65 years have a hearing difficulty.
- Hearing aids raise hearing quality.

Information is usually a powerful element of persuasion, although it does affect people differently. Those who are dogmatic, logical, or rational will more likely be persuaded by factual data. Those who argue emotionally and who are highly invested in their own position will challenge it or otherwise try to ignore it. Thus, grounds can also include appeals to emotion, provided they aren't misused. The best arguments, however, use a variety of support and rhetorical appeals.

## Warrant

A warrant links data and other grounds to a claim, legitimizing the claim by showing the grounds to be relevant. The warrant may be carefully explained and explicit or unspoken and implicit. The warrant answers the question, "Why does that data mean your claim is true?" For example,

- A hearing aid helps most people hear better.

The warrant may be simple, and it may also be a longer argument with additional sub-elements, including those described below. Warrants may be based on logos, ethos or pathos, or values that are assumed to be shared with the listener. In many arguments, warrants are often implicit and, hence, unstated. This allows the other person to question and challenge the warrant, perhaps to demonstrate that it is weak or unfounded.

## Backing

The backing for an argument gives additional support to the warrant. Backing can be confused with grounds, but the main difference is this: Grounds should directly support the premises of the main argument itself, while backing exists to help the warrants make more sense. For example,

- Hearing aids are available locally.

This statement works as backing because it gives credence to the warrant stated above, that a hearing aid will help most people hear better. The fact that hearing aids are readily available makes the warrant even more reasonable.

## Qualifier

The qualifier indicates how the data supports the warrant and may limit the claim's universality. The necessity of qualifying words comes from the plain fact that most absolute claims are ultimately false (e.g., all women want to be mothers) because one counterexample sinks them immediately. Thus, most arguments need some sort of qualifier, words that temper an absolute claim and make it more reasonable. Common qualifiers include “most,” “usually,” “always,” or “sometimes.” For example,

- Hearing aids help most people.

The qualifier “most” here allows for the reasonable understanding that rarely does one thing (a hearing aid) universally benefit all people. Another variant is the reservation, which may give the possibility of the claim being incorrect:

- Unless there is evidence to the contrary, hearing aids do not harm the ears.

Qualifiers and reservations can be used to bolster weak arguments, so it is important to recognize them. They are often used by advertisers who are constrained from making false claims. Thus, they slip “usually,” “virtually,” “unless,” and so on into their claims to protect against liability. While this may seem like sneaky practice, and it can be for some advertisers, it is important to note that the use of qualifiers and reservations can be a useful and legitimate part of an argument.

## Rebuttal

Despite the careful construction of the argument, there may still be counterarguments that can be used. These may be rebutted either through a continued dialogue or by pre-empting the counterargument by giving the rebuttal during the initial presentation of the argument. For example, if you anticipated a counterargument that hearing aids, as a technology, may be fraught with technical difficulties, you would include a rebuttal to deal with that counterargument:

- There is a support desk that handles technical issues.

Any rebuttal is an argument in itself, and thus may include a claim, warrant, backing, and the other parts of the Toulmin structure.

Even if you do not wish to write an essay using a strict Toulmin structure, using the Toulmin checklist can make an argument stronger. When first proposed, Toulmin based his layout on legal arguments, intending it to be used to analyze arguments typically found in the courtroom; in fact, Toulmin did not realize that this layout would be applicable to other fields until later. The first three

elements—“claim,” “grounds,” and “warrant”—are considered the essential components of practical arguments, while the last three—“qualifier,” “backing,” and “rebuttal”—may not be necessary for all arguments.

## Conclusion

Understanding and applying Aristotle’s rhetorical appeals and Toulmin’s Model of Argumentation will help you build an important set of skills as an academic writer, as a central purpose of academic writing is to convince your readers of the importance of your ideas or research.

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# SECTION 4: WORKING WITH SOURCES

## Overview

One of the defining features of academic writing is the integration of other voices or sources. In Section 4, you will learn some of the key skills in working with sources.

### Learning Outcomes

In this section, you will learn to:

- Identify strategies for reading and summarizing academic texts effectively
- Describe basic methods for locating research sources using library tools and databases
- Apply basic criteria to evaluate the credibility and relevance of research sources
- Explain how and why academic writers incorporate other writers' ideas into their work
- Describe the processes of paraphrasing, quoting, and synthesizing sources in academic writing



# Reading Academic Sources

This chapter focuses on the importance of critical reading in the writing process.

## How Is Reading for University Different?

As you begin this chapter, you may wonder why you need an introduction to reading. After all, you have been writing and reading since elementary school. You completed numerous assessments of your reading and writing skills in high school and as part of your application process for university. You may write on the job, too. How could reading for university be different?

When you are eager to get started on the coursework in your major that will prepare you for your career, getting excited about an introductory university writing course can be difficult. However, regardless of your field of study, honing your writing skills—and your reading and critical-thinking skills—gives you a more solid academic foundation.

In university, academic expectations change from what you may have experienced in high school. The quantity of work you are expected to do is increased. When instructors expect you to read pages upon pages or study hours and hours for one particular course, managing your workload can be challenging. This chapter includes strategies for studying efficiently and managing your time.

The quality of the work you do also changes. Understanding course material and summarizing it on an exam is not enough. You will also be expected to seriously engage with new ideas by reflecting on, analyzing, critiquing, making connections, drawing conclusions, or finding new ways of thinking about a subject. Educationally, you are moving into deeper waters.

Table 1 summarizes some of the other significant differences between high school and university reading assignments.

**Table 1. High School versus University Reading Assignments**

High School Reading Assignments	University Reading Assignments
Reading assignments are moderately long. Teachers may set aside some class time for reading and reviewing the material in depth.	Some reading assignments may be very long. You will be expected to come to class with a basic understanding of the material.
Teachers often provide study guides and other aids to help you prepare for exams.	Reviewing for exams is primarily your responsibility.
Your grade is determined by your performance on a wide variety of assessments, including minor and major assignments. Not all assessments are writing-based.	Your grade may depend on just a few major assessments. Most assessments are writing-based.
Writing assignments include personal writing and creative writing in addition to expository writing, which describes and explains information.	Outside of creative writing courses, most writing assignments are expository.
The structure and format of writing assignments is generally stable over a four-year period.	Depending on the course, you may be asked to master new forms of writing and follow standards within a particular professional field.
Teachers often go out of their way to identify and try to help students who are performing poorly on exams, missing classes, not turning in assignments, or just struggling with the course. Often teachers will give students many “second chances.”	Although teachers want their students to succeed, they may not always realize when students are struggling. They also expect you to be proactive and take steps to help yourself. “Second chances” are less common.

## Reading Strategies

Your university courses will sharpen both your reading and your writing skills. Most of your writing assignments—from brief response papers to in-depth research projects—will depend on your understanding of course reading assignments or related readings you do on your own. And it is difficult, if not impossible, to write effectively about a text you have not understood. Even when you do understand the reading, it can be hard to write about it if you do not feel personally engaged with the ideas discussed.

This section discusses strategies to get the most out of your university reading assignments. These strategies fall into three broad categories:

1. **Planning strategies.** To help you manage your reading assignments.
2. **Comprehension strategies.** To help you understand the material.
3. **Active reading strategies.** To take your understanding to a higher and deeper level.

## Planning Your Reading

Have you ever stayed up all night cramming just before an exam? Or have you found yourself skimming a detailed memo from your boss five minutes before a crucial meeting? The first step in handling university reading successfully is planning. This involves both managing your time and setting a clear purpose for your reading.

## Managing your reading time

Focus on setting aside enough time for reading and breaking your assignments into manageable chunks. If you are assigned a seventy-page chapter to read for next week's class, try not to wait until the night before to get started. Give yourself at least a few days, and tackle one section at a time.

Your method for breaking up the assignment will depend on the type of reading. If the text is very dense and packed with unfamiliar terms and concepts, you may need to read no more than five or ten pages in one sitting so that you can truly understand and process the information. With more user-friendly texts, you will be able to handle longer sections—twenty to forty pages, for instance. And if you have a highly engaging reading assignment, such as a novel you cannot put down, you may be able to read lengthy passages in one sitting.

As the semester progresses, you will develop a better sense of how much time you need to allow for the reading assignments in different subjects. It also makes sense to preview each assignment well in advance to assess its difficulty level and to determine how much reading time to set aside.

## Setting a purpose

The other key component of planning is setting a purpose. Knowing what you want to get out of a reading assignment helps you determine how to approach it and how much time to spend on it. It also helps you stay focused during those occasional moments when it is late; you are tired, and relaxing in front of the television sounds far more appealing than curling up with a stack of journal articles. Sometimes, your purpose is simple. You might just need to understand the reading material well enough to discuss it

intelligently in class the next day. However, your purpose will often go beyond that. For instance, you might also read to compare two texts, formulate a personal response to a text, or gather ideas for future research. Here are some questions to ask to help determine your purpose:

### *How did my instructor frame the assignment?*

Often, your instructors will tell you what they expect you to get out of the reading:

- Read Chapter 2 and come to class prepared to discuss current teaching practices in elementary math.
- Read these two articles and compare Smith's and Jones's perspectives on the 2010 healthcare reform bill.
- Read Chapter 5 and think about applying these guidelines to running your own business.

### *How deeply do I need to understand the reading?*

- If you are majoring in computer science and you are assigned to read Chapter 1, "Introduction to Computer Science," it is safe to assume the chapter presents fundamental concepts that you will be

expected to master. However, for some reading assignments, you may be expected to form a general understanding but not necessarily master the content. Again, pay attention to how your instructor presents the assignment.

*How does this assignment relate to other course readings or to concepts discussed in class?*

- Your instructor may make some of these connections explicitly, but if not, try to draw connections on your own. (Needless to say, it helps to take detailed notes both when in class and when you read.)

*How might I use this text again in the future?*

- If you are assigned to read about a topic that has always interested you, your reading assignment might help you develop ideas for a future research paper. Some reading assignments provide valuable tips or summaries worth bookmarking for future reference.

Think about what you can take from the reading that will stay with you.

## Improving Your Comprehension

You have blocked out time for your reading assignments and set a purpose for reading. Now comes the challenge: making sure you actually understand all the information you are expected to process. Some of your reading assignments will be fairly straightforward. Others, however, will be longer or more complex, so you will need a plan for how to handle them.

For any expository writing—that is, nonfiction informational writing—your first comprehension goal is to identify the main points and relate any details to those main points. Because university-level texts can be challenging, you will also need to monitor your reading comprehension. That is, you will need to stop periodically and assess how well you understand what you are reading. Finally, you can improve comprehension by taking time to determine which strategies work best for you and putting those strategies into practice.

### Identifying the main points

In university, you will read a wide variety of materials, including the following:

- **Textbooks.** These usually include summaries, glossaries, comprehension questions, and other study aids.

- **Nonfiction trade books.** These are less likely to include the study features found in textbooks.
- **Popular magazine, newspaper, or web articles.** These are usually written for a general audience.
- **Scholarly books and journal articles.** These are written for an audience of specialists in a given field.

Regardless of what type of expository text you are assigned to read, your primary comprehension goal is to identify the main point: the most important idea that the writer wants to communicate and often states early on. Finding the main point gives you a framework to organize the details presented in the reading and relate the reading to concepts you learned in class or through other reading assignments. After identifying the main point, you will find the supporting points, the details, facts, and explanations that develop and clarify the main point.

Some texts make that task relatively easy. Textbooks, for instance, include the aforementioned features as well as headings and subheadings intended to make it easier for students to identify core concepts. Graphic features, such as sidebars, diagrams, and charts, help students understand complex information and distinguish between essential and inessential points. When you are assigned to read from a textbook, be sure to use available comprehension aids to help you identify the main points.

Trade books and popular articles may not be written specifically for educational purposes; nevertheless, they also include features that can help you identify the main ideas. These features include the following:

- **Trade books.** Many trade books include an introduction that presents the writer's main ideas and purpose for writing. Reading chapter titles (and any subtitles within the chapter) will help you get a broad sense of what is covered. It also helps to read the beginning and ending paragraphs of a chapter closely. These paragraphs often sum up the main ideas

presented.

- **Popular articles.** Reading the headings and introductory paragraphs carefully is crucial. In magazine articles, these features (along with the closing paragraphs) present the main concepts. Hard news articles in newspapers present the gist of the news story in the lead paragraph, while subsequent paragraphs present increasingly general details.

At the far end of the reading difficulty scale are scholarly books and journal articles. Because these texts are written for a specialized, highly educated audience, the authors presume their readers are already familiar with the topic. The language and writing style is sophisticated and sometimes dense.

When you read scholarly books and journal articles, try to apply the same strategies discussed earlier. The introduction usually presents the writer's thesis, the idea or hypothesis the writer is trying to prove. Headings and subheadings can help you understand how the writer has organized support for his or her thesis. Additionally, academic journal articles often include a summary at the beginning, called an abstract, and electronic databases include summaries of articles, too.

## Monitoring your comprehension

Finding the main idea and paying attention to text features as you read helps you figure out what you should know. Just as important, however, is being able to figure out what you do not know and developing a strategy to deal with it.

Textbooks, such as this one, often include comprehension questions in the margins or at the end of a section or chapter. As you read, stop occasionally to answer these questions on paper or in your head. Use them to identify sections you may need to reread, read more carefully, or ask your instructor about later. Many

instructors pair readings with comprehension quizzes. If that's the case, look at the quiz questions first (if possible), and use those as guides for how to train your attention.

Even when a text does not have built-in comprehension features, you can actively monitor your own comprehension. Try these strategies, adapting them as needed to suit different kinds of texts:

1. **Summarize.** At the end of each section, pause to summarize the main points in a few sentences. If you have trouble doing so, revisit that section.
2. **Ask and answer questions.** When you begin reading a section, try to identify two to three questions you should be able to answer after you finish it. Write down your questions and use them to test yourself on the reading. If you cannot answer a question, try to determine why. Is the answer buried in that section of reading but just not coming across to you? Or do you expect to find the answer in another part of the reading?
3. **Do not read in a vacuum.** Look for opportunities to discuss the reading with your classmates. Many instructors set up online discussion forums or blogs specifically for that purpose. Participating in these discussions can help you determine whether your understanding of the main points is the same as your peers'.

These discussions can also serve as a reality check. If everyone in the class struggled with the reading, it may be exceptionally challenging. If it was a breeze for everyone but you, you may need to see your instructor for help.

## Taking It to the Next Level: Active Reading

Now that you have acquainted (or reacquainted) yourself with useful planning and comprehension strategies, university reading

assignments may feel more manageable. You know what you need to do to get your reading done and make sure you grasp the main points. However, the most successful students in university are not only competent readers but active, engaged readers.

## SQ3R strategy

One strategy you can use to become a more active, engaged reader is the SQ3R strategy, a step-by-step process to follow before, during, and after reading. You may already use some variation of it. In essence, the process works like this:

1. **Survey** the text in advance.
2. **Form questions** before you start reading.
3. **Read** the text, and filter the information according to the guiding questions.
4. **Recite** and/or **record** important points during and after reading.
5. **Review** and **reflect** on the text after you read.

**Survey:** Before you read, you survey, or preview, the text. As noted earlier, reading introductory paragraphs and headings can help you begin to figure out the author's main point and identify what important topics will be covered. Simply paying attention to the title of the piece can provide important clues. However, surveying does not stop there. Look over sidebars, photographs, and any other text or graphic features that catch your eye. Skim a few paragraphs. Preview any

boldfaced or italicized vocabulary terms. This will help you form a first impression of the material.

**Question:** Next, start brainstorming questions about the text, or carefully read any questions that have been provided to you by the instructor or textbook. What do you expect to learn from the reading? You may find that some questions come to mind immediately based on your initial survey or based on previous readings and class discussions. If not, try using headings and subheadings in the text to formulate questions. For instance, if one heading in your textbook reads “Medicare and Medicaid,” you might ask yourself these questions:

- When was Medicare and Medicaid legislation enacted? Why?
- What are the major differences between these two programs?

Although some of your questions may be simple factual questions, try to come up with a few that are more open-ended. Asking in-depth questions will help you stay more engaged as you read.

**Read:** The next step is simple: read. As you read, notice whether your first impressions of the text were correct. Are the author’s main points and overall approach about the same as what you predicted—or does the text contain a few surprises? Also, look for answers to your earlier questions and begin forming new questions. Continue to revise your impressions and questions as you read.

**Recite/Record:** While you are reading, pause occasionally to recite or record important points. It is best to do this at the end of each section or when there is an obvious shift in the writer's train of thought. Put the book aside for a moment and recite aloud the main points of the section or any important answers you found there. You might also record ideas by jotting down a few brief notes in addition to, or instead of, reciting aloud. Either way, the physical act of articulating information makes you more likely to remember it.

**Review & Reflect:** After you have completed the reading, take some time to review the material more thoroughly. If the textbook includes review questions or your instructor has provided a study guide, use these tools to guide your review. You will want to record information in a more detailed format than you used during reading, such as in an outline or a list.

As you review the material, reflect on what you learned. Did anything surprise you, upset you, or make you think? Did you find yourself strongly agreeing or disagreeing with any points in the text? What topics would you like to explore further? Jot down your reflections in your notes. (Instructors sometimes require students to write brief response papers or maintain a reading journal. Use these assignments to help you reflect on what you read.)

## PHA strategy

Another active-reading strategy simplifies the SQ3R process into

three phases, or PHA: 1) Preview, 2) Highlight, 3) Annotate. Figure 1 shows the PHA strategy in an image.

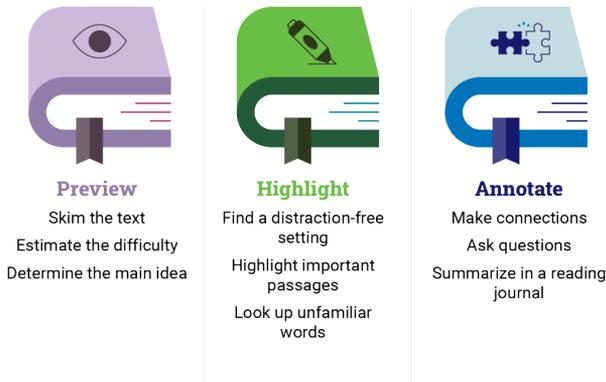


Figure 1. The PHA active reading strategy.

Note. Adapted from “PHA Active Reading Strategy” by L. Long, [CC BY 4.0](#)

### *Preview*

The first time you read the text, simply preview it. Skim the entire assignment, trying to get a sense of the content and level of difficulty. What is the main idea of the chapter? Are several concepts presented? Are they unfamiliar to you? Are the words difficult to understand? On a scale of 1-5, one being very easy and five being very hard, rate the reading passage’s difficulty level.

### *Highlight*

This is the most time-consuming phase of reading.

- Make sure you are in a quiet place, free from distractions.
- Have a highlighter, a pencil, or other instrument (post-it flags, etc.) ready to use.
- Read each sentence closely. If something sticks out to you or seems important, highlight it. Similarly, if you are struggling to understand something, highlight that as well, perhaps using a “?” to note the difficult passage.
- Look up any words that are unfamiliar in a dictionary.
- Reading out loud or listening to an audio version of the text may help you with comprehension.

### *Annotate*

The third phase of reading is where you make connections and ask questions. You may want to make notes in the margin as you read, or you may use a separate piece of paper. For each passage, think about ways it might apply to what you are studying in your course.

- Do you agree with what you are reading?
- Does it remind you of previous things you have learned, either in this class or in another?
- Do you have personal experience with the concepts discussed?
- Do you need clarification or more information about a concept?

### Other active reading strategies

The SQ3R and Preview-Highlight-Annotate processes encompass a number of valuable active reading strategies: previewing a text, making predictions, asking and answering questions, and summarizing. You can use the following additional strategies to further deepen your understanding of what you read.

- **Connect what you read to what you already know.** Look for ways the reading supports, extends, or challenges concepts you have learned elsewhere.
- **Relate the reading to your own life.** What statements, people, or situations relate to your personal experiences?
- **Visualize.** For both fiction and nonfiction texts, try to picture what is described. Visualizing is especially helpful when you are reading a narrative text, such as a novel or a historical account, or when you read expository text that describes a process, such as how to perform cardiopulmonary resuscitation (CPR).
- **Pay attention to graphics as well as text.** Photographs, diagrams, flow charts, tables, and other graphics can help make abstract ideas more concrete and understandable.
- **Understand the text in context.** Understanding context means thinking about who wrote the text, when and where it was written, the author's purpose for writing it, and what assumptions or agendas influenced the author's ideas. For instance, two writers might both address the subject of health care reform, but if one article is an opinion piece and one is a news story, the context is different.
- **Plan to talk or write about what you read.** Jot down a few questions or comments in your notebook so you can bring them up in class. (This also gives you a source of topic ideas for papers and presentations later in the semester.) Discuss the reading on a class discussion board or blog about it.

Active reading can benefit you in ways that go beyond just earning good grades. By practicing these strategies, you will find yourself more interested in your courses and better able to relate your academic work to the rest of your life. Being an interested, engaged student also helps you form lasting connections with your instructors and other students who can be personally and professionally valuable. In short, it helps you get the most out of your education.

## Using Generative AI to Help with Reading Comprehension

### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI.
- Using Generative AI to help you better understand a text is likely okay.

### Use it effectively

- Generative AI can help you better understand the texts that you are reading. If you are going to use Generative AI, use it to make you a better thinker!
- There are some Generative AI tools designed to help you better understand academic papers. Search for “AI reading assistants” on the web to find these tools.
- You can ask Generative AI tools to help you do the following:
  - Summarize texts in simplified language

- Identify and explain key vocabulary in the text
- Provide visual aids to explain the text
- Provide questions about the content to test your own understanding

## Beware of the limitations

- Generative AI may change the meaning of a text when summarizing it. You need to use your own critical thinking skills to make sure that the AI-generated material is correct.

## Consider your learning journey

- If you are going to use Generative AI to help you read more effectively, remember that you want it to be your tutor; it shouldn't do the work for you. The goal is to use Generative AI to make you a better learner.

## Consider ethics

- Make sure that you understand the ethical implications of using Generative AI. When you upload a text to Generative AI and ask the tool to help you

comprehend it, you may be providing that material to its training database without the author's permission.

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# Finding Credible Sources

## Finding sources at the U of A Library

The University of Alberta has several Library Research Skills modules in Canvas to help you navigate finding sources. The page [How to Research](#) has information on how to enrol in these modules.

## Using sources ethically

### What is plagiarism?

Plagiarism is the misrepresentation of something as your own.

Plagiarism is one of the most frequent violations of academic integrity. It ranges in severity from blatant plagiarism, where a student simply submits a whole work that is not their own—for example, a paper they purchased online—to inadvertent plagiarism, where a student tried to do honest work but still accidentally plagiarized.

### Types of plagiarism

Most students understand that it is wrong to plagiarize but are confused about what plagiarism is. Watch [Types of Plagiarism](#) (7:43) for a detailed explanation of seven basic types of plagiarism.

## How to avoid plagiarism

Read [How to avoid plagiarism](#) from the Office of the Dean of Students for tips on how to avoid plagiarism:

### Using Generative AI to find sources for a research paper

#### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI.

#### Use it effectively

- There are Generative AI tools that specialize in finding academic research sources. (Search the Internet for “best AI tools for finding academic sources.”) These tools may perform this task more effectively than general Generative AI tools like ChatGPT.

## Beware of the limitations

- Some Generative AI tools make up research sources that don't exist. Be sure to find any sources provided by Generative AI on your university's library website.
- Generative AI tools may have outdated information.
- You may not know why the tool chooses the sources that it does. There may be an unknown bias in how Generative AI chooses sources. Ask yourself if Generative AI's sources are the best sources for your paper.

## Consider your learning journey

- You may miss out on the cognitive benefits of finding and evaluating sources independently.

## Consider ethics

- The tool may index and list the research sources without the permission of the publisher and author.
- Make sure that you understand the ethical implications of using these tools.

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# Evaluating Sources

## Thinking Critically About Sources

Evaluating sources for relevance, currency, and credibility is one of the most complex tasks when working on a research project.

To evaluate a source, you have to answer three questions about it:

1. Is this source relevant to my research question?
2. Is this source recent enough (or created in the appropriate time period)?
3. Is this a credible source—a source my audience and I should be able to trust?

The first two are intertwined and answered simultaneously as you're looking for sources. Answer the third question about those sources when you have decided which sources are relevant and recent enough.

You should be able to answer “yes” to these three questions about each source you cite for a research project.

Don't forget that your sources should meet any other criteria your instructor may have given you for this assignment. For instance, instructors often stipulate that some of your sources have to be scholarly sources or journal articles from a particular database. Instructors in the humanities may also say that some of your sources must be primary sources. So, make sure you have identified enough of the kind of sources your professor has requested.

Sources should always be evaluated relative to your purpose. However, because there often aren't clear-cut answers when you evaluate sources, you will likely need to infer (make an educated guess) whether a source is relevant, current, and credible.

The purpose of your research will dictate:

- What kind of information will help?
- How serious are the consequences of making a mistake if your information is inaccurate?
- How hard will it be to get the credible, timely information that suits your purpose?

Your standards for relevance and credibility may vary, depending on whether you need, say:

- Information about a personal health problem
- An image you can use on a poster
- Evidence to win a bet with a rival in the dorm
- Dates and times a movie is showing locally
- A game to have fun with
- Evidence for your argument in a research project

For your research assignments or a health problem, the consequences may be serious if you use information that is irrelevant, out-of-date, or not credible.

## Determining Relevance and Currency

It's important to determine relevance before credibility because no matter how credible a source is, if it's not relevant to your research question, it's useless to you for this project. By the same token, a source that is not recent enough or not created in the right time period will also be unsuitable for your project, except perhaps for background information you don't cite.

Relevant sources are those that pertain to your research question. You'll be able to identify them fairly quickly by reading or skimming particular parts of sources and maybe jotting down little tables that help you keep track.

One thing to consider early on as you make inferences about

relevancy is the effect that timeliness, called a source's currency, should have on deciding whether a source is relevant. Sometimes timeliness has a lot to do with relevancy; sometimes it is less important. Your research question and your discipline will determine that. For instance, if your research question is about the life sciences, consider only the most recent sources relevant for citing because the life sciences are changing quickly. There is a good chance that any source other than the most recent may be outdated. Therefore, it's a good idea to aim for life sciences sources that are no older than five years.

Sometimes, emergencies can alter the schedule of what is recent enough. For instance, when the COVID-19 pandemic began, scientists needed to share their research findings as quickly as possible. At that time, scientific information about COVID-19 could become outdated in weeks or months, before the peer review process had barely started.

Lives were at stake, and for that reason, scientists started publishing their new research results on COVID-19 as preprints—publications of results that had not yet been peer-reviewed—in an attempt to have them be useful faster. Nonetheless, after preprint publication, the peer review process continued for much of that research.

However, preprints didn't start with the COVID-19 pandemic. Around for more than 30 years and now at Cornell University, arXiv (pronounced archive) is a free distribution service and an open-access archive for more than two million scholarly articles first published as preprints in the fields of physics, mathematics, computer science, quantitative biology, quantitative finance, statistics, electrical engineering and systems science, and economics. Materials on the site are not peer-reviewed by arXiv itself.

Before using preprints as sources, talk with your professor about whether she or he recommends their use in your situation.

Many sciences, other than the life sciences, primarily use content that is less than 10 years old. But not always. That's because the

history department is not alone in valuing older content. For instance, mathematics is a discipline that heavily relies on older content. The importance of the currency of your sources will depend on your research question and discipline. Your professor can guide you about your situation.

In most cases, it's best not to use a hard and fast rule about how current your sources have to be. Instead, consider your discipline and research question, and engage in some critical thinking. For example, suppose your research question is about the Edo Period in Japan (1603-1868) or about Robert Falcon Scott, who explored the Antarctic from 1901 to 1913. In these cases, an item from 1918 might be as useful as one from 2018 (although new information may have been found in the 100-year gap). But something from 1899 about Antarctica or 1597 about Japan would not be current enough for these research questions.

These examples also give you two more clues about how to treat the timeliness or currency of sources as you consider relevance:

- Because of how long ago they lived or occurred, it would be unusual for many sources on Robert Scott or the Edo Period to have been published very recently. So, unlike sources for the life sciences, whether a source is very recent should not determine its relevancy to research questions about Scott or the Edo Period.
- Primary sources are especially relevant to many humanities and other non-science research questions. For disciplines in the humanities, the phrase primary sources refers to sources created at the same time as something under study—in this case, things such as Scott's diaries and expedition photographs, as well as paintings, literature, clothing, and household items from the Edo Period. They go a long way to explain faraway people and times. On the other hand, when science disciplines use the phrase primary source, they usually mean where they primarily find the information they consider valid—in research journals.

## Determining Credibility

Once you have determined that a source is relevant and current, it's very important to evaluate it for credibility. Can you trust your source?

Research conducted at Stanford University showed that one of the best ways to evaluate sources is to look at what others have written about them (Wineberg & McGrew, 2017). This method is called “**lateral reading.**” The process of lateral reading is explained below.

## Use Lateral Reading to Determine Credibility

We recommend using a lateral reading process to evaluate the credibility of the relevant sources you have found. The goal of lateral reading is to end up with a list of trustworthy sources. From that list, you will choose some to answer your research question in your final product.

You will become very proficient at this with practice. Remember, you are only checking the credibility of these sources, not whether you will use them. You'll end up identifying trustworthy sources you can safely use, not a list you will use.

Your mental attitude should be skeptical—make the sources prove they are credible.

## Step 1: Scan your source

Bring up the relevant source in your web browser or have the print copy before you.

Identify important information such as:

- The title of the source document
- The name of the author
- The name of the publisher
- The name of the journal, newspaper, website, or magazine

## Step 2: Evaluate what others say about your source

Search the source's title using a search engine. You may want to use quotation marks around the title in your search to ensure that you find information specifically related to your source.

Has anyone raised concerns about your source? If so, look for assessments of your source on a few of these websites: Wikipedia, NPR, Snopes, Politifact, SciCheck, FactCheck.org, and Washington Post Fact Checker. Wikipedia also has a [list of fact-checking websites](#) about political and non-political subjects.

What they discovered may make you immediately distrust the source and rule it out. But their reviews of your source—or lack of a review—may be positive enough to keep you evaluating it.

Next, look for other websites' assessments of your source among your search results.

To see what others say about a journal article, see if it has been cited elsewhere. Some tools track where journal articles (and some conference papers and books) are being cited. Scopus and Web of Science are two library databases that do this. Google Scholar also does this. A few cautions:

- New content hasn't had a chance to get cited.
- Some subject areas may use certain formats more than others (books may get more citations in math than in physics, for example).
- Citing something doesn't equal agreeing with it.
- Different subject areas have different citation levels. Areas like medicine or physics articles tend to get more citations than history or literature articles, for example.
- Some journals' items get cited more because of their reputation, but that doesn't mean other titles have bad content.

## Step 3: Determine the intended audience and type of source

Figure out who the source was created for. Ask yourself whether it was written as:

- A popular source for everyone
- A substantive popular source created for educated people or those very interested in the subject
- A professional source created for members of a particular profession
- A scholarly source aimed at scholars and others who want a deep view of a subject

You can often get fast clues to what kind of source it is. For instance, the URL may tell you the source was published in an online version of a newspaper or magazine.

If you searched for the source in Google Scholar or a library database, your source is likely a professional source or a scholarly article in a research journal. However, be cautious here because sometimes student papers can be found through Google Scholar, and these may not have the quality that academic writing requires.

Wikipedia may tell you whether your source is a magazine, newspaper, journal, etc. For instance, see what Wikipedia says about [Men's Health](#), [Investopedia](#), and [Cell](#). Library catalogues can also tell you about sources, as these

OSU Libraries full catalogue entries do about [Athletic Business](#) and [The Ballad of Songbirds and Snakes](#).

In general, substantive popular sources, professional sources, and scholarly sources are more credible than popular sources. That's because publishing these sources often involves processes that help ensure their accuracy, such as editorial oversight, fact checking, and peer review. (You still need to evaluate them, but it tends to be easier.)

## Step 4: Evaluate the author, the publication, and the publisher

Now search for the author's name, the publication, and the publisher.

### *Finding information about authors*

Authors and publishers can be individuals, organizations, companies, or government agencies.

If your source is online, you may see a hyperlinked author name. Click on that to see if you can get more information about the person. Sometimes, you may see information about them at the bottom of the source. If it's a scholarly

journal, book, or conference paper that you are examining, you will often see their affiliation (where they work) – often a university, research lab, museum, or some other institution with experts. Databases like Scopus and Web of Science also allow you to look up authors and see their research profiles (just be careful to get the right person – some names are very common!).

Don't be automatically impressed with Ph.D. or M.D. degrees. A Ph.D., M.D., or other advanced degree is not automatically a marker of someone you can trust about the information in your source.

Ask yourself whether their academic degree makes sense with the subject matter they are writing about. Someone with a Ph.D. in chemistry, for instance, may not know anything about criminology and whether sentencing guidelines should be changed for Americans convicted of a crime.

University credentials are not the only thing that could matter. An author may have substantial life experience or training that makes them an authority on your research question. For that reason, for example, a comparatively uneducated person who has lived for many years in a rural county may be able to provide you with information about what that's like that is just as credible as what a university professor of rural sociology can provide.

### *Finding information about publications*

Search the name of the publication (i.e., journal title,

newspaper title, website title) to see what others say about this publication source.

You may learn that a research article is published in a predatory journal. These journals prey upon researchers' need to publish research, but they have lower review standards. An article published in one of these sources may not be as credible as those published in more credible peer-reviewed journals.

You may also learn that a newspaper or website has a particular political bias or agenda. Keep this in mind as you evaluate your source.

### *Finding information about publishers*

You may find the publisher's name next to the copyright symbol, ©, at the bottom of at least some pages on a site. In books, the publisher's identity is traditionally on the back of the title page, with a few sentences about the author on the back cover or the flap inside the back cover. (But, of course, remember that those comments are those that the publisher decided to publish.)

If your source is a website, sometimes it helps to look at the source's URL to determine whether it belongs to a single person or a reputable organization. Because many colleges and universities offer blog space to their faculty, staff, and students who use the university's web domain, this evaluation can require deeper analysis than just looking at the address. However, personal blogs may not reflect the official views of an organization or meet the standards of formal publication.

## Step 5: Evaluate potential bias

Ask yourself whether your results in the previous steps give you a reason to suspect that the author or publisher may have a bias or an agenda related to the topic of your source.

If so, your source may still be acceptable, depending on your research question. However, you should be aware of the potential bias of the source because it's part of the context of the conversation around that source.

In addition, if you end up using and citing such a source, you may want to couch your language about it in your final product, as in “These authors say X about Y, although one has to keep in mind what might be their political bias.” That way, your instructor will know that you are aware of the whole conversation so far about this source, which always counts as a positive.

The more you know about the author and/or publisher, the more confidence you can have in your decision about credibility. Sites that do not identify an author or publisher are generally considered less credible for many purposes, including for research papers and other high-stakes projects. The same is true for sources in other formats, including videos and print.

## Step 6: Review your source

Go back to your source and start reading or viewing it, engaging in the argument the author is trying to make. Identify major statements of fact the author makes and then check a few of them out. Keep track of what others have said about your source's statements of fact so that you get an idea of how well their ideas are accepted by others.

Remember, though, that if your source is especially innovative, not everyone may agree with its statements of fact, and it could still be a credible source. You'll have to use your own critical thinking skills about the topic and your research question as you consider your course's credibility here.

For example, this [New York Times story](#) covers how long and hard two Australian medical researchers had to work to convince other doctors that a bacterium, rather than stress, causes most stomach ulcers—one even infected himself with the bacterium to cure the resulting ulcer with a drug. In the story, a former dean of the University of Chicago's Pritzker School of Medicine states that peer review “tends to adhere to things that are consistent with prevailing beliefs and models,” and “really new ideas usually just get thought of as crazy.”

The difficulty that innovative researchers face is reflected in the fact that the Australian researchers identified the

bacterial cause of ulcers in 1979, but it wasn't until 2005 that they received a Nobel Prize for the importance of that discovery and their persistence in convincing other doctors.

Although the lateral reading process may take time, you will get faster as you practice. As we confront the impacts of misinformation in society, learning to evaluate information sources is a fundamental skill that you should learn.

## Using Generative AI to Evaluate Sources

### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI. Your instructors may want you to practice evaluating sources on your own, as this is a critical skill.

## Use it effectively

- Generative AI may be able to help you evaluate your sources. For instance, you may be able to prompt the tool, “Evaluate the credibility of the following source using the lateral reading strategy: [Insert article citation here.]” Please be cautious, however, as Generative AI models may hallucinate, and you will have to evaluate their analysis in addition to your own work.

## Beware of the limitations

- Generative AI may hallucinate when evaluating your text. Be cautious.

## Consider your learning journey

- It is still important to learn how to evaluate sources in our disinformation age. Understanding how credibility can be investigated and considered is a critical skill.

## Consider ethics

- Make sure that you understand the ethical implications of using Generative AI. When you upload a text to Generative AI and ask the tool to evaluate it, you may be providing that material to its training database without the author's permission.

## Additional Resources

You may want to review the page “[How to Research](#)” on the University of Alberta Library website. The micro-course entitled “[Evaluating Information and Avoiding Misinformation](#)” is also helpful.

## References

Wineburg, S., & McGrew, S. (2017, October 6). Lateral reading: Reading less and learning more when evaluating digital information. *Teachers College Record*, 121(11), <https://doi.org/10.2139/ssrn.3048994>

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# Summarizing Sources

## Introduction

Summarizing is a valuable academic, job, and life skill.

You will often be asked to summarize something, be it in a formal or an informal setting. For example, you may need to include a summary of a source within a research paper. At your job, your supervisor may request an oral or written summary to provide an update on a project you are tasked with completing. In your personal life, a friend may ask you to explain the gist of a movie before deciding whether to watch it. As with any skill, summarizing requires practice. You will become more proficient through practice and build your confidence to handle these tasks.

## What Is a Summary?

A summary

- is a brief statement of the main ideas from a text,
- is written in your own words (paraphrased), and
- should be accurate, complete, and objective.

When you read to summarize, the goal is to be able to articulate the author's ideas and perspectives, regardless of your opinions about the ideas. There will be a place for sharing your ideas later, but first, you must fully process the ideas presented by the author(s).

You will notice that academic articles are often preceded by a summary called an **abstract**. The abstract provides readers with

an overview of the article's contents; many academic readers read abstracts first to judge the article's relevance to their own work.

## Why Summarize?

- Summarizing is a tool to check your understanding of a text.
- It helps you recall what you have read because you must understand it deeply enough to express the same key ideas differently.
- Summarizing is a type of academic writing. You will use it when writing about texts you have read in various assignments across the curriculum. Summarizing is the key skill behind citation, an important feature of academic writing.
- Summarizing is a skill you will use in your personal life and job when conveying key points to others.

## The Parts of a Summary

What is included in a summary?

- Title of the text
- Author of the text
- The overall main idea of the text (the writer's thesis) written in your own words
- Major support for the thesis (paragraph-level or section-level main ideas) written in your own words

What is not included in a summary?

- Minor details from a text: The goal is to report the main ideas, and minor details are specific, not general.) When we summarize texts that use quantitative data (numbers and

statistics), we don't include those values in a summary.

- Quoted material from the text: Quotes make a summary wordier and lengthier than it needs to be. The goal is to be concise.
- Your opinion: The summary should accurately and concisely represent the author's points.

## Key Steps to Developing a Summary

### Step 1: Prepare to summarize

Before you begin the summary process, use one of the active reading processes described in the chapter "[Reading Academic Sources](#)." It is important to have a good grasp of the text you are working with before you sit down to summarize it.

If you are summarizing an academic research article, one good strategy is to read around the edges. For instance, read the abstract, the introduction, and the conclusion first to help you build a better understanding or model of what the text is about. Then you can return to the text and read the material in the middle.

To demonstrate how to summarize, we will work through the article "[Students perceive themselves as a 'math person' or a 'reading person' early on](#)," which appeared on the not-for-profit independent news website *The Conversation* in August 2022. The article examines students' identities as "reading people" or "math people."

*Practice highlighting and annotating a text*

To highlight and annotate the article "[Students perceive themselves](#)

as a ‘math person’ or a ‘reading person’ early on” as part of your practice summarizing a text, you have the following options:

1. Highlight and annotate the article text below using a web annotation tool like [hypothes.is](https://hypothes.is).
2. Download [a printable PDF](#) of the article.
  1. You can print the PDF and highlight and annotate it by hand.
  2. You can use PDF annotation software to highlight and annotate the document. Google “PDF annotation software” to find apps that might work for you.
  3. You can upload the PDF into notetaking software to highlight and annotate it. Google “notetaking software” to find apps that might work for you.

Select the panel for the full text of the article.

**Students perceive themselves as a ‘math person’ or a ‘reading person’ early on**

**Students perceive themselves as a ‘math person’ or a ‘reading person’ early on – and this can impact the choices they make throughout their lives**

[Sirui Wan](#), University of Wisconsin-Madison

The [Research Brief](#) is a short take about interesting academic work.

## The big idea

<sup>1</sup> As kids progress through school, they tend to increasingly perceive themselves as either a “math person” or a “language person,” even if they’re good at both, according to a [recent study](#) I led.

<sup>2</sup> My colleagues and I were interested in why people pursue specific educational and career trajectories – like choosing a science, technology, engineering and mathematics major vs. a non-STEM major in college. We know that having a specific academic identity, like [considering oneself a “math person,” is one of the reasons](#) people choose a corresponding career path. My team wanted to find out when some kids start to lean toward identifying this way.

<sup>3</sup> We focused on math and language arts because they are the [most common subjects](#) in the U.S. K-12 system; for example, the SAT has two main sections: English and math. There is also a [gender stereotype](#) that reading is for girls and math is for boys.

<sup>4</sup> My team analyzed data involving 142 independent samples across the world, featuring almost 211,000 students from 16 countries and regions. This data includes self-reported

confidence and interest in math and language arts from students in different grades.

5 Our research indicates an age-related change in kids' academic identity formation.

6 We found that during primary school, students who reported high confidence and interest in language arts were also likely to report high confidence and interest in math. But as students progress through the school years, this pattern gradually changes. In high school, students who reported high confidence and interest in language arts reported lower confidence and interest, on average, in math, and vice versa.

7 In other words, students become more likely to think that they're either a math person or a reading person as they progress through their school years.

## Why it matters

8 Students choose to pursue a specific career path for various reasons. One of the most common is that [they believe they are good at doing a task](#). Our research suggests that some students develop a misconception that they can only be either a math or a reading person as they move from primary to secondary school.

9 This misconception can have a dark side: [Students might disengage from subjects that they perceive as their relative](#)

[weaknesses](#) even when they are actually good at these subjects relative to other students.

10 An example is that many students, especially girls, [perform very well in math but do even better in verbal domains](#). These students might view math as a relative weakness and avoid pursuing math-related educational and career paths.

11 In other words, the misconception found in our study can lead some students to miss out on educational opportunities.

## What still isn't known

12 Although viewing oneself as better in one domain than another likely carries costs, it may have benefits as well. It would be useful to understand these before our team can make strong recommendations to parents, teachers or policymakers for interventions.

13 Additionally, to support each student's unique journey, parents, teachers and schools would benefit from a stronger understanding of how students come to think that one can only be good at either math or reading. Unfortunately, we still know little about the impact of contributing factors, such as the school environment.

14 A potential contributing factor that we considered in our study is tracking, or schools dividing students into groups by

their perceived achievement. [Our study](#) found that German students tend to believe they are good at only one of the two domains slightly earlier than U.S. students do, perhaps because [academic tracking starts earlier in Germany than in the U.S.](#)

15 Studying the implications of different educational practices on students' academic beliefs is a line of research that my colleagues and I are currently pursuing.

[Sirui Wan](#), Postdoctoral Research Associate, Department of Psychology, University of Wisconsin-Madison

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## Step 2: Gather information for the summary

After using an active reading process technique, reread the article you plan to summarize. This might seem unnecessary. However, you read the article the first time to familiarize yourself with the content. Summarizing requires a more detailed examination of the text to understand the relationship between the ideas: major points, minor details, and how all the major points are connected.

When summarizing, you are reading for a different purpose; your goal is to search for the main ideas, sift out the details, and express the main ideas in your own words.

## *Take notes to summarize*

As you develop your summarization skills, having a template that guides you as you work through the process can be helpful. The [Summary Notes Template document](#) guides you as you begin to distinguish between a text's major and minor points.

## *Distinguish between the major and minor points*

Re-read the text. Write down the major supporting point or main idea from each paragraph or section in your own words. Writing an idea in your own words is called paraphrasing. Sometimes, a single paragraph may have its own major supporting point; however, if the paragraphs are short, consider grouping related paragraphs together to determine the major point.

Determine the thesis, or overall main idea, of the text. This should be the central point of the text. The major supporting points should relate to the thesis.

Practice completing the [Summary Notes Template document](#) for the example text "[Students perceive themselves as a 'math person' or a 'reading person' early on.](#)" Compare your notes to the example below. Make sure your ideas agree. The topic, major supporting points, and thesis should be written in your own words, but the content should be the same as what is included in the example.

### **Example: Summary notes**

\*Student responses are written in blue.\*

Title of the reading

"Students Perceive Themselves As a 'Math Person' or a

‘Reading Person’ Early on – and This Can Impact the Choices They Make throughout Their Lives”

Author(s) of the reading

Sirui Wan

Topic of the reading (topic = the person, place, event, or idea that the article is about; express as word or phrase)

math, reading, and student identity

NOTE: There are many ways to state the topic. Other possibilities include:

- identity as a math or reading person
- self perception as a math or reading person
- math, reading, and self-perception

Major supporting points in the reading (major support = paragraph-level and section-level main ideas; express in complete sentences; paraphrase all ideas; label points with paragraph numbers)

NOTE: You may have grouped the paragraphs differently than what is shown below. That is okay, as long as you have the same key ideas from the article. For example, paragraphs 4-7 are grouped together in the notes below, but you may have chosen to include paragraph 4 (the data from over 200,000 students) separate from the finding discussed in paragraphs 5-7.

Paragraphs 1-2: Researchers investigated when students start to identify as either “math people” or “reading people.”

Paragraph 3: They chose math and reading because they are commonly taught and because girls are often stereotyped as readers and boys as math people.

Paragraph 4-7: The researchers examined data from over 200,000 students around the world and concluded that students are more likely to view themselves as either math or reading people as they advance through school, even if they

liked or believed they were skilled in both areas in elementary school.

Paragraphs 8-11: When students see themselves as one or the other, they may avoid what they perceive as their weaker subject area in school and not consider related career paths.

Paragraphs 12-15: The author wants to know if there may be benefits to identifying as one type, either math or reading, and to understand the variables that contribute to students' misperceptions, such as whether or not schools track students into certain subjects.

Thesis of the reading (What is the main point the author is telling us about the topic? What is the overall main idea of the text?)

Researchers learned that students increasingly view themselves as either “math people” or “reading people,” and this can impact their academic and career decisions.

NOTE: When you write your summary, the topic sentence of the paragraph will include the title, author, and thesis. Why is the thesis last in the notes if that is the case? When you read to summarize, sometimes you have an idea of the thesis before identifying the major supporting points, but not always. Sometimes, identifying the major supporting points will help you determine the thesis.

### Step 3: Write the summary

Now that you have collected the information to include in your summary, you can use your Summary Notes to draft your summary. Below is guidance for writing the summary, followed by an example from the article [“Students perceive themselves as a ‘math person’ or a ‘reading person’ early on.”](#)

## *How should you organize the summary?*

- Start with a topic sentence that states the title, author, and thesis (overall main idea) of the article. This is how you let the reader know what you are summarizing and give credit to the author.
- Follow the topic sentence with the major supporting points (paragraph-level main ideas or section main ideas). Present them in the order of importance. Note that this order may not be the same as you read these points in your source text.
- The last major supporting point may be general enough to conclude the paragraph. If not, then you can rewrite the thesis of the article.

## *What writing style should be used?*

Don't expect to simply copy and paste the sentences from your Summary Notes document; the result will be a disjointed, choppy summary. Use the following guidelines so that all the sentences make sense and flow from one to the next in your paragraph.

- **Use the present tense** when referring to what the author “writes” (not the past tense “wrote”).
- **Use the third person** (e.g. Sirui Wan explains that students develop a preference for math or reading early in school.). This makes it clear that the ideas are not yours but belong to the author. Refer to the author by name, as “the author,” as “the writer,” or by the appropriate pronoun (he/she/they) if known. It is common practice to use both of the author's names (Sirui Wan) the first time you mention them but only to use the family name or surname (Wan) after that point. In the summary, do not use first-person pronouns (I/me/my/we/our/us) or second-person (you/your).

- **Vary the verbs in the summary.** Do not repeat the same verbs (e.g. “says” and “writes”) throughout the summary. Below is a list of possible verbs, but these are not the only ones. Make sure the verb fits the context. For example, do not use the verb argue unless the author presents an opinion.

---

acknowledge	demonstrate	present
add	describe	question
admit	explain	reason
argue	find	report
assert	identify	say
believe	illustrate	state
claim	indicate	suggest
compare	note	think
conclude	mention	warn
critique	point out	write

---

Practice summarizing the article “[Students perceive themselves as a ‘math person’ or a ‘reading person’ early on.](#)”

Select the panel to compare your summary to the example below.

### Example: Summary

In the summary below, note the following colour coding:

- The topic sentence of the summary includes the title, author, and thesis of the article and is blue.
- References to the author are marked in burgundy.
- Present tense verbs that indicate what the author is saying or writing are green.

In the informational article “[Students Perceive Themselves As](#)

a 'Math Person' or a 'Reading Person' Early on – and This Can Impact the Choices They Make throughout Their Lives,” Sirui Wan reports that students increasingly view themselves as either “math people” or “reading people” as they advance through school, and this self-perception can impact their academic and career decisions. Wan describes how he and his research team investigated the ages at which students start to identify as either “math people” or “reading people” (par. 1-2). They chose to focus on the subjects of math and reading because they are commonly taught and because girls are often stereotyped as readers and boys as math people (par. 3). Wan explains that they examined data from over 200,000 students around the world and concluded that students are more likely to view themselves as either math or reading people when moving into higher grade levels; the author notes that this occurred even if the students liked both subjects and believed they were skilled in both areas in elementary school (par. 4-7). Wan expresses concern that if students see themselves as stronger in either reading or math, they may avoid the subject they perceive as their weaker one and not consider related career paths (par. 8-11). The author concludes by noting that the research team is conducting further research to determine if there may be benefits to identifying as either reading or math and to understand the variables within schools that contribute to students' misperceptions (par. 12-15). Work Cited

Wan, Sirui. “Students Perceive Themselves As a ‘Math Person’ or a ‘Reading Person’ Early on – and This Can Impact the Choices They Make throughout Their Lives.” *Becoming a Confident Reader: Developing Interactive Reading, Writing, and Thinking Practices for College*, by Susannah M. Givens, 2022, Pressbooks, [pressbooks.nvcc.edu/ede10/](https://pressbooks.nvcc.edu/ede10/).

## Step 4: Evaluate and revise your summary

Once you have completed the first draft of your summary, you should evaluate it and revise it based on this process.

Use the following checklist to read and evaluate your summary yourself, or ask a peer to use the checklist to review and evaluate your summary. All answers should be “yes.” If the answer to any question is “no,” then you should revisit that aspect of your summary. After making changes, make sure you reread your summary to edit and proofread.

Additionally, reading a summary of the same text written by your peer may be helpful. If you and your peer had different understandings of points in the article, you can work together to clarify the meaning.

### *Self-Assessment/Peer Review Questions*

1. Does the summary have a topic sentence that states the article’s author, title, and thesis (overall main idea)?
2. Is the summary complete (all major supporting points/ paragraph-level main ideas included)?
3. Is all of the information accurate?
4. Are the major supporting points ordered by importance? Remember that this may not be the order in which you find them in the source text.
5. Are all ideas paraphrased? Quotes should not be used in the summary.
6. Is the author referenced first by the full name and, after that, by last name (or “the author” or “the writer” or appropriate pronoun) throughout the summary?
7. Are unnecessary details excluded from the summary?
8. Are the student’s opinion statements excluded from the summary?

9. Is the bibliography included, and is it correct?

## Using Generative AI to Summarize

### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI. Using Generative AI to help you better understand a text may be okay. Still, it will likely violate academic integrity policies if you submit the summary as your own writing.

### Use it effectively

- Generative AI can be very helpful when summarizing texts. Some Generative AI tools allow you to upload and summarize texts. Other Generative AI summary tools are built into websites. For example, some academic publishers now allow you to summarize a text with a built-in AI tool.

## Beware of the limitations

- Generative AI may change the meaning of a text when summarizing it. You need to assess any AI-generated summary carefully to ensure that the author's meaning is maintained and that the Generative AI tool correctly identifies a text's thesis and significant points.

## Consider your learning journey

- It is still important to learn how to summarize well. Separating out major and minor points in a text is an important skill that forms the basis of critical thinking about texts and other complex ideas. Furthermore, if you don't learn how to summarize well, you won't be able to judge the accuracy and value of any AI-generated summary.

## Consider ethics

- Make sure that you understand the ethical implications of using Generative AI. When you upload a text to Generative AI and ask the tool to summarize it, you may be providing that material to its training database without the author's permission.

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# Synthesizing Sources

## The purpose of synthesizing

Combining separate elements into a whole is the basic dictionary definition of synthesis. It is a way to make connections between numerous and varied source materials. After synthesizing your sources, you may need to adapt your research questions to the realities of the information, or information may be selected or rejected based on relevance.

Your synthesis should demonstrate a critical analysis of your sources and an integration of the analytical results.

## Example of a synthesis

Read the following synthesis.

Taking stock of the literature, several characteristics stand out that limit our understanding of the IWE [international work experience]-career success relationship. First, many studies focus on individuals soon after their return from an IWE or while they are still expatriates (Kraimer et al., 2016). These findings may therefore report results pertaining to a short-lived career phase. Given that careers develop over time, and success, especially in the form of promotions and salary

increases, may take some time to materialize, it is perhaps not surprising that findings have been mixed. Some authors note that there are short-term, career-related costs of IWE and the career 'payoff' occurs after a time lag for which cross-sectional studies may not account (Benson & Pattie, 2008; Biemann & Braakmann, 2013). Second, the majority of studies use samples consisting only of individuals with IWE (Jokinen et al., 2008; Stahl et al., 2009; Suutari et al., 2018). Large samples that include both individuals with and without IWE are needed to provide the variance needed to identify the influence of IWE on career success (e.g., Andresen & Biemann, 2013). Third, studies tend to focus on the baseline question of whether IWE or IWE-specific characteristics (e.g., host country, developmental nature of assignment) are related to a particular career success variable (e.g., Bücker et al., 2016; Jokinen et al., 2008; Stahl et al., 2009). Yet there may be an indirect relationship between IWE and career success (Zhu et al., 2016). More complex models that examine the possible impact of mediating variables are thus needed (Mayrhofer et al., 2012). Lastly, while studies acknowledge that findings from specific countries/nationalities, industries, organisations or occupational roles may not be transferable to all individuals with IWE (Biemann & Braakmann, 2013; Schmid & Wurster, 2017; Suutari et al., 2018), the specific role of national context is rarely considered. However, careers do not develop in a vacuum. Contextual factors play an important role in moderating the career impact

of various career experiences such as IWE (Shen et al., 2015).

From: Andresen, M., Lazarova, M., Apospori, E., Cotton, R., Bosak, J., Dickmann, M., Kaše, R., & Smale, A. (2022). Does international work experience pay off? The relationship between international work experience, employability and career success: A 30-country, multi-industry study. *Human Resource Management Journal*, 32(3), 698–721. <https://doi.org/10.1111/1748-8583.12423>

After reading the synthesis, ask yourself:

1. How many different sources are used in the synthesis?
2. How do the sources contribute to the message of the paragraph?
3. What are the elements of a strong synthesis?
4. What information is contributed by the authors themselves?

## Developing a Synthesis

### Step 1: Summarize and annotate your sources

Once you have found and evaluated your sources, begin your synthesis by summarizing each source. You may find Generative AI helpful here, but remember that a sound synthesis will include your own critical analysis, which may be difficult to develop if you rely too heavily on AI.

As you summarize your chosen sources, you can build an

annotated bibliography, a list of summaries of relevant sources (see example below), or a summary table (see Figure 1).

*Example: Two entries from an annotated bibliography*

Nafisi, A. (2003). *Reading Lolita in Tehran: A Memoir in Books*. New York: Random House.

A brave teacher in Iran met with seven of her most committed female students to discuss forbidden Western classics over the course of a couple of years, while Islamic morality squads staged raids, universities fell under the control of fundamentalists, and artistic expression was suppressed. This powerful memoir weaves the stories of these women with those of the characters of Jane Austen, F. Scott Fitzgerald, Henry James, and Vladimir Nabokov and extols the liberating power of literature.

Obama, B. (2007). *Dreams from My Father*. New York: Random House.

This autobiography extends from a childhood in numerous locations with a variety of caregivers (a single parent, grandparents, boarding school) to an exploration of individual heritage and family in Africa, revealing a

broken/blended family, abandonment and reconnection, and unresolved endings. Obama describes his existence on the margins of society, the racial tension within his biracial family, and his own identity conflict and turmoil.

*Example: Summary table*

<b>Research Question</b>			
	<b>Purpose</b>	<b>Methods</b>	<b>Results</b>
<b>Source #1</b> journal article citation	What was the author's intent?	What methodology was used?	Proposed solution
<b>Source #2</b> book chapter citation			
<b>Source #3</b> conference paper citation			

Figure 1. Summary table of three different sources

Examples of fields you may want to capture in your summary include:

- Authors' names
- Article title
- Publication year
- Main purpose of the article
- Methodology or research design
- Participants

- Variables
- Measurement
- Results
- Conclusions

Other fields that will be useful when you begin to synthesize your research:

- Specific details of the article or research that are especially relevant to your study
- Key terms and definitions
- Statistics
- Strengths or weaknesses in research design
- Relationships to other studies
- Possible gaps in the research or literature (for example, many research articles conclude with the statement “more research is needed in this area”)

Finally, note how closely each article relates to your topic. You should rank these as high, medium, or low relevance. For papers you decide not to include, you may want to note your reasoning for exclusion, such as ‘small sample size,’ ‘local case study,’ or ‘lacks evidence to support assertion.’

### Step 3: Identify common themes

A strong synthesis must demonstrate a critical analysis of your collection of sources; you need to interpret the relationships between the sources. Writers first establish relationships between sources by continuously considering these questions:

1. Where are the similarities within each topic or subtopic?
2. Where are the differences?

Based on your review of the collected articles, group them by categories. You may wish to further organize them by topic and then chronologically or alphabetically by author. For each topic or subtopic you identified during your critical analysis of the paper, determine what those papers have in common.

Create a matrix (a grid or table) to compare your sources and identify common themes.

Below is a model of a basic table for organizing source material.

<b>Source</b>	<b>Theme #1</b>	<b>Theme #2</b>	<b>Theme #3</b>
#1			
#2			
#3			

A matrix will help you consider the similarities between sources, but also remember to consider differences. Consider why different researchers might have different perspectives on a similar topic. Are the researchers in different disciplines? Do they have different theoretical perspectives on the topic? Have they used different methodologies to understand the topic?

If there are contradictory findings, you may be able to identify methodological or theoretical differences that could account for the contradiction (for example, differences in population demographics). Determine what general conclusions you can report about the topic or subtopic as the entire group of studies relate to it. For example, you may have several studies that agree on the outcome, such as 'hands-on learning is best for science in elementary school' or that 'continuing education is the best method for updating nursing certification.' In that case, you may want to organize by methodology used in the studies rather than by outcome.

## Step 3: Reconsider your research question

As you learn more about your topic, you will likely have to reframe and reword your research question. This is normal. If you knew everything that there was to know about your topic, there would be no point in researching it!

### Using Generative AI to Synthesize Sources

#### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI. Using Generative AI to help you better understand research articles may be acceptable. However, it will most definitely violate academic integrity policies if you submit an AI-generated synthesis as your own writing.

#### Use it effectively

- Generative AI can be a useful tool for synthesizing and comparing academic articles. Some Generative AI

models and tools are specifically designed to generate these syntheses. Search for “Generative AI tools for academic research” to find the most popular and current tools.

- You can also use a Generative AI chatbot like ChatGPT or Perplexity. Here are some sample prompts you can use to ask these tools to synthesize research:
  - Here are summaries of three journal articles. Can you identify common themes and highlight differences in their arguments or approaches?”
- Using these five abstracts from research articles, generate a conceptual map or outline showing how the studies relate to each other regarding focus, findings, and methodology.

## Beware of the limitations

- You cannot rely solely on an AI-generated synthesis, as the AI model could have blind spots (areas missing from its training database) and biases. An AI-generated synthesis can be a good starting point, but you should always repeat the synthesis on your own to confirm the AI-generated output.

## Consider your learning journey

- You may lose some very critical learning if you use Generative AI too frequently for synthesizing sources. Synthesizing is a difficult, but important, cognitive skill, and humans will need to develop these skills to compete with AI in the future.

## Consider ethics

- Make sure that you understand the ethical implications of using Generative AI. When you upload a text to Generative AI and ask the tool to synthesize it, you may be providing that material to its training database without the author's permission.

## References

Andresen, M., Lazarova, M., Apospori, E., Cotton, R., Bosak, J., Dickmann, M., Kaše, R., & Smale, A. (2022). Does international work experience pay off? The relationship between international work experience, employability and career success: A 30-country, multi-industry study. *Human Resource Management Journal*, 32(3), 698–721. <https://doi.org/10.1111/1748-8583.12423>

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# Paraphrasing Sources

Paraphrasing means to rewrite someone else's idea in your own words without changing the original meaning, while changing the structure of the original. A paraphrase is about the same length as the original.

You should paraphrase to:

- Avoid having too many quotes in your essay.
- Present, compare or contrast the contributions of others in your own writing style.
- Demonstrate that you understand the information you are using, as you are not simply copying it, but rewording and restructuring it (Stern, 2007).

## Paraphrase, don't patchwrite

When paraphrasing, it is essential to change the source's structure and wording. If you copy the structure of the source too closely, you are **patchwriting**.

Patchwriting is a common mistake, but it is not an accepted form of academic writing and may be considered plagiarism, even if you cite your source.

## Example: Difference between paraphrasing and patchwriting

Look at the original text in Table 1 and compare it to the two restatements on the right. As you can see, in the first example,

the writer uses several exact phrases of the original (shown in red) and several synonyms or phrases that are very close to the original (shown in green). In addition, much of the structure of the paragraph is the same. This is an example of patchwriting, and despite a proper citation being included, it may be considered plagiarism.

In the second example, the writer uses their own voice to express the idea of the original text. Besides a few words that would be difficult to replace, such as “baby boom” and “Canadians”, the original has been entirely rewritten, and the structure has been changed significantly. This is an example of proper paraphrasing.

<b>Original Text</b>	<b>Patchwriting = Plagiarism</b>
<p>Why did the baby boom happen? A likely explanation is that during those 10 years, Canadians knew they could afford large families. The postwar economy was robust, the future seemed full of promise, and young couples wanted to share that bright future with a big family. A second reason was the high immigration levels that prevailed during the 1950s.</p>	<p>Foot and Stoffman (1966) theorize that a likely reason for the baby boom is that Canadians knew they were able to afford large families. Because the economy was healthy, young people saw a lot of promise in their future, which they desired to share with a large family. Another reason was the high number of immigrants.</p>
	<p style="text-align: center;"><b>Proper Paraphrase</b></p> <p>Foot and Stoffman (1966) theorize that there were two main reasons behind the baby boom, namely immigration that remained consistently high and a thriving economy that made young Canadians feel optimistic and gave them the confidence that they would have their means to support he large family they desired.</p>

Table 1: An original text with two paraphrases.

Note. From “Boom, bust & echo: How to profit from the coming demographic shift” by D. Foot and D. Stoffman, 1996.

# How to Paraphrase

## Step 1: Read the original text in its context

You cannot just grab pieces of information out of context, as this can lead to a misunderstanding of the information. Read your source in its context and ask questions like:

- What is the focus?
- How does this information relate to my research topic?
- What is the main thing that the authors found?

Once you have answered these questions, you will be prepared to identify the specific pieces of information that are relevant to your paper and that you may want to paraphrase.

### *Example: Original text*

Here's an original text in its context:

This study quantitatively and qualitatively evaluates the extent to which incorporating an artistic class assignment into a traditional lecture course stimulates student enjoyment and enhances the students' perceived retention of course material. The results indicate that the project provides great benefits to college students by incorporating a variety of teaching methods and learning strategies. Artistic and creative assignments, such as the one described in this article, allow for student engagement, repetition of material, and processing and application of ideas. (Wellman, 2012)

After reading the entire source, you decide to paraphrase the highlighted part. Underline key words and check words and concepts in a monolingual dictionary:

- Engagement = being involved with someone or something in order to understand it
- Processing = dealing with something through a series of steps

## Step 2: Break down the original into chunks

Break up the original part you want to paraphrase into chunks of meaning and number these chunks.

*Example: Original text chunked down*

(1) The results indicate that (2) the project provides great benefit to college students (3) by incorporating a variety of teaching methods and (4) learning strategies. (5) Artistic and creative assignments, (6) such as the one described in this article, (7) allow for student engagement, (8) repetition of material, and (9) processing and (10) application of ideas.

## Step 3: Write a first draft of your paraphrase

Without looking at the original text, write a first draft of the paraphrase.

*Example: First draft*

By allowing students to complete creative activities as a part of a post-secondary course, students were more deeply involved with the course material, thinking about it and remembering it more effectively.

## Step 4: Check the paraphrase with the following checklist

Did you...

- Change the sentence structure?
- Change the order of the words?
- Use synonyms for words that are not keywords?
- Use different types of connecting words?
- Change the order of the ideas (where possible)?

## Step 5: Revise your paraphrase

Based on your answers to the checklist questions, revise your paraphrase.

*Example: Revised paraphrase*

Original	P
(1) The results indicate that (2) the project provides great benefit to college students (3) by incorporating a variety of teaching methods and (4) learning strategies. (5) Artistic and creative assignments, (6) such as the one described in this article, (7) allow for student engagement, (8) repetition of material, and (9) processing and (10) application of ideas.	P c

## Step 5: Integrate your final paraphrase

Integrate your paraphrase in your text and include a citation.

## Using Generative AI to Paraphrase

### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI. Using Generative AI to paraphrase is likely dangerous, as you will introduce AI-generated writing into your text. This will most likely be an academic integrity issue.

### Use it effectively

- If you use Generative AI to paraphrase, use it to make you better at the skill. For example, you can prompt AI, “Please provide me with advice on paraphrasing the following passage into one concise sentence. Do not paraphrase it yourself. [Add the passage.]”

## Beware of the limitations

- AI-generated paraphrases can miss the central meaning. In addition, they may not emphasize the point you need to emphasize in your writing.

## Consider your learning journey

- Paraphrasing and summarizing are essential skills you will need at university and in the workplace. If you use AI, use it to improve these skills.

## Consider ethics

- Make sure that you understand the ethical implications of using Generative AI. When you upload a passage to Generative AI and ask the tool to paraphrase it, you may be providing that material to its training database without the author's permission.

## References

Foot, D. K., & Stoffman, D. (1996). Boom, bust & echo: How to profit from the coming demographic shift. Macfarlane.

Stern, L. (2007). What every student should know about avoiding plagiarism. Pearson.

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# Quoting Sources

## Why Quote?

Writers quote and paraphrase from research to support their points and to persuade their readers. A quote or a paraphrase from evidence supporting a point answers the reader's question, "says who?"

This is especially true in academic writing since scholarly readers are most persuaded by effective research and evidence. For example, readers of an article about a new cancer medication published in a medical journal will be most interested in the scholar's research and statistics that demonstrate the effectiveness of the treatment. Conversely, they will not be as persuaded by emotional stories from individual patients about how a new cancer medication improved the quality of their lives. While this appeal to emotion can be effective and is common in popular sources, these individual anecdotes do not carry the same sort of "scholarly" or scientific value as well-reasoned research and evidence.

## What Is a Quote?

A "quote" is a direct restatement of the exact words from the original source. The general rule of thumb is that any time you use three or more words as they appeared in the original source, you should treat them as a quote. A "paraphrase" is a restatement of the information or point of the original source in your own words.

While quotes and paraphrases are different and should be used in different ways in your research writing (as the examples in this

section suggest), they do have a number of things in common. Both quotes and paraphrases should:

- Be “introduced” to the reader, particularly the first time you mention a source;
- Include an explanation of the evidence which explains to the reader why you think the evidence is important, especially if it is not apparent from the context of the quote or paraphrase; and
- Include a proper citation of the source.

## When to Quote, When to Paraphrase

The real “art” of research writing is using quotes and paraphrases from evidence effectively to support your point. There are certain “rules,” dictated by the rules of style you are following, such as the ones presented by the MLA or the ones presented by the APA.

But when all is said and done, the question of when to quote and when to paraphrase depends a great deal on the specific context of the writing and the effect you are trying to achieve. Learning the best times to quote and paraphrase takes practice and experience.

In general, it is best to use a quote when:

- The exact words of your source are important for the point you are trying to make. This is especially true if you quote technical language, terms, or very specific word choices.
- You want to highlight your agreement with the author’s words. If you agree with the point the author of the evidence makes and you like their exact words, use them as a quote.
- You want to highlight your disagreement with the author’s words. In other words, you may sometimes want to use a direct quote to indicate exactly what you disagree about. This might be particularly true when considering the antithetical

positions in your research writing projects.

In general, it is best to paraphrase when:

- There is no good reason to use a quote to refer to your evidence. If the author's exact words are not especially important to the point you are trying to make, you are usually better off paraphrasing the evidence.
- You are trying to explain a particular piece of evidence or interpret it in more detail. This might be particularly true in writing projects like critiques.
- You need to balance a direct quote in your writing. You must be careful about directly quoting your research too much because it can sometimes make for awkward and difficult-to-read prose. One of the reasons to use a paraphrase instead of a quote is to create balance within your writing.

## Introducing Quotes and Paraphrases

When you quote or paraphrase another writer, you should introduce their words to your reader using a lead-in or signal phrase.

A signal phrase is a short introductory phrase that indicates that a quote or paraphrase is coming. By introducing a quotation or paraphrase with a signal phrase, you provide an effective transition between your own ideas and the evidence used to explore your ideas. One of the best ways to let readers know more about your source is to use a signal phrase. Signal phrases help readers “move from your own words to the words of a source without feeling a jolt” (Hacker 406). A writer uses signal phrases to avoid dropped quotations, smoothly leading the reader into the source's ideas.

## Add context if necessary

The lead-in or signal phrase may need additional information about the source, particularly the first time you mention the source. For instance, add the title of the work you are quoting or paraphrasing. You may also want to add some information about the author.

Here are some examples:

- In the words of noted psychologist Carl Jung, “...”
- As cultural anthropologist Margaret Mead noted, “...”
- Kendrick Lamar, Grammy award-winning songwriter and rapper, says, “...”
- “...” claims reality-TV star Hulk Hogan.
- Authors Amy Tan and Tobias Wolfe offer two unique perspectives on growing up: “...” (Hacker 408)

You will have to determine what context your reader is most likely to need as you craft your signal phrase. If your reader is an expert in a field and you are quoting another expert, they may not need any contextual information. The best way to determine this is to get some feedback from a test reader.

## Avoid hit-and-run quotes

Did you know that some bread batters should be hand mixed? “This light mixing technique produces quick breads with a lovely open crumb” (Greenspan 2).

Notice here how there is a jolt between the first sentence and the second. The author has not included a signal phrase to help integrate the quotation into their work. This is a “hit and run” or “dropped” quote because the author simply slips a quote into their writing without adding any context.

Here’s the reworded passage with a signal phrase:

Did you know that some bread batters should be hand mixed? According to Dorrie Greenspan, author of *Baking: From My Home to Yours*, “This light mixing technique produces quick breads with a lovely open crumb” (2).

## Choose the right verb

Choose an appropriate verb to create your own signal phrase that will make your source’s position clear (Hacker 408). The following list provides examples of appropriate verbs for signal phrases.

- Acknowledges
- Adds
- Admits
- Agrees
- Argues
- Asserts
- Believes
- Claims
- Comments
- Compares
- Confirms
- Contends
- Declares
- Denies
- Disputes
- Emphasizes
- Endorses
- Grants
- Illustrates
- Implies
- Insists
- Notes

- Observes
- Points out
- Reasons
- Refutes
- Rejects
- Reports
- Responds
- Suggests
- Thinks
- Writes

## Additional Resources

The University of Manchester maintains an [Academic Phrasebank](#) that contains common sentence patterns in academic writing. You can use this resource to help you integrate sources into your own writing.

## References

Greenspan, D. (2006). *Baking: From My Home to Yours*. Houghton Mifflin.

Hacker, D. (2004). *Rules for writers* (5th ed., Instructor's ed.). Bedford/St. Martin's.

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  - [“Signal phrases to introduce source material”](#) by College Writing Centre, [Skills for English Composition](#), St. Louis Community College is licensed under [CC BY 4.0](#)

# Citing Sources

## Why Do We Cite?

For many students, referencing other sources or the practice of citation is closely linked to plagiarism. Students learn quickly that the academic community penalizes writers who present the ideas of others as their own. Consequently, students may feel that this is the primary motivation behind our citation rules. However, there is much more to citation than preventing plagiarism.

## Citation is the currency of academia

Acknowledging the source of ideas isn't just about ethics. Scholars' job performance is often linked to their citation count, or the number of times their research papers are cited by other scholars. Some disciplines, particularly those in the sciences, use a formula called the h-index to measure the productivity and impact of researchers. A researcher's h-index can determine if they get hired, promoted, or receive a research grant.

Scholarly journals also measure the average number of citations each article receives as an indication of the importance and reach of the journal. This number is called an impact factor. Journals with high impact factors are prestigious, and publishing in these journals is often an important milestone for researchers.

## Citation is evidence

Academics use citations to provide evidence of their claims. For instance, if you claim that students procrastinate when writing more now than in previous generations, you should use a citation to show that this claim is based on credible information.

Because the university aims to advance human knowledge, we care a lot about using the best possible sources. We put a lot of effort into advancing knowledge systematically and checking this knowledge carefully. This is why academic journals use a peer-review system to assess every submitted article. Peer review means that every submission is checked by other experts in the field, who also provide suggestions on how to improve the article. This attention to the quality of knowledge is also why we want students to get into the habit of finding and using the best possible sources to develop their arguments.

In the chapter “[Evaluating Sources](#)” you will learn more about how to find the most credible and appropriate sources for academic writing.

## Citation is about your own credibility as an author

In academic writing, citation demonstrates that you know about the important conversations in a discipline. When you cite important research in a field and you integrate it well into your own argument or research, you are showing that you understand the implications of your ideas and how they fit into the broader context. Citation helps you to demonstrate why your ideas matter.

As an undergraduate student, you are just beginning this process of learning the important conversations in your field, and your instructors will likely not expect you to have a full grasp of this

yet. However, as your journey continues at university, learning to recognize key conversations in your field and responding to them in your papers will become more important.

## What Information Should You Cite?

Citing sources is often depicted as a straightforward, rule-based practice. In fact, there are many grey areas around citation, and learning how to apply citation guidelines takes practice and education. If you are confused by it, you are not alone.

Here are some guidelines to help you navigate citation practices.

**Cite when you are directly quoting.** This is the easiest rule to understand. If you are stating word-for-word what someone else has already written, you must put quotes around those words and you must give credit to the original author. Not doing so would mean letting your reader believe these words are your own and represent your own thinking.

**Cite when you are summarizing and paraphrasing.** This is a trickier area to understand. First of all, summarizing and paraphrasing are two related practices, but they are not the same. Again, summarizing is when you read a text, consider the main points, and provide a shorter version of what you learned. Paraphrasing is when you restate what the original author said in your own words and in your own tone. Both summarizing and paraphrasing require good writing skills and an accurate understanding of the material you are trying to convey. Summarizing and paraphrasing are not easy to do when you are a beginning academic researcher, but these skills become easier to perform over time with practice.

**Cite when you are citing something that is highly debatable.** For example, if you want to claim that an oil pipeline is necessary for economic development, you will have to contend with those who say that it produces few jobs and has a high risk of causing an oil spill

that would be devastating to wildlife and tourism. To do so, you'll need experts on your side.

## When Should You Not Cite?

Don't cite when what you are saying is your own insight. Research involves forming opinions and insights around what you learn. You may be citing several sources that have helped you learn, but at some point, you are integrating your own opinion, conclusion, or insight into the work. The fact that you are NOT citing it helps the reader understand that this portion of the work is your unique contribution, developed through your own research efforts.

Don't cite when you are stating common knowledge. What is common knowledge is sometimes difficult to discern. Generally, quick facts like historical dates or events are not cited because they are common knowledge.

Examples of information that would not need to be cited include:

- Partition in India happened on August 15th, 1947.
- Vancouver is the 8th biggest city in Canada.

Some quick facts, such as statistics, are trickier. For example, the number of gun- related deaths per year probably should be cited, because there are a lot of ways this number could be determined (does the number include murder only, or suicides and accidents, as well?) and there might be different numbers provided by different organizations, each with an agenda around gun laws.

A guideline that can help with determining whether or not to cite facts is to determine whether the same data is repeated in multiple sources. If it is not, it is best to cite.

The other thing that makes this determination difficult might be that what seems new and insightful to you might be common knowledge to an expert in the field. You have to use your best

judgment, and probably err on the side of over-citing, as you are learning to do academic research. You can seek the advice of your instructor, a writing tutor, or a librarian. Knowing what is and is not common knowledge is a practiced skill that gets easier with time and with your own increased knowledge.

Any idea or fact taken from an outside source must be cited, in both the body of your paper and the references. The only exceptions are facts or general statements that are common knowledge. Common knowledge facts or general statements are commonly supported by and found in multiple sources. For example, a writer would not need to cite the statement that most breads, pastas, and cereals are high in carbohydrates; this is well known and well documented. However, if a writer explained in detail the differences among the chemical structures of carbohydrates, proteins, and fats, a citation would be necessary. When in doubt, cite!

## What Are Citation Styles?

APA, CSE, Chicago style, MLA, Turabian: These are acronyms and words that you have probably heard before in high school and university in relation to citation; they are the names of **citation styles**.

Citation styles are writing conventions that academic writers use to help their readers find their sources as quickly as possible. Disciplinary associations like the American Psychological Association (APA), the Council of Science Editors (CSE), and the Modern Language Association (MLA) set the standards for disciplines in their broad disciplinary areas. For instance, the American Psychological Association (APA) style is used by psychology, sociology, economics, and other social sciences. The standards set by the disciplinary associations will reflect the needs of each disciplinary area. For instance, APA style, often used in social sciences, emphasizes the date of publication because this matters

in social sciences; an economics publication from the 1920s is not likely as relevant to current economic research as a more recent one. However, MLA style, often used by humanities disciplines, does not emphasize date of publication because humanities disciplines often examine and use older texts and publications as sources.

Disciplinary organizations like APA, CSE, and MLA publish citation style guidebooks and will update the citation styles regularly to reflect changes in our information ecosystem. For instance, citation styles had to be updated after the introduction of the Internet. Similarly, the disciplinary organizations will update their styles as we better understand the role that Generative AI will play in academic writing and research.

Citation styles typically have three components:

1. **Standards for in-text citations.** In-text citations are placed within your text to indicate that an idea is not your own. The in-text citations do not include all of the information about a source; they usually have just enough information so the reader can find an entry in the reference list with the complete citation. Some citation styles use footnote or endnote numbers for in-text citations (i.e., CSE or Chicago), but others use information such as the author's name, year of publication, and page number within brackets (i.e., APA or MLA).
2. **Standards for full references and reference lists.** Citation styles provide standards for reference lists where the full citation information for a source appears. The standards will indicate where to put the full reference (footnotes, endnotes or a bibliographic list), what information to include, how to order the information, and how to format it. They will also indicate the name for the list. For instance, APA calls the list "References," where MLA calls it "Works Cited."
3. **Standards for formatting and style.** Some citation styles have specific information about how papers should be formatted. For instance, APA specifies how your title should be set up, how wide your page margins should be, and what font type you

should use. Citation styles can also provide guidance on stylistic issues such as capitalization, spelling, and hyphenation.

When your instructor asks you to write a paper using a specific citation style, you can be sure they refer to the in-text citations and references. Some instructors will care about the formatting and style guidelines as well, but others may not. Ask your instructor directly if you are unclear whether they will also assess the formatting of your paper.

## Additional Resources

The University of Alberta Library’s webpage “[Citation and Reference Management](#)” provides up-to-date information about citation styles like APA, CSE, and MLA.

Purdue OWL’s pages on [Research and Citation Resources](#) have comprehensive information on citation.

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# SECTION 5: IMPORTANT MOVES IN ACADEMIC WRITING

## Overview

Mastering any type of writing involves identifying and practicing some key moves or strategies. In this section, you will learn some of the common rhetorical strategies in academic writing, such as analyzing genres and writing introductions and conclusions.

### Learning Outcomes

Explain the purpose of analytical thinking and writing in academic contexts.

- Identify the key steps involved in starting a research paper, including selecting a topic and developing a focus.
- Describe how the rhetorical or communication situation influences writing choices.
- Explain how writers position themselves and engage academic readers through tone, stance, and

rhetorical strategies.

- Identify strategies for analyzing unfamiliar writing genres and communicating ideas visually.
- Describe the elements of a logically sound academic argument, including effective introductions and conclusions.
- Recognize how language choices can enhance clarity, engagement, and impact in academic writing.

# Starting and Planning a Research Paper

## Key Steps to Start a Research Paper

A university-level research paper is likely more complex than what you wrote in high school; therefore, starting your research paper well before the deadline and giving yourself enough time to complete each step is important.

Here are some of the key steps for starting your paper:

### Step 1: Understand the assignment

Understanding your **purpose** and **audience** is the first step in any writing project. You should also know the required or expected text **genre** (i.e., lab report, position paper, analytical essay). Here are some tips to help you understand your writing assignment.

#### *Read the assignment carefully*

- Look for action verbs like “analyze,” “explain,” “discuss,” and “argue,” as these words will tell you the purpose of the writing.
- Connect the assignment to the course learning outcomes. Understanding how the assignment connects to the course learning outcomes can help you to focus your writing on issues relevant to the audience.
- Look for words like “essay,” “report,” “summary,” “reflection,” etc. These words tell you what genre your audience is

expecting you to write. Knowing the genre will also help you locate examples or similar texts that you can use to try to understand the common features of the required genre.

- Treat the assignment description like any course reading: Highlight and annotate it. Note any areas of confusion, and follow up with your instructor to clarify these questions.

### *Note style and formatting requirements*

- Make a note of any file name, file type, word count, font, font size, line spacing, title page, heading, and citation style requirements.

### *Read the grading rubric*

- Understand how your instructor will assess your writing. What elements of the assignment will be weighed the most heavily? Which elements are less important?

### *Analyze examples*

- Analyze examples of successful student writing provided by your instructor. If your instructor has given you successful examples of writing, ask yourself what features made these examples successful. Use the grading rubric or criteria to help guide your assessment. You can look for similar texts online if your instructor does not provide examples. Be careful, however, as your instructor may have different assessment criteria, and the example you find online might not be a good example.

## *Review the assignment description periodically*

- It is easy to forget key details about the assignment requirements as you work through the research and writing process. Review the assignment description occasionally to ensure you are on the right track.

## Step 2: Choose a topic

All research and research papers start with an idea. Sometimes, your instructor gives you a list of possible topics, or you can immediately think of an appropriate one. However, coming up with a topic for a research paper can also be daunting. Here are some strategies to help you generate ideas for your research paper if you aren't sure what you want to write about.

### *Lean into your interests*

You likely have interests outside of university that could be used as topics for a research paper. What do you do in your spare time? Do you play a sport? Do you have a particular hobby? Do you play video games? Do you volunteer? Do you follow a certain social media influencer? Do you like a specific TV show, movie, or book genre?

Students sometimes feel their interests may not be serious enough for an academic paper. Good news! Academics study every aspect of our world, including your interests. For instance, if you like hockey, you may be pleasantly surprised that academics share your interest. You can find academic research on the physiology of hockey, the physics of hockey, player efficacy in hockey, the impact of birthdates on the success of hockey players, and much, much more ([Google Scholar search results for hockey](#)). You can find out

what academics say about your favourite interests by searching for related terms in [Google Scholar](#), a search engine for academic research.

### *Follow your curiosity*

One of the best parts about being at university is that you can follow your curiosity. Ask yourself: What has been drawing your attention lately? What questions have you been asking yourself about the world? These could be questions that have bothered you for a long time or random questions that pop into your head. For instance, you may have wondered why you procrastinate when you have a writing project. You may have wondered if the fact that your cat ignores its image in the mirror makes them intelligent. You may have noticed stands of dead trees in the Edmonton River Valley as you ride the LRT to the university. You have asked yourself: Why is that? Is that normal? These types of questions often make good starting points for a research paper.

### *Help people*

Improving the lives of others is a common motivation for research studies and papers. Perhaps you work with children who are having trouble learning math concepts. For your research paper, you could investigate what academic research says about children with numeracy difficulties. Look around you: Learn more about what academics have found to help the people in your community.

### *Bust a myth*

Another good approach to finding good ideas for a paper is

reconsidering what you know about the world. Do you or the people around you hold any misconceptions about the world? Have your professors mentioned common misconceptions in their fields? Some common myths that you could bust in a research paper include the idea that we have different learning styles (visual, auditory, kinesthetic), the idea that teaching grammar will help improve students' writing or the idea that we need to drink 8 cups of water daily.

### *Solve a problem*

As we move through the world, we encounter ways in which the systems around us are unhelpful. For instance, in the early days of the Internet, we didn't know how to design websites well. Academic research on how users interacted with websites helped us to improve how we organized information so that users could find it more quickly. Are there other small irritations or problems you have encountered that you would like to solve? Have you ever wondered what the most effective way is to learn a language? Have you wondered how you can convince your older family members that their ideas about climate change are incorrect? Have you wondered about the best way to improve your performance in a sport? These questions are good places to start a research paper.

### *Advance your learning journey*

You can also take a very pragmatic approach to choosing a topic for your research paper. For instance, say you are studying neuroscience, and you know that you will be taking a course on drugs and the nervous system next semester. You could help your future self by doing some research on this topic.

A note of caution here: You cannot submit a paper written for this

class in another class in the future. Similarly, you cannot submit a paper you wrote for your current course in another class. This is against academic integrity rules. However, you can always expand and deepen your knowledge in your subject area.

### *Activities to help you find a topic*

As you work through finding a topic, some of the following activities might help.

- **Skim read a few articles.** You can always poke around the academic research to assess the viability of your topic. Say that you want to explore the impact of video gaming on the development of social skills. Type a few keywords into Google Scholar to see what is out there. Do any of the articles catch your fancy? Quickly read the abstract and introduction to see if this might be a good topic for your paper.
- **Create a list.** As you start a paper, building lists of possible topics is a well-known strategy. It's a standard for a reason. It helps you to build a breadth of ideas through brainstorming.
- **Discuss your ideas.** Often, one of the best things you can do is discuss your potential ideas with others. Ask a friend or family member. You can also discuss your ideas with fellow students or the teaching team.
- **Try an invention activity.** Try one of the invention activities listed in the chapter on [Invention](#).

### Step 3: Refine your topic

Most writers start with a topic that is too broad, requiring some work to narrow it down into a manageable size. As you become more familiar with university writing, you will learn to judge better

what you can adequately cover in the amount of words you are allowed.

Think of this process of refining your topic as moving closer to a bulls-eye, as Figure 1 shows. Throughout the research and writing process, you will likely have to adjust and readjust the focus of your paper as you get to know your topic better.

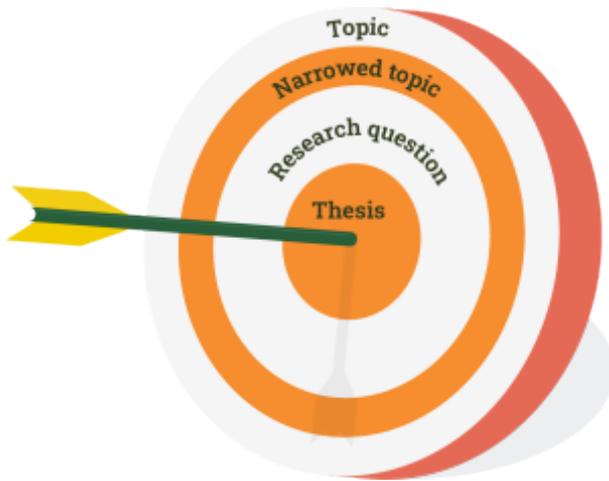


Figure 1:  
Moving from  
a topic to a  
thesis  
statement is  
a process of  
getting  
closer to the  
centre of a  
bullseye.  
Note.  
Adapted  
from  
Mastering  
academic  
writing, by B.  
Samuels and  
J. Garbati,  
2019.

Here are some tips to help you narrow down your topic.

### *Narrow down specific aspects*

You can narrow down a research topic by focusing on particular aspects. For example, you could focus on setting, geographic location, timeframe, or demographic characteristics like age group, gender, or other determining characteristics.

If we start with the topic “cat intelligence,” we could use some of the following filters to narrow down this topic:

- Intelligence of cats in shelters, in the wild, or in human homes
- Intelligence of cats in cold climates, cats in cities, cats in rural areas
- Intelligence development during the first six months of life
- Intelligence of female or male cats
- Intelligence of Maine Coon cats (this is a particular breed of cat)
- Intelligence of cats from large litters

### *Ask yourself questions about your topic*

Ask yourself journalistic questions (who, what, where, when, why, and how) about your topic.

If you are interested in writing a paper about the intelligence of cats, here are some questions you could ask to refine your research.

#### Who

- Who benefits from understanding cat intelligence?
- Who influences cat intelligence (the cat's parents, the mother, and humans)?

#### What

- What are the key components of cat intelligence (i.e., short-term memory, problem-solving, etc.)?
- What are the differences in brain structure between cats and other animals?
- What types of tasks can cats perform that demonstrate their intelligence?

## Where

- Where do cats typically exhibit intelligent behaviours (domestic environments with humans, in the wild)?

## When

- When do cats develop certain cognitive abilities?
- When are cats most likely to exhibit intelligent behaviours?

## Why

- Why is it important to study cat intelligence?
- Why do cats seem less cooperative in intelligence studies compared to dogs?

## How

- How can we determine the intelligence of a cat?
- How do cats learn and remember new information?
- How do cats communicate their needs and emotions to humans?
- How does nutrition impact cat cognition?

## How much/How many

- How long can cats remember specific events or locations?

## *Develop a research question*

It can be helpful to frame your topic as a research question. In doing so, you set a clear goal for your paper: Answer your research question! You will likely develop a clear answer to your research question as you learn more about your topic. This will be the foundation for your thesis statement, which will be the main assertion of your research paper. We will discuss thesis statements later in the course.

Table 1 lists some example patterns for research questions. *Note.* Adapted from [Writing Strong Research Questions](#), by S. McCombes, 2023.

	<b>General Questions</b>	<b>Specific Questions (Cats)</b>
Describing and defining	<ul style="list-style-type: none"> <li>• What is X?</li> <li>• What is the nature of X?</li> <li>• What are the characteristics of X?</li> <li>• What are the elements/features of X?</li> <li>• What does X look like?</li> </ul>	<ul style="list-style-type: none"> <li>• What is cat intelligence?</li> <li>• What is the nature of cat intelligence?</li> <li>• What are the characteristics of cat intelligence?</li> <li>• What are the elements of cat intelligence?</li> <li>• How do cats display their intelligence?</li> </ul>
Exploring change and connection	<ul style="list-style-type: none"> <li>• How has X changed over time?</li> <li>• What are the main components of X?</li> <li>• How do X experience Y?</li> <li>• How have X selected for Y?</li> </ul>	<ul style="list-style-type: none"> <li>• How has cat intelligence changed over time?</li> <li>• What are the main components of cat intelligence?</li> <li>• How do cats experience the world?</li> <li>• How have cat breeders selected for intelligence?</li> </ul>
Explaining and testing	<ul style="list-style-type: none"> <li>• What is the relationship between X and Y?</li> <li>• What is the role of X in Y?</li> <li>• What is the impact of X on Y?</li> <li>• How does X influence Y?</li> <li>• What causes X?</li> </ul>	<ul style="list-style-type: none"> <li>• What is the relationship between the cat's brain size and their intelligence?</li> <li>• What is the role of human nurturing in cat intelligence?</li> <li>• What is the impact of the presence of other cats in the household on cat intelligence?</li> <li>• How does food choice influence cat intelligence?</li> <li>• What causes cat misbehaviour?</li> </ul>

	<b>General Questions</b>	<b>Specific Questions (Cats)</b>
Evaluating and acting	<ul style="list-style-type: none"> <li>• What are the advantages and disadvantages of X?</li> <li>• How effective is X?</li> <li>• How can X be achieved?</li> <li>• What are the most effective strategies to improve X?</li> <li>• How can X be used in Y?</li> </ul>	<ul style="list-style-type: none"> <li>• What are the advantages of leaving kittens with their mothers for longer?</li> <li>• How effective is training in improving cat intelligence?</li> <li>• How can we teach cats to use human toilets?</li> <li>• What are the most effective strategies to improve cat intelligence?</li> <li>• How can behavioural strategies increase cat intelligence?</li> </ul>

## Step 4: Make a plan

One of the most challenging aspects of university writing is planning your time well. As you become more experienced writers, you will have a better sense of how long a research paper takes you to write, but at the beginning of your university career, it is probably fair to say that it will take you longer than you think.

Writing a research paper takes longer than writing papers without research, such as reflections or argument papers without research. To write a research paper properly, you need to read and summarize your sources, synthesize the source (identify common similarities and differences across multiple sources), and develop a clear thesis statement that reflects your thinking or contribution to the topic. The work of writing a research paper requires high-order thinking in addition to the hard work of writing. One study found that students spent about 9 to 15 hours writing a 1500-word research paper (Torrance, Thomas & Robinson, 2000). In this study, Torrance and his co-authors (2000) surveyed 493 students and found that the students who spent the most time planning, outlining, and revising were likely to receive higher grades than

those who spent less time on these stages. This study gives us some sense of how long it might take you to write a short research paper. Remember, however, that each writer is different, and you should monitor your own pace to understand better how much time you will require for your writing assignments.

Here are some tips for planning your time.

### *Mark key deadlines in your calendar*

In this course, you will submit intermediate stages and drafts of your writing project. By asking you to submit these intermediary pieces of your writing, we are helping you learn the research and writing process. Be sure to mark all of these dates in your calendar. Work backwards from each deadline and schedule time to work on your assignments.

### *Set realistic deadlines*

In general, human beings are not good at setting realistic deadlines. As you complete each stage of writing your research papers, note how long these activities took. This will help you better understand the time you need for the research and writing process.

### *Add buffer time*

You may encounter some setbacks as you research and write. Be sure to give yourself some buffer time to make sure you can recover from these surprises. Remember that it is normal to revisit earlier stages of the research and writing process as you progress. Most researchers and writers have to do this. We learn as we research

and write; our new knowledge may mean we must change direction or refine our ideas more.

### *Prioritize tasks*

Make sure to allocate enough time for research, drafting, and revision, as these tasks will lay the groundwork for a successful paper.

### *Freewrite if you get stuck*

Staring at a blank page is frustrating, and you can get easily overwhelmed. Often, we get stuck because we cannot sort out our thoughts. Set a timer and freewrite about your topic. Remember that time spent freewriting is better than time spent feeling frustrated.

## Using Generative AI to Start a Research Paper

### Consider academic integrity

- Please refer to your course syllabus and university policies on using Generative AI.

## Use it effectively

Here are some sample prompts you can ask Generative AI to help you start a research paper:

- My professor has given me the following assignment. Please help me analyze this assignment by listing the purpose, audience, and genre. Make a bulleted list of all style and formatting requirements.
- Act as a professor in [name a field]. Provide suggestions to help an undergraduate student narrow their topic for a 1200-word paper on [name your topic].
- I am an undergraduate student in [name your field]. I have been asked to write a 1200-word research paper in [name your course]. Given the following course learning outcomes, could you suggest potential topics for my research paper? [Add the course learning outcomes].
- Provide me with a list of journalistic questions that explore the topic of [name your topic].
- I have a 1200-word research paper due in one week. Please provide me with a list of tasks to complete the research project. Provide the estimated amount of time for each task.

## Beware of the limitations

- Generative AI cannot offer new ideas, as it is simply remixing and repurposing existing data and patterns.
- These tools can only offer ideas from their limited set of training materials. This means that the list of ideas the tools produce may not reflect unique human perspectives.
- Generative AI may hallucinate. For example, it might not give you adequate time estimates if you ask how long a research task will take.

## Consider your learning journey

- You may fail to consider your creative and interesting ideas if you use Generative AI to help generate and refine your research paper topics.
- You may lose confidence in your ability to connect and find relationships between ideas if you rely too extensively on Generative AI in the early stages of your research and writing process.

## Consider ethics

- Make sure that you understand the ethical implications of using these tools.

## References

Torrance, M., Thomas, G.V., & Robinson, E.J. (2000). Individual differences in undergraduate essay-writing strategies: A longitudinal study. *Higher Education*, 39, 181-200. <https://doi.org/10.1023/A:1003990432398>

## Attributions

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# Thinking and Writing Analytically

One of the most important differences between high school and university writing is that university writing requires analytical thinking. Analytical thinking is a part of critical thinking—it is a systematic way of breaking down information or data to understand, evaluate, or solve problems. When you think analytically, you look for patterns and relationships and posit explanations about those relationships to discover something meaningful about the world. At university, you might be required to analyze a text, cultural artifacts like paintings or posters, or data collected by you or others.

If your instructor asks you to write an analytical text, you must think deeply about the phenomenon you have been asked to analyze. Not all of this analytical thinking will make it into your final draft, and often, the drafting process itself is part of understanding the phenomenon you are analyzing. You must spend time with this process—good analytical thinking requires several steps and some hard mental work.

Think of the process of analytical thinking as building depth in your thinking. Typically, you will move through three stages as you analyze a phenomenon. Each stage adds layers of depth and complexity to your thinking, which is one of the objectives of a university education. If your analytical writing stays at the lower layers of depth, you will not likely receive a good grade. For instance, if you write a lab report that only describes your data but doesn't offer an analysis of that data and explore the implications of your findings, you will likely not get a good grade. The same is true in humanities. If you describe what happens in a text but don't analyze patterns of meaning and the implications of this meaning, you likely won't get a good grade on this paper either.

## Step 1: Describe the Phenomenon

When you describe something, you must identify its parts and distinguish between the important and irrelevant parts.

Begin by gathering the materials or data you have been asked to analyze. Understand the context of these materials. For instance, if you have been asked to analyze a climate data set, find out where it originated. If you have been asked to analyze a text, consider who wrote the text and what type of authority or agenda they might bring to the text. This might be relevant to your later analysis.

Now, consider the material, text, or data you are analyzing. Jot down your initial thoughts and gut feelings. What surprised you? What bored you? What grabbed your attention? Although these gut feelings won't make it into your analysis, they can be meaningful. These gut feelings can be the seeds of analysis that you don't quite yet have the words for. But be careful here: gut feelings can also be the products of cognitive biases, which are common faulty thinking patterns. You can never stop at gut feelings if you would like to develop a strong analysis.

When analyzing a text, consider the central themes and key points. This part of analytical thinking is similar to summarizing, which we discuss in the chapter "Summarizing Sources." In addition, consider how the information is organized in the text. Note how language is used. Note vocabulary, tone, and style.

If you have more than one example of the text or material you are analyzing, list similarities and differences. Consider creating a table that summarizes these elements.

For example, say your instructor asked you to analyze the differences and similarities between a human-written and AI-generated summary of a literary text. Create a table similar to Table 1 to organize your observations.

Aspect	Human-Written Summary	AI-Generated Summary
Main Ideas	Focuses on themes of social justice and personal struggle.	Emphasizes plot structure and key events.
Structure	Uses a narrative approach with transitions between ideas.	Organized in a list-like format with bullet points.
Language Use	Employed a reflective tone with emotional appeal.	Maintains a neutral tone with formal vocabulary.
Emphasis	Highlights character development and emotional impact.	Focuses on factual details and plot progression.
Length	Approximately 250 words.	Approximately 150 words.
Tone	Analytical and empathetic.	Informative and upbeat.
Accuracy	Faithful to the original text's themes and tone.	Accurate in conveying most plot details but lacks thematic depth. Misses a key plot point.
Clarity	Clear and easy to follow due to transitional phrases.	Clear but may feel disjointed due to abrupt transitions.

## Table 1.

Table comparing a human-written and AI-generated summary with different criteria

Remember to keep examples of these observations from your text or data. You will need examples to support any of the claims you make in your analysis.

## Step 2: Analyze the Patterns

You need to look for patterns in your observations to move from description to analysis.

Once you have a list of observations about your materials, text, or data, you can also ask yourself these questions:

- What elements go together?
- What elements are opposed to each other?
- What doesn't fit at all? (Rosenwasser & Stephen, 2012)

Let's continue with the example we presented in the previous step. Review the key observations of the differences between the human-written and AI-generated summaries in Table 1. Now, let's answer the analysis prompts based on our observations. Table 2 provides some example answers to these prompts.

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<b>Prompt</b>	<b>Human-Written Summary</b>	<b>AI-Generated Summary</b>
What elements go together?	Themes, characters, emotions, empathy	Neutral tone, factual recount, Informative, clear, concise
What elements are opposed to each other?	Analytical and empathetic tone	Informative and upbeat
What doesn't fit at all?	Narrative approach in a thematic summary?	Misses a key plot point Upbeat tone in academic summary? Bullet points in an academic summary?

---

The next step in the analysis process is to develop hypotheses to explain what you have uncovered in your analysis. Ask yourself “how” and “why” questions to generate a hypothesis.

Here are some questions you could ask yourself about our example observations:

- Why does the human-written summary focus on the themes and characters of the original?
- Why does the AI-generated summary focus on plot points and a factual approach to the original text?
- How does the human writer choose which elements to include in the summary?
- How does the AI model choose which elements to include in the summary?
- How does the human-written summary balance analysis and empathy?
- Why does the AI-generated summary miss a key plot point?
- Why does the AI-generated summary have an upbeat tone?
- Why does the AI-generated summary use bullet points?

At this stage, you should generate as many questions as possible about the observed patterns. Play with potential hypotheses or claims about your observations. For instance, you could consider these potential interpretations of our example based on our observations:

- The human reader and writer can interpret the emotional nuances of the literary source text and summarize these aspects, whereas the LLM or AI model cannot. This may be due to biases in the LLM's training model, which was primarily comprised of academic research texts that focus more on logic than emotion.
- The human writer can balance an analytical tone with empathy, but the AI model uses a positive tone, which is inappropriate given the subject matter of the literary source text. This reflects the AI-generated summary's overall lack of emotional nuance.
- The AI model is not sensitive to differences between

summaries suitable for public audiences and those written for academic purposes. This may be due to the nature of the prompts used to generate the AI summary.

Which hypothesis is the strongest? For which hypothesis do we have enough evidence? You must play around to see which angle will be the strongest for your paper. This part of the analytical process takes trial and error.

Your professor may want you to connect your hypothesis or explanation to other research. Review your assignment instructions or ask your instructor if this is a requirement.

### **Step 3: Explore the Implications**

When you have developed a viable hypothesis with solid evidence, consider the big picture. Why does your hypothesis matter? So what? What are the implications? To answer these questions, you must identify your research's significance or ramifications. Answering these questions well is one of the most important parts of academic writing at every level, from undergraduate writing to the expert writing of your professors. They are so important that we often end our research papers by exploring these questions.

When your professors write research papers, they connect their analysis to the related conversation in their fields. For example, if I were to research AI-generated summaries of literary texts and find that these summaries consistently did not reflect the emotional nuances of the source text, I would connect my findings to other studies that looked at similar types of AI-generated writing. I would describe the significance of my findings for this larger conversation about AI-generated writing.

As students, you likely don't know or understand the academic conversations that are taking place in your disciplines yet. You simply haven't had the same time to read the research in these

areas as your professors. However, you do know the conversations and the learning you have been doing in your course, and this is generally a good place to find the implications of your analysis. Review the learning objectives of your course to see if you can find a connection there. Review the key concepts and main themes of your readings and class activities. How does your analysis relate to these ideas?

For instance, if you were in an English literature class, you could explore the potential impact of your observation that the AI-generated summaries did not reflect the same emotional nuance as the human-written ones. For instance, you could speculate about what this meant for future learning. What if students rely on plot-based AI summaries that do not explore the themes and emotions of the literary source text? You could speculate that students may lose the ability to discern these emotional nuances in literary works, representing a significant learning loss. You have to walk a fine line here: You don't want to overstate the implications, but you want to suggest why your analysis might matter in the big picture.

Remember that analytic thinking takes time—it is the hard work of university learning. This process takes practice, and your skills will develop throughout your university degree.

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## Attributions

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# Analyzing the Rhetorical Situation

## What is a Rhetorical Situation?

One of the most important skills for a university student to learn is analyzing the **rhetorical situation**. Analyzing your rhetorical situation means considering your exigence, purpose, audience, timing, genre, and setting when communicating.

Here are brief definitions of these terms to get you started.

- Exigence is the issue, problem, or debate we are responding to
- Purpose is what we hope to achieve in communicating
- Audience is who we are communicating with
- Timing is the best moment to communicate with our audience
- Genre is the type of text or pattern of communication best suited to deliver our content
- Setting includes the constraints related to where the message is being published or delivered (such as a social media platform or within a classroom)

Analyzing the rhetorical situation is something you do already without realizing that's what you are doing. Take, for example, any time you post to social media. You consider all the friends/followers you have on your account. How will they—individually and collectively—shape what and how you write? People, such as family members, family friends, coworkers, and potential partners, will each shape your message in different ways. This is considering your audience. Other factors that influence your message are genre and the setting in which you deliver it. Genre is the type or kind of text you are writing—it's a way for writers to classify what type

of piece they are writing (a persuasive essay, a newspaper article, a lab report). In our example, a social media post would be your genre. Setting is the space in which the content is delivered, such as which social media platform you will use. Consider the difference between an Instagram, Snapchat, and Facebook post. Each requires you to consider length, formality, tone, word choice, and genre and setting-specific conventions such as hashtags and filters. And finally, your purpose and exigence also affect your message. For example, you might post that you need a ride to work (purpose) because your car broke down (exigence).

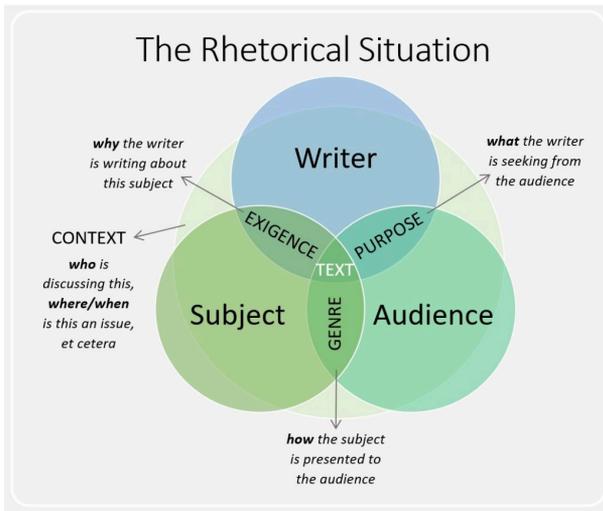


Figure 1. The Rhetorical Situation Note. From “[Writing Arguments in STEM](#)” by R. Jeffrey and E. Zickel, 2023, CC BY-SA 4.0.

In the following sections, you will learn more about these elements of the rhetorical situation.

## Exigence

Simply put, the exigence of a rhetorical situation is the urgency,

problem, or issue that a university assignment asks a student to respond to. Exigence is a rhetorical concept that can help writers and readers understand why texts exist. You can use the concept to analyze what others' texts are responding to and to more effectively identify the reasons why you might produce your own. Understanding exigence can lead to a better sense of audience and purpose, as well. When you know why a text exists, you will often have a clearer sense of whom it speaks to (audience) and what it seeks to do (purpose).

The rhetorical concept of exigence, also called exigency, is attributed to rhetorical scholar Lloyd Bitzer. In his essay, "The Rhetorical Situation," Bitzer identifies exigence as an important part of any rhetorical situation. Bitzer writes, exigence is "an imperfection marked by urgency ... a thing which is other than it should be." It is the thing, the situation, the problem, the imperfection, that moves writers to respond through language and rhetoric. Bitzer claims there can be numerous exigencies necessitating response in any given context, but there is always a controlling exigency—one that is stronger than the others.

Some university assignments ask a student to brainstorm, research, and clearly explain their own exigency and then respond to it. Other assignment prompts will give students a pre-defined exigency and ask them to respond to or solve the problem using the skills they've been practicing in the course. When analyzing texts or creating their own, students should specify the urgency their discourse is responding to. In thesis-driven academic essays, the exigency is usually clarified at the beginning, as part of the introduction.

We can visualize the relationship between exigence and those other rhetorical concepts as cause and effect: the exigence gives rise to the rhetorical situation. In other words, all rhetorical situations respond to a particular need or urgency. It motivates the rhetor (writer/author/speaker) to act.

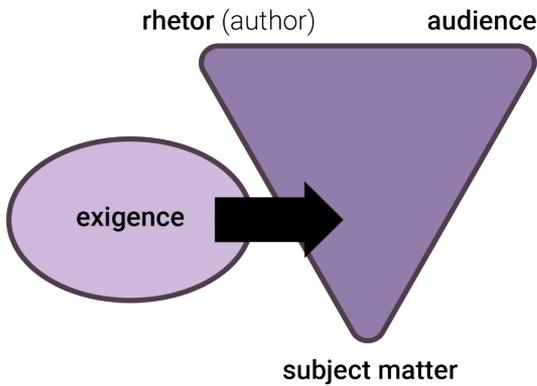


Figure 2.  
Exigence and  
rhetorical  
situation

Another way to think about the relationship between exigence and other elements of rhetoric (especially the purpose) is in terms of problem and solution: an exigence is a problem that demands a solution. All rhetorical situations are particular, inventive solutions to a pressing issue.

Questions related to exigence:

- What has moved the writer to create the text?
- Why are these discourses needed right now?
- What is the writer and the text responding to?
- What was the perceived need for the text?
- What urgent problem or issue does this text try to solve or address?
- How does the writer, or text, construct exigence—something that prompts a response—for the audience?

## Purpose

One straightforward way to understand the purpose of a rhetorical situation is in terms of the exigence: the purpose of an essay, presentation, or other artifact is to effectively respond to a particular problem, issue, or dilemma.

Here are some rhetorical situations where the exigence and purpose are clearly defined. Notice how the purpose is intimately related to the exigence. The last situation is unique to university courses.

### Example 1

*I need to write a letter to my landlord explaining why my rent is late, so she won't be upset.*

Purpose of the letter = to persuade the landlord that it's ok to accept a late payment.

### Example 2

*I want to write a proposal for my work team to persuade them to change our schedule.*

Purpose of the proposal = to persuade the team to get the schedule changed.

### Example 3

*I must write a research project for my environmental science instructor comparing solar to wind power.*

Purpose of the research project = to inform the audience about alternative forms of energy.

However, the assignment also has a hidden purpose: to persuade the science instructor that you're learning the course content.

The difference between Exigence 1 and Exigence 3 above may initially cause some confusion:

Exigence 1, the letter about the late rent payment, happens in the “real world.” It’s an everyday occurrence that naturally gives rise to a certain rhetorical situation, and the purpose seems obvious.

In Exigence 3, the writing situation feels more complex because the student is learning about things supposedly “out there,” in the “real world,” but the purpose has multiple layers to it because it’s part of a university course. On the surface, the purpose of the research essay is obviously to inform the reader, but since the assignment is given within a science course, the student is also

attempting to convince the instructor that they're learning the course outcomes.

The example of Exigence 3 shows how university assignments sometimes differ from other writing situations. A contextual appreciation of a text's purpose helps students appreciate why they're given certain assignments. In a typical writing course, for example, students are often asked to respond to situations with their own persuasive or creative ingenuity, even though they're not expected to become experts on the topic. Until they enter high-level or graduate-level courses, students are mostly expected to simulate expertise.

When this simulation happens, we can consider an assignment and the student's response as having two distinct purposes. The first is obvious and usually stated; the second is often implied.

**Purpose 1:** Obvious purpose. On the surface, the purpose of the assignment might be to solve a problem (anthropogenic climate change, the rise of misinformation, etc.) and persuade an academic audience that their solution is legitimate, perhaps by synthesizing research. Depending on the topic and assignment criteria, a student might pretend to address a specialized audience and thereby simulate a position of authority (a type of ethos), even if they haven't yet earned the credentials.

**Purpose 2:** Hidden purpose. When simulating expertise, instructors and students should also consider the context of the writing assignment prompt: it's given to the student as part of a university writing course. The outcomes for that course shape the assignments an instructor chooses and how they're assessed. The hidden or implied purpose is therefore the course objectives that the student is expected to demonstrate, including techniques such as developing a thesis, providing support, synthesizing research, and writing with sources.

University writing assignments can thus have multiple purposes. The more attuned a student is to why they're being tasked with certain assignments, the more their writing will matter, both for them and others.

How are purpose and audience related? Often, you'll know your purpose at the exact moment you know your audience because they're generally a package deal.

### Example 1

*I need to write a letter to my landlord explaining why my rent is late, so she won't be upset.*

Audience = landlord  
Purpose = keeping her happy

### Example 2

*I want to write a proposal for my work team to persuade them to change our schedule.*

Audience = work team  
Purpose = persuading them to get the schedule changed

## Example 3

*I have to write a research project for my environmental science instructor comparing solar to wind power.*

Audience = instructor

Purpose = analyzing/showing that you understand these two power sources

Sometimes your instructor will give you a purpose, like in the third example above, but other times, especially out in the world, your purpose will depend on what effect you want your writing to have on your audience. What is the goal of your writing? What do you hope for your audience to think, feel, or do after reading it? Here are a few possibilities:

- Persuade them to act or think about an issue from your point of view.
- Challenge them/make them question their thinking or behaviour.
- Argue for or against something they believe or do/change their minds or behaviour.
- Inform/teach them about a topic they don't know much about.
- Connect with them emotionally/help them feel understood.

## Audience

Audience is a rhetorical concept that refers to the individuals and

groups writers attempt to move, inciting them to action or inspiring shifts in attitudes and beliefs. Thinking about the audience can help us understand who texts are intended for, or who they are ideally suited for, and how writers use writing to respond to and move those people. While it may not be possible to ever fully “know” one’s audience, writers who are good rhetorical thinkers know how to access and use information about their audiences to make educated guesses about their needs, values, and expectations—hopefully engaging in rhetorically fitting writing practices and crafting and delivering useful texts. In short, to think about the audience is to consider how people influence, encounter, and use any given text.

In their essay “Audience Addressed/Audience Invoked,” Andrea Lunsford and Lisa Ede discuss the difference between an addressed (or actual) and an invoked (imaginary) audience. Addressed audiences are the “actual or intended readers of a text,” and they “exist outside the text” (167). These audiences are actual people who have values, needs, and expectations that the writer must anticipate and respond to in the text. People can identify actual audiences by thinking about where and when a text is delivered, how and where it circulates, and who would or could encounter the text.

On the other hand, invoked audiences are created, perhaps shaped, by a writer. The writer uses language to signal to audiences the kinds of positions and values they are expected to identify with and relate to when reading the text. In this sense, invoked audiences are imagined by the writer and, to some degree, are ideal readers that may or may not share the same positions or values as the actual audience.

Some related questions to keep in mind when considering your audience:

- Who is the actual audience for this text, and how do you know?
- Who is the invoked audience for the text and where do you see evidence for this in the text?
- What knowledge, beliefs, and positions does the audience bring to the subject-at-hand?

- What does the audience know or not know about the subject?
- What does the audience need or expect from the writer and text?
- When, where, and how will the audience encounter the text, and how has the text—and its content—responded to this?
- What roles or personas (e.g., insider/outsider or expert/novice) does the writer create for the audience? Where are these personas presented in the text, and why?
- How should/has the audience influenced the development of the text?

## Timing

In every rhetorical situation, we should determine the best moment to communicate with an audience; the Ancient Greeks called this aspect of the rhetorical situation **kairos**. For example, say you want to convince your parents to buy you a new computer. You are more likely to successfully persuade them if you choose a moment when they are not distracted by other worries. This same principle applies in all communication situations.

## Genre

Let's begin by imagining the world—the worlds, rather—in which you write. Your workplace, for instance: you might take messages, write e-mails, update records, input orders, or fill out various forms.

Or what about your educational world? You likely write in response to all kinds of assignments: lab reports, researched arguments, short summaries, observations, even, sometimes, short narratives. Sometimes you might write a short message on Canvas or via e-mail to your instructors. You may also have financial aid

forms to fill out or application materials for the scholarship to complete.

What about your world outside of school or work? Do you, occasionally, write an Insta caption, post on X (formerly Twitter), or create a Snapchat story? Do you repost other people's articles and memes with your own comments? How about texts to friends and acquaintances? You might also be a writer of what we sometimes label as creative texts—you might write songs or song lyrics, poems, or stories.

The names of the things you write—e-mails, application forms, order forms, lab reports, applications, narratives, text messages, and so on—can be thought of as individual compositions, large or small, that happen while doing other activities. But another way to think of these compositions is as predictable and recurring kinds of communication—in a word, genres.

The term genre means “kind, sort, or style” and is often applied to kinds of art and media, for instance, sorts of novels, films, television shows, etc. In writing studies, we study all kinds of written genres, not just ones you might classify as artistic (or creative).

Genre is a word we use to classify things, to note the similarities and differences between kinds of writing. We begin to classify a kind of writing as a genre when it recurs frequently enough and performs the same functions in recurring situations. All the documents listed earlier in this chapter are examples of genre, and all of them are subject to constraints.

A genre constraint is simply the rules we use to create a genre. One example might be the kind of speech students are asked to deliver to their communication class. The professor may have asked students to develop expository and persuasive speeches. When preparing for these assignments, students are often given a set of expectations, including a basic structure, style, and whether certain persuasive appeals are relevant. A student can then research a topic of their choice and craft a speech following these rules.

This process is not dissimilar from how a maid of honour will search on the web for “how to do a maid of honour speech” before a

wedding. There is a well-known set of conventions that people draw from, and, at the same time, cultures and subcultures will introduce slight innovations within those recurring forms. The ability to identify a “persuasive university speech” or a “best man’s speech” is both an act of naming and a form of classification.

That’s genre awareness: an ability to map an assignment or another rhetorical situation to a relatively stable form that recurs across time and space.

## Why should students think about genre?

The idea of genre in university writing situations is useful because it will help you think more deliberately about how the finished assignment (sometimes known as an artifact) should appear. One of the most common anxieties or frustrations students have in a writing course is what their essay should ultimately look like. Some instructors provide highly detailed models, including templates for every part of the essay. Others simply state something like: “write a persuasive essay about x,” and students are expected to figure out the details of what a persuasive essay looks like on their own. When you ask your professor how to ‘format’ the essay, you are asking for information about the genre conventions.

How can students become less anxious about what their essay should look like?

There are a lot of ways that students can become less anxious about the genres in which they write:

- Ask the instructor if they have any examples of previous student work they would share.
- Ask your classmates how they are going to format the document.
- Remember: do not use their WORK as your own, just follow their formatting.

- Do an internet search to see if there are any examples you can use.

You'll quickly find out “in the real world” that genre is highly relevant to success! Workplace environments have many different genre expectations, and it's often the case that employees are asked to write things they're unfamiliar with. The more practice you have with identifying a task's genre and the conventions associated with it, the more successful you'll be at your job. Even getting a job requires familiarity with the genre—the resume!

## Setting

When analyzing the setting of the rhetorical situation, we consider the physical and digital context in which the communication will take place. For example, if you are delivering a presentation, it will matter if this presentation is online or in person. You will include different strategies to engage the audience in the different settings.

When we write, particularly when we write on digital platforms, we should consider the setting in which the audience is going to receive our message. If your audience is likely to read your message on their phone, consider how to make that message as clear and concise as possible.

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# Mastering Stance and Engagement in Academic Writing

Until recently, academic writing, especially in science and related disciplines, was generally assumed to be an impersonal and objective presentation of facts. This assumption has begun to fade gradually, thanks to studies in rhetorical structure and the linguistic features of academic texts.

Indeed, writing studies during the last three decades have established that academic writers and readers interact through written texts. When writers construct a persuasive argument for establishing their knowledge claims on a topic, they should offer a credible representation of themselves and their research. Hyland (2005) argues that writers seek to achieve this “by claiming solidarity with readers, evaluating their material and acknowledging alternative views, so that controlling the level of personality in a text becomes central to building a convincing argument” (p. 173). Writers need to conceive of writing as ‘dialogic’ (Bakhtin, 1986) and seek to create a kind of “interaction and evaluation” (Hyland 2005) that is indispensable to writing in academic disciplines.

Academic writing involves more than facts; it involves ‘positions’, taking sides in relation to both the propositions discussed in the text, to existing research, and researchers who have published on those issues and propositions. So, academic writing is not only about ideas but also about connecting people and connecting people and ideas. Moreover, as Hyland (2005) argues, the rationale for writer-reader interaction arises out of the fact that “readers can always refute claims” unless they are persuaded by a valid and compelling argument. Accordingly, readers have “an active and constitutive role in how writers construct their arguments” (p. 176).

So, writers need to predict, accommodate, and/or respond to possible concerns and reactions from the potential audience.

## Interaction in Academic Texts

The model in Figure 1 proposes that writers interact with their audience in two main ways, or in Hyland's (2005) terms, using the two sides of the same coin (p. 176). These are **stance and engagement**. Briefly defined, stance refers to how writers express themselves and their voice and communicate their opinions, evaluations, and commitments regarding the topic under research and the people who have already published on it. In taking a stance, writers may choose to expose their personal authority in intrusive ways or rather mask their involvement.

As the other side of the academic interaction coin, engagement denotes the ways writers acknowledge the active participation of their readers, seek their attention, respond to their concerns, and lead them throughout the text to their intended interpretations and conclusions.

The following paragraphs elaborate on the key resources and linguistic markers by which stance and engagement functions are realized in academic texts.

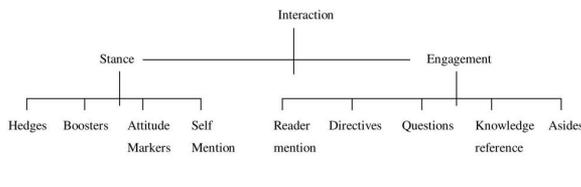


Figure 1. Strategies for interaction in academic texts  
Note. From *Stance and engagement: A model of interaction in academic discourse* by K. Hyland, 2005.

## Strategies to identify your stance

### *Hedges*

These present information as an opinion. By hedging, a writer withholds absolute commitment to a proposition or claim, thus avoiding the risk of being refuted by the reader. Instances of hedges are: “may,” “might,” “at least,” “perhaps,” “seem,” “suggest,” and “appear.”

### *Boosters*

These are certainty markers. Writers use boosters to express their assurance over the knowledge claim or evaluation. Some linguistic boosters are: “clearly,” “obviously,” “surely,” “highly,” “it is clear that.”

### *Attitude markers*

These convey writers’ affective attitudes to propositions. They may be realized as verbs (“prefer,” “agree,” “propose”); adverbs (“unfortunately,” “interestingly,” “hopefully”); adjectives (“logical,” “remarkable,” “appropriate,” “sufficient”).

### *Self-mentions*

These concern the use of first-person pronouns and possessive adjectives (I, we, my, our).

It is a common convention for academic writing to use the third-person voice and, in turn, avoid I pronouns, because it is generally

the case that the third-person voice is seen as more formal. It is definitely the case that third-person voice can create an impression of objectivity, that the implied speaker (the author) of the text is unbiased. And since the readers of academic writing are usually most interested in the information and ideas being presented, they might not find a first-person speaker's personal experiences directly relevant to the purpose and context of the text. For example, if your readers mostly want to hear your ideas about campus security, you don't need to write "I conducted a lot of research to determine what I think about possible campus security reforms"—you can simply tell your readers what you think about campus security reforms. This is why some teachers advise against using I (first-person pronouns) in academic writing.

But note that first-person voice isn't necessarily informal any more than third-person voice is necessarily formal. You can be flashy, formal, or ornate while writing about your personal experience, or really casual and colloquial while describing something from a distance. More importantly, sometimes personal experience is directly relevant to a subject being discussed. If you are writing an academic essay about attempts by scientists to eradicate the facial tumour disease affecting Tasmanian devils, it probably doesn't make sense for you to share your personal experiences and thus use the first-person voice. But if, for instance, you have been skiing competitively since you were a child and have seen friends and competitors struggling to recover from concussions caused by skiing accidents, it could be very effective for you to share your personal experiences (and use the pronoun I) in an academic essay arguing for a public health campaign to get skiers to wear helmets. A rule that tells you to always or never use "I" in your essays isn't necessary – instead, you should think about what will be appropriate given the larger rhetorical situation.

It is also important to note here that even disciplines like biological sciences, which have traditionally relied on the third-person voice in writing, are now more accepting of the first-person pronouns "I" and "we," as they add important clarity to the writing.

## Strategies to engage your reader

### *Reader pronouns*

Using pronouns such as “you,” “your,” and the inclusive “we” helps to acknowledge the readers’ presence and get them onside.

### *Directives*

These require the reader to perform an action. Example: note, let, assume; necessity modals: should, need to, ought; It is ...: It is critical to do;

### *Questions*

Questions engage the readers’ interest and curiosity, encouraging them to follow the argument the writer has structured in the text. Example: “Is it, in fact, necessary to choose between nurture and nature? My contention is that it is not.” Hyland (2005, p. 186)

### *Appeals to shared knowledge*

These are explicit markers where readers are asked to recognize something as familiar or accepted, as in the following example: “Of course, we know that the indigenous communities of today have been reorganized by the catholic church in colonial times and after,…” (Hyland, 2015, p. 183)

## *Personal asides*

These devices allow writers to briefly interrupt the argument to offer a comment on what has been said, as in the following example from Hyland (2015, p. 183): “And – as I believe many TESOL professionals will readily acknowledge – critical thinking has now begun to make its mark...”

## Remember: Disciplines use different strategies

It is important to note that the use of strategies to identify your stance and to engage your reader varies across disciplines. Analyze texts in your discipline to uncover which strategies are best suited to your field. When in doubt, you should always ask your instructor.

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# Analyzing Genres

This chapter was written by writing professors Brad Jacobson, Madelyn Pawlowski, and Christine Tardy, and it first appeared in [Writing Spaces: Readings on Writing](#), Volume 4.

## Overview

When approaching new genres, students often wonder what kind of information to include and how. Rhetorical moves analysis, a type of genre analysis, offers a useful, practical approach for students to understand how writers achieve their goals in a genre through various writing strategies. In this chapter, we introduce students to moves analysis, first describing what it is and then explaining various strategies for analyzing moves. The chapter walks students through moves analysis with both a familiar low-stakes genre (student absence emails) and a less familiar professional genre (grant proposals), demonstrating how such an analysis can be carried out. The goal of the chapter is to familiarize students with rhetorical moves analysis as a practical tool for understanding new genres and for identifying options that can help writers carry out their goals.

If you are like most students, you've probably had to miss a class at some point. Maybe you were sick, stayed up too late the night before, or just weren't prepared. When you've found yourself in this situation, have you emailed your professor about your absence? If so, how much information did you share? Did you include an apology, or maybe an explanation of how you plan to make up any missed work?

You may not realize it, but the email written to a teacher in this situation can be considered a genre. You've probably heard the term genre used in relation to music, film, art, or literature, but it is

also used to describe non-literary writing, like the writing we do in our personal lives, at school, and at work. These genres can be thought of as **categories of writing**. These categories are based on what the writing is trying to do, as well as who it is written for and the context it is written in (Dirk, 2010; Miller, 1984). For instance, a condolence card or message carries out the action (or goal) of sharing your sympathy with someone. A student absence email lets a teacher know about an absence and might also request information on how to make up a missed class.

You encounter many genres every day. In your personal life, these might include to-do lists, menus, political ads, and text messages to schedule a get-together. In school, you may write in genres like proposals, lab reports, and university admission essays. People in professions often write in highly specialized genres: nurses write care plans; lawyers write legal briefs; scientists write research articles, and so on. (For a more in-depth introduction to the definition and functions of genre, check out Dirk's "[Navigating Genres](#)" chapter in *Writing Spaces Vol. 1*.)

Texts within a genre category aren't identical, but they often resemble each other in many ways. For example, they might use similar kinds of vocabulary and grammar, design features, content, and patterns for organizing their content. Because of these resemblances, we can often recognize texts as belonging to a particular genre—as in Figure 1.

★★★★☆ 4/19/2020

The food was amazing! Had "The Burro" hands down one of the best carne asada burros I've had. Extremely huge could easily feed two people. Their salsa was amazing as well. Jalepeño crema was delicious! It was a little on the pricey side \$80 for 5 entrees but certainly very top notch food.

Figure 1. Four-star restaurant review of Boca Tacos & Tequila, posted April 19, 2020 on Yelp.com. Note. Text reads: "The food was amazing! Had 'The Burro' hands down one of the best carne asada burros I've had. Extremely huge could easily feed two people. Their salsa was amazing as well. Jalepeño crème was delicious! It was a little on the pricey side \$80 for 5 entrees but certainly very top notch food."

If you recognized this text as a consumer restaurant review, you likely have read similar reviews before, and you've started to get a sense of what they "look like." This is how genres work: When we repeatedly encounter texts within a genre, we get a sense of the language and content they tend to use, as well as how they arrange that language and content. Successful writers have a good idea of how to write effectively in particular genres— this means satisfying readers' expectations for the genre but maybe also making a text fresh and interesting. Can you think of a time you had to write in a new or unfamiliar genre for the first time? You might have gotten stuck on where to start or what to include. Writing in a new genre can be hard if you don't yet know the expectations for content, language, and organization. In this chapter, we'll share a specific strategy that can help you through these kinds of challenges. More specifically, we will look at how to identify and analyze the rhetorical moves of a genre.

## What Are Rhetorical Moves?

Most likely, the term **rhetorical moves** is new to you. It may sound intimidating, but it's just a (sort of) fancy phrase to describe something you probably already do. Rhetorical moves—also just called moves—are the parts of a text that carry out specific goals; they help writers accomplish the main action of the genre (Swales, 1990). For example, a typical wedding invitation in the United States includes moves like inviting (“You are invited to attend...”) and providing venue information (“...at the Tucson Botanical Gardens”). These moves are necessary to carry out the genre’s main action; without an inviting move, an invitation could easily fail to accomplish its goal, and without a providing venue information move, attendees won’t know where to go! A wedding invitation can also include optional moves like recognizing parents (“Jordan and Jaime Taylor request your company at...”) or signalling appropriate attire (“Black tie optional”). Optional moves often respond to specific aspects of a situation or give writers a way to express certain identities or personal goals. Wedding invitations in different countries or cultural communities can have different common moves as well. In China, for example, wedding invitations often include the character for double happiness (囍).

Even a text as short as a restaurant review can include multiple moves. The main action of a restaurant review is to tell other people about the restaurant so that they can decide whether to eat there or not, so the moves that a writer includes work toward that goal. The review in Figure 1 includes three moves:

- evaluating the restaurant overall (“The food was amazing!”)
- evaluating specific dishes (“...one of the best carne asada burros I’ve had...,” “Their salsa was amazing...”)
- providing details about the price (“It was a little on the pricey side...”)

After looking at just one restaurant review, we don’t really know

if these are typical moves or if they are just unique to this one consumer's review. To understand what moves are common to consumer restaurant reviews (which might be a bit different than professional restaurant reviews), we need to look at many examples of texts in that genre. As a writer, it can be very useful to look for moves that are required (sometimes called obligatory moves), common, optional, and rare. You can also think about moves that never seem to occur and consider why that might be the case. For example, have you ever seen a wedding invitation mention whether this is someone's second (or third) marriage? Or that mentions how much the wedding is going to cost? Those particular moves would probably confuse some readers and not help achieve the goal of the genre!

## Analyzing Rhetorical Moves

Analyzing rhetorical moves is the process of identifying moves in multiple samples of a genre, looking for patterns across these texts, and thinking critically about the role these moves play in helping the genre function. To get started with moves analysis, you just need a few strategies we'll show you throughout the rest of this chapter. We ourselves have used these strategies in situations where we had to write in unfamiliar genres. As a new professor, Madelyn recently had to write her first annual review report—a document used to track her career progress. The instructions she was given were a bit vague and confusing, so she gathered samples of annual reviews from her colleagues to get a better sense of the typical length and type of content included in this genre. One sample she looked at used an elaborate chart, which made her quite nervous because she had no idea how to make this kind of chart for her own report! But after realizing that this chart was not included in the other samples, she decided this move was probably optional and decided not to include it. In this case, understanding the typical moves of

the annual review report helped Madelyn avoid unnecessary stress and feel confident her report would meet readers' expectations.

Before trying to figure out a complicated or unfamiliar genre, it will help to practice first with something familiar, like a student absence email. Having received hundreds of these emails as professors (and written a few ourselves), we know this genre is characterized by some typical rhetorical moves as well as a great deal of variation. Let's walk through the process of carrying out a rhetorical moves analysis.

## Identifying Typical Moves of a Genre

The emails below were all written by college students (referred to here by pseudonyms). We only share four samples here, but it's better to gather 5-10 or even more samples of a genre to really get a sense of common features, especially when you are working with a more complex or unfamiliar genre. To identify typical rhetorical moves, first, you'll want to identify the moves in each individual text you collect. Remember that a move is a part of the text that helps the writer carry out a particular function or action. For this reason, it is helpful to label moves with a verb or an "action" word. When you sense that the writer is doing something different or performing a new "action," you've probably identified another rhetorical move. A move can be one sentence long, an entire paragraph, or even longer, and your interpretation of a move might differ from someone else's interpretation. That's okay!

## Rhetorical moves in four sample absence emails

### *Sample 1*

Dear Dr. Pawlowski,

[1] I just wanted to tell you that I will be absent from class today. [2] I have completed my mid-term evaluation and I have started my annotated bibliography. If I have any other questions I will ask my study partner! [3] Thank you, and I will see you on Friday!

Sincerely,

Jay Johnson

### *Sample 2*

Dear Professor,

[1] I am sorry but [2] today I am missing class [3] because I have to take my cat to the vet due to an emergency. [4] Could you let me know what I need to do to make up the missed material? [5]

Thank you for your understanding,

Layla

### *Sample 3*

Good morning,

I hope you had a wonderful spring break. [1] I am still experiencing cold symptoms from the cold I caught during the start of spring break. It was mainly from digestive problems (bathroom issues) coming from medication that [2] I had trouble coming to class yesterday. [3] I would like to apologize for any inconvenience I might have caused.

[4] I am continually working on the final assignment that is due tomorrow. [5] If I am not able to turn it in on time, could I possibly have a 24 hour extension? If not, I understand. [6] Thank you as always and I hope to see you tomorrow.

Best Wishes,

Corey M.

## Sample 4

Hi,  
[1] Sorry but [2] I won't be in class today.  
Ali

Look at how we labelled the moves in these four samples. We did this by first reading each sample individually and thinking about how different parts achieve actions. We then labelled these parts with verb phrases to describe the writer's moves. In some texts, multiple sentences worked together to help the writer accomplish a particular goal, so we grouped those sentences together and labelled them as a single move (notice move 2 in Sample 1). Sometimes we found that a single sentence helped to accomplish multiple goals, so we labelled multiple moves in a single sentence (notice Sample 4). Don't worry if you feel like you aren't locating the "right" moves or labelling them appropriately; this is not an exact science! You might choose different labels or identify more or fewer moves than someone else analyzing the same samples. To find a fitting label for a move, it's helpful to ask, "What is the writer doing in this part of the text?" To keep consistency in your labelling, it might also help to ask, "Have I seen something like this before in a different sample?" Looking at how we labelled the moves, would you agree with our labels? Do you see any additional moves? Would you have broken up the samples differently?

After identifying moves in individual samples, the next step is to compare the samples, looking for similarities and differences to better understand what moves seem typical (or unusual) for the genre. Based on our labels in Table 1, what moves do you see most

and least frequently? A table is useful for this step, especially when you are working with longer or more complex genres and want to visualize the similarities and differences between samples. In Table 1, we listed all of the moves found in the four samples, noted which samples included each move, and decided whether each move seemed obligatory, common, optional, or rare for this particular genre based on how often it appeared. If we noticed the move in every sample, we labelled it as “obligatory,” but if we only saw a move in one or two samples, we figured it might be more optional or rare. We need to be careful, however, about making definite conclusions about what is or is not a typical feature of a genre when looking at such a small set of texts. We would probably locate many more moves or develop a different analysis with a larger sample size. Nevertheless, check out our findings in Table 1.

**Table**

Move	S. 1
Informing the teacher that an absence occurred/will occur	√
Apologizing for absence	
Explaining reason for absence	
Requesting an accommodation	
Requesting information about missed material	
Taking responsibility for missed work	√
Expressing gratitude	√

## Understanding How Moves Help Carry out the Genre’s Social Actions

We now want to consider how certain moves help the genre function. Start by asking yourself, “What does the genre help the readers and writers do?” and “How do certain moves help carry

out these actions?” Keep in mind that a genre may serve multiple purposes. You might send an email to excuse yourself from an upcoming class, to explain a previous absence (see Sample 3), ask questions about missed material (see Sample 2), to request an extension on an assignment (see Sample 3), and so on.

Based on Table 1, at least one move could be considered essential for this genre because it is found in all four samples: informing the instructor about an absence. This move helps the writer make the purpose of the email explicit. Sometimes this simple announcement is almost all that an absence email includes (see Sample 4). Can you imagine trying to write an absence email without mentioning the absence? Would such an email even belong in this genre? Along with a general announcement of the absence, students often include information about when the absence occurred or will occur, especially if they need more information about missed material.

Some of the moves we labelled as optional or rare in Table 1 are not necessarily ineffective or inappropriate, but they might not always be needed depending on the writer’s intentions or the context of the missed class. Sample 2 includes a request for information about missed material, and Sample 3 includes a request for an accommodation. Do the emails with requests leave a different impression than the samples without? Do the writers of requests carry them out in similar ways?

We could continue going through each move, looking for patterns and considering rhetorical effects by asking a) why each move is typical or not, b) what role each move plays in carrying out the genre’s purpose(s), and c) how and why moves are sequenced in a particular way.

## Identifying Options and Variations in Moves

Variation across genre samples is likely to occur because of differences in context, audience, and writers’ preferences. But some

genres allow for more variation than others. If you've ever written a lab report, you likely received very specific instructions about how to describe the materials and methods you used in an experiment and how to report and discuss your findings. Other school genres, like essays you might write in an English or Philosophy course, allow for more flexibility when it comes to both content and structure. If you notice a lot of variation across samples, this might mean that the genre you are looking at is flexible and open to variations, but this could also indicate that you need to label the moves more consistently or that you are actually looking at samples of different genres.

Based on our observations and analysis, the student absence email appears to have some degree of flexibility in both content and organizational structure. There is variation, for example, in how detailed the students are in providing a reason for their absence. Sample 2 mentions an emergency vet visit, providing just enough detail to show that the absence was justifiable and unexpected. Sample 3 also includes an explanation for the absence, but the writer chose to include a far more personal and detailed reason (a cold caught on spring break and bathroom issues from medication? Perhaps TMI (too much information)?). There is also a great deal of variation in the structure of the emails or the sequence of moves. In Sample 3, the student doesn't mention their absence until the third sentence, whereas all the other writers lead with this information. What other differences do you see? How do you think a professor would respond to each email? Understanding your options as a writer and learning how to identify their purposes and effects can help you make informed choices when navigating a new or unfamiliar genre.

## Identifying Common Language Features

Writers make linguistic choices to carry out moves, and oftentimes,

you'll find similarities across samples of a genre. While there are seemingly infinite features of language we could analyze, here are some to consider:

- verb tense
- passive/active voice
- contractions (e.g., it's, I'm, we're, you've)
- sentence types
- sentence structures
- word choice
- use of specialized vocabulary
- use of pronouns

To dig deeper into the linguistic features of moves, we could take a few different approaches. First, we could view the genre samples side-by-side and look for language-level patterns. This method works well when your genre samples are short and easy to skim. We noticed, for example, that all four student absence emails use first-person pronouns (I, me, my, we, us), which makes sense given that this genre is a type of personal correspondence. Would it be possible to write in this genre without using personal pronouns?

Our analysis could also focus on how language is used to carry out a single move across genre samples. Using this method, we noticed that in both of the samples that included requests to the teacher, the students use the auxiliary verb *could* to make their requests. In Sample 2, Layla asks, "Could you let me know what I need to do to make up the missed material?" In Sample 3, Corey asks, "Could I possibly have a 24-hour extension?" There are other possibilities for phrasing both questions more directly, such as "What do I need to do?" or "Can I have a 24-hour extension?" Why might it be beneficial to phrase requests indirectly in this genre?

You don't need to be a linguistic expert to analyze the language features of a genre. Sometimes, all it takes is noticing a word that seems out of place (like the use of the greeting "Hi" instead of "Dear Professor") or finding a phrase that is repeated across genre

samples. Or you might start with a feeling you get while reading samples of a genre: the samples might generally feel formal or you might notice a humorous tone. Noticing language features helps you more closely analyze how certain moves are carried out and to what effect.

## Critiquing Moves

To critique means to offer a critical evaluation or analysis. By critiquing a genre, we are doing more than identifying its faults or limitations, though that can certainly be part of the process. We might also look for potential strengths of the genre and possibilities for shifting, adapting, or transforming it. The use of the greeting “Hi” in Sample 4 could be an interesting start to a critique about how formal this genre is or should be. While we understand why some professors find it too informal to be addressed with a “Hi” or “Hey,” we also see this move as evidence of how the genre’s norms and expectations are seemingly changing. We personally don’t find these greetings as jarring or inappropriate as we might have 5-10 years ago. Our reactions might have to do with our individual teaching styles, but email etiquette may also be changing more broadly. To pursue this line of inquiry, we could collect more samples of student emails written to other professors and maybe even talk to those professors about their reactions to informal email greetings. Or we could talk to students about why they choose to use formal or informal greetings in these emails.

To conduct a critique or analysis of a genre, it is sometimes useful to gather more samples or more information about the context in which the genre is used. Talking to actual users of the genre is often especially useful (see how Brad’s students did this in the next section). Here are some questions to get you started on a critique of rhetorical moves (some have been adapted from Devitt et al.’s *Scenes of Writing*):

- Do all moves have a clear purpose and help carry out the social actions of the genre?
- What is the significance behind the sequence of the moves?
- What are the consequences for the writer or other users if certain moves are included or not?
- Who seems to have the freedom to break from common moves? Who does not?
- What do the moves suggest about the relationship between the writers and users of this genre? How might this relationship impact the inclusion/exclusion of certain moves?
- What do the moves suggest about the values of a broader community (i.e. a specific class, a specific institution, or the entire educational system of the region)?

## Applying Moves Analysis: Writing a Statement of Need

Moves analysis can help as you write in different classes or other personal or professional situations. Let's take a look at how we can use moves analysis to approach a complicated or unfamiliar genre. In the section "Guiding Questions for Analyzing and Using Rhetorical Moves," you can find the prompts to follow the analysis.

In one of Brad's writing courses, students used moves analysis when they wrote a grant proposal on behalf of a local nonprofit organization. Grant proposals are common in academic and professional contexts. The goal of a grant proposal (the action it hopes to accomplish) is to convince a funder to support a project or initiative financially. In other words, "give us money!" Each granting agency—the organization with the money—has its own expectations in terms of format, organization, and even word count for proposals, but most include similar sections: a Statement of Need, Objectives for the project, Methods of implementing, Evaluation, and a proposed Budget ("How Do I Write a Grant Proposal?"). We can't

discuss all of these sections here, so in these next few paragraphs, we'll walk you through a brief moves analysis of just the Statement of Need section (we'll call it the Statement), just as Brad's students did.

First, we need to understand what the Statement is hoping to accomplish and why it is important. According to Candid Learning, a support website for grant seekers, a Statement “describes a problem and explains why you require a grant to address the issue” (“How Do I Write”). This section lays out the stakes of the problem and proposes the solution. To learn more about how these Statements work, Brad's class reviewed several samples from Candid Learning's collection of successful grant proposals (“Sample Documents”). Let's take a look at some of the moves students identified in three samples. These proposals were requesting funds for educational development in Uganda (Proposal from Building Tomorrow), an interpreter training center (Proposal from Southeast Community College), and community-based art programming (Proposal from The Griot Project).

## Identifying Typical Moves in Statements of Need

First, Brad and his students identified moves in the individual Statements, using verbs to describe them. Then, we compared moves across the samples. Here are three of the moves we found:

## Connect proposal to broad social issue

The writers included statistics or other data from credible sources as a way to establish the need or problem and connect to broader societal issues. Here are a few examples of this move in action:

- UNICEF and USAID estimate that 42 million children in this region alone are without access to primary education. (Proposal from Building Tomorrow)
- A study, published in January of 2006 in the journal *Pediatrics* shows that ad hoc interpreters were much more likely than professionally trained interpreters to make errors that could lead to serious clinical consequences, concluding that professionally trained medical interpreters are essential in health care facilities. (Proposal from Southeast Community College)

Why do you think the writers reference respected sources, like UNICEF, USAID, and the journal *Pediatrics*? Brad's students thought this move could both help the grant writer build credibility with their readers and show how the project will impact a social problem that goes beyond their local context. We did not see this move in all of the samples, so we'd say this move is common but not necessarily obligatory for this genre.

## Demonstrate local need

Grant writers have to show the local problem their project is going to solve and why it's needed.

For example:

- Officials in the Wakiso District of Uganda...estimate that 55% of the district's 600,000 children do not have access to education. (Proposal from Building Tomorrow)
- Statewide, 143,251 people speak a language other than English at home. In Lancaster County, that number is 24,717, up 260% since 1990 (U.S. Census 1990, 2000, 2005). (Proposal from Southeast Community College)
- As community constituents, we have observed a lack of after-school and summer enrichment projects that utilize the power of art as a means of community unification. (Proposal from The Griot Project)

Students decided this move is obligatory because it's in all of the samples. This makes sense because grant writers need to show why their project is important. Referencing outside sources appears to be common within this move, but not required. Why do you think referencing outside sources could be effective, given this move's role in the genre?

## Identify solution and/or impact

At some point in the Statement, usually at the end, the grant writer explains how their proposed project will meet the need they identified:

By opening doors to new, accessible neighbourhood classrooms, BT can help reduce the dropout rate, provide children with the opportunity to receive a valuable education, and be an instrumental partner in building a better tomorrow.  
(Proposal from Building Tomorrow)

Brad's students noticed this move in all of the Statements. Why do you think this move seems to be obligatory?

## Understanding How Moves Help Carry out the Genre's Social Actions

Given what we know about grant proposals and the Statement, these moves seem to be rhetorically effective when sequenced in the order described above: connect to a societal problem, demonstrate local need, and identify a solution or describe the impact of the proposed project. Using these three basic moves helps writers show that their proposed work is important and that they have a plan to solve a problem with the grant money. Understanding

the Statement in this way led Brad's students to conduct further research into issues like food scarcity and access to health care that affected their partner organizations, so they could make connections to social issues in their Statements.

## Identifying Options and Variations in Moves

The three moves identified were used in most of the grant proposals Brad's students read. But students did notice variation. Remember that even when moves seem obligatory or common, they won't necessarily be found in the same order. For example, one proposal identified the local need before connecting to a broader issue, and The Griot Project's proposal did not include the connecting move at all, instead focusing solely on local knowledge to make their case. Why do you think this might be? Here, it may help to learn more about the audience. The Griot Project's grant proposal was submitted to Neighborhood Connections, an organization that provides "money and support for grassroots initiatives in the cities of Cleveland and East Cleveland." When the grant writers say, "As community constituents, we have observed..." they are localizing their efforts and showing how their project can be considered a "grassroots initiative." Understanding the audience can be one factor in understanding variation among samples.

## Identifying Common Language Features

When students looked across the samples, they noticed personal pronouns like I, we, or us were optional or rare. In fact, the only personal pronoun was in the demonstrating local need move, where one organization referenced their own observation ("we have observed") to demonstrate the local need. However, they shifted

back to third person when identifying the impact (“the Griot Project will improve”), like the other samples. Why do you think the writers included themselves so explicitly in the text when demonstrating the local need, while the rest of the samples maintained a more distant position? What might be gained with this choice, and why might some writers hesitate? Why do you think all of the writers used third-person pronouns when identifying the organization’s impact?

Students also noticed a common sentence structure in the identifying move, which we called “By x-ing.” Each of the grant writers used a single sentence and a “By x-ing” phrase to connect the proposed intervention to an outcome. For example, “By opening doors...BT can help reduce the dropout rate...” (emphasis added). Why do you think this sentence structure seems to be common within this move?

## Critiquing Moves

Staff members from an organization supporting economic development on Native American sovereign lands reminded members of Brad’s class that writing a grant proposal means representing an organization and the people and communities it serves. With this in mind, they asked students to emphasize the resilience of the community rather than perpetuate negative stereotypes in the grant proposals; they didn’t want a pity campaign. As a result of this conversation, students decided to highlight local conditions like a lack of grocery stores and access to transportation before introducing statistics about obesity and diabetes rates. They also included pictures of happy families to counter stereotypical images of poverty. In this way, the critique of the genre led to a subtle, yet important, transformation.

Clearly, a moves analysis like this could go on for a while! Remember, we’re not looking for the “right” answer—we’re trying to

understand the options that we have as we begin to contribute our own examples to the genre.

## **Producing and Transforming Genres using Moves Analysis**

Carrying out a moves analysis is more than just an academic exercise. You can use this process whenever you need to write in a new genre. Maybe you are applying for summer internships and you are writing a cover letter for the first time. Instead of starting from what you think a cover letter might look like, you can find several samples and conduct a moves analysis to identify features of this genre. You might also want to try pushing the boundaries a bit. Sometimes, playing with moves or incorporating additional moves in a genre can lead to interesting innovations or new uses for a genre. For each writing situation, you'll want to decide whether it makes sense to take some risks and be innovative or to stick with more typical approaches. Conducting a moves analysis can be your first step to considering how to carry out your goals, and maybe even expressing your individuality, in a new genre.

## Guiding Questions for Analyzing and Using Rhetorical Moves

### Identifying typical moves

A “move” is a part of the text that helps the writer carry out a particular function or action. Label moves with a verb or an “action” word.

- Which moves seem obligatory or necessary to achieve the genre’s action(s)?
- Which moves seem common, but not necessary?
- Which moves seem optional or rare?

### Identifying how moves help carry out the genre’s actions

- How does each move work to achieve the action or goal of the genre?
- How do the moves work together, given what you know of the typical audience(s), purpose(s), and context(s) of the genre’s use?

## Identifying options and variations

Some genres are rigid, while others are more flexible based on audience, context, or writer's preference.

- What organizational patterns (sequence, order) do you notice among the moves?
- How do different audiences or contexts seem to affect the moves?
- How do writers use language?

## Identifying common language features

We often find similarities in linguistic choices within genres and/or moves. Try comparing entire texts (if short) or particular move across samples.

- How is language used to carry out the moves you've identified? Consider examining:
  - verb tense (present, past, future)
  - passive/active voice
  - contractions (e.g. it's, I'm, we're, you've)
  - sentence types punctuation
  - word choice
  - use of specialized vocabulary
  - use of pronouns
  - sentence structures

## Critiquing rhetorical moves

Try to identify strengths and limitations of the genre, as well as possibilities to shift, adapt, or transform it.

- Do all moves have a clear purpose and help carry out the social actions of the genre?
- What is the significance behind the sequence of the moves?
- What are consequences for the writer or other users if certain moves are included, or not?
- Who seems to have freedom to break from common moves? Who does not?
- What do the moves suggest about the relationship between the writers and users of this genre?
- How might this relationship impact the inclusion/exclusion of certain moves?
- What do the moves suggest about the values of a broader community (i.e. a specific class, a specific institution, or the entire educational system of the region)?

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# Writing Arguments in the Disciplines

## Introduction

In “[Academic Writing as Persuasion](#),” you learned about Aristotle’s three rhetorical appeals and Toulmin’s Model of Argumentation. These two views of argumentation provide a solid foundation for understanding how persuasion differs in different disciplines. As you advance in your university studies, you will need to pay attention to what your discipline considers solid evidence in an argument and how arguments are best structured for that audience.

## Evidence in Disciplinary Arguments

Academic disciplinary areas think differently about how humans can learn about and know the world around them. For instance, science disciplines assume that reality exists independently of human perception and that we can measure and evaluate this reality. On the other hand, the humanities and many social sciences argue that reality is socially constructed and that knowledge must be interpreted from the perspective of the humans involved. These different perspectives mean that the disciplinary areas will assess and evaluate the evidence used in arguments according to their foundational understanding of knowledge making.

## Evidence in the humanities

Humanities disciplines use evidence to interpret meaning, trace

historical developments, or construct philosophical arguments. Typical evidence in humanities arguments includes textual artifacts such as literary, professional, or historical documents. Humanities scholars value the close reading of texts, and arguments will typically use primary and secondary evidence to support a main claim. When humanities scholars evaluate an argument, they look at its coherence (do all of the elements of the argument work together?) and its fidelity to the source documents (has the author successfully interpreted the textual evidence?).

## Evidence in the sciences

To persuade audiences in the science disciplines, writers typically use empirical, observable evidence from experiments and quantitative measurements. In other words, numerical evidence is prioritized in science disciplines, and scientists will often use figures and tables in addition to detailed descriptions of methodology and findings to persuade their readers of the value of their research. Scientists have precise standards for evidence that are often related to statistical analysis to determine if observations are patterned and not random. The science disciplines also value replicability, which means that they view evidence or research findings as more valuable if two different scientists can repeat an experiment or analyze a dataset and find the same result. While you will not be asked to meet these high standards of evidence as an undergraduate scientist, you should learn and pay close attention to how your discipline evaluates different types of evidence.

## Evidence in the social sciences

The social sciences employ a more varied approach to evidence than

the humanities and the sciences, and each subdiscipline in this area may have its own approach. There may even be differences within a subdiscipline. Despite these different approaches, the social sciences all share the common goal of understanding and exploring patterns in human behaviour, with the hope of explaining or predicting particular outcomes.

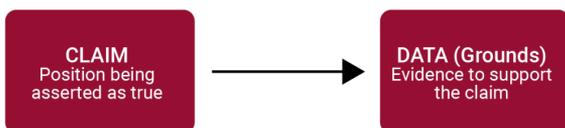
Typically, the social sciences employ a combination of quantitative techniques, such as surveys, statistics, and experiments, alongside qualitative methods, including interviews and case studies. Social scientists who use quantitative methods will evaluate evidence in much the same way as scientists. Those who use qualitative methods will value the credibility, coherence, and depth of a researcher's interpretation.

## Argument Structure

The different understanding of knowledge also impacts how disciplines may structure their arguments. When you are building an argument for a disciplinary audience, it is essential to review examples of successful arguments in that discipline. Pay close attention to the structure of the argument and where the writer places their central claim or main point. According to Heather Graves, Professor Emerita at the University of Alberta, some disciplines employ a direct argument structure, where the main claim is presented at the beginning of the argument. In contrast, others will use an indirect argument structure in which evidence is discussed and developed before the main claim is stated. These different argument structures are discussed in more detail below.

## Direct argument structure

Writers using a direct argument structure will state their main claim early in their text, typically at the end of the introduction. A five-paragraph essay is an example of this “point-first” argument structure. After introducing their main claim, the author will provide reasons and evidence to support it. Each part of the argument builds on the previous evidence. Figure 1 shows the direct argument structure.



*Figure 1. A direct argument structure*

Direct arguments are often used to highlight a gap or deficiency in current research, propose a new interpretation of a text or phenomenon, or offer a critical evaluation of an idea. This structure foregrounds the author’s interpretation, making their position unmistakable. It is most often employed in disciplines such as literary studies, philosophy, and certain social sciences.

## Indirect argument structure

In an Indirect argument structure, the central claim of the argument is presented at the end. This “point-last” structure builds evidence for the claim carefully and methodically, often over several paragraphs. The grounds or evidence for a claim are typically embedded in procedural explanations and analyses of results. This allows the reader to follow the author’s chain of reasoning. It also

invites readers to draw their own conclusions, as the writer downplays their position. Figure 2 shows the indirect argument structure.

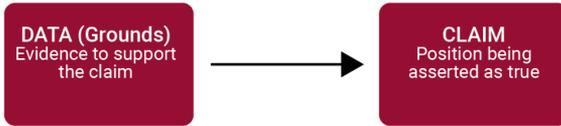


Figure 2. An indirect argument structure

Indirect argument structures are common in sciences and technical writing, as this structure allows the writer to explore complex phenomena rather than overtly trying to persuade readers from the outset of a text. This style of argument reflects the process of discovery typical in scientific disciplines, and it helps convey objectivity and credibility for logic-oriented audiences.

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# Writing Strong Introductions and Conclusions

## The Beginning and the End

Think about the compositions that you have encountered today. Have you listened to a podcast? Watched an ad on YouTube? Played a story-based video game? The creators of all these compositions have considered how to begin and how to end their compositions in a way that makes their work satisfying to you as their audience.

All compositions consist of an introduction, body, and conclusion. The introduction and conclusion work together to make a composition coherent. The introduction is an invitation to the reader to enter the world of your thoughts, and the conclusion is your goodbye to the reader: You leave the reader with new ideas and understanding of the world before you set them on their way. The introduction sets up the journey for the reader, and the conclusion ends it, but they are part of the same journey, and the reader should sense this.

As you start to think about your introduction and conclusion, consider the conventions of the genre in which you are writing. Different genres have different ways to begin and end, and the best way to learn these conventions is to pay attention to how other creators and authors do it. If you are creating a podcast, for example, listen to the introductions and conclusions of several of your favourite episodes. What strategies do the podcast authors use to make their compositions begin and end well? This same strategy works for academic writing. Carefully review how academic writers in your discipline begin and end their work.

Often, writing introductions and conclusions is one of the most challenging parts of writing a composition. These parts of the text

do a lot of heavy lifting as the reader's first and last impression, and writing a strong introduction and conclusion requires careful planning and thinking. For this reason, we often advise writers to save these pieces for the end of the drafting process. It can be easier to write them when you know what your text says. However, some writers find it helpful to write an introduction as a frame that helps keep them on track as they write.

Whether you write your introduction first or last or somewhere in the middle of the process, you will need to consider how your introduction and conclusion work together to provide a smooth and satisfying journey for your reader. In the following sections, we will review some of the common strategies for developing strong introductions and conclusions.

## Writing Strong Introductions

Picture your introduction as a storefront window: You have a certain amount of space to attract your customers (readers) to your goods (subject) and bring them inside your store (discussion).

Once you have enticed them with something intriguing, you then point them in a specific direction and try to make the sale (convince them to accept your thesis or statement of intent).

Your introduction is an invitation to your readers to consider what you have to say and then to follow your train of thought as you expand upon your thesis or statement of intent.

An introduction serves the following purposes:

1. It establishes your voice and tone, or your attitude, toward the subject
2. It introduces the general topic of the composition
3. It states your thesis or your intention that will be supported in the body paragraphs

First impressions are crucial and can leave lasting effects in your reader's mind, which is why the introduction is so important to any text. If your introductory paragraph is dull or disjointed, your reader probably will not have much interest in continuing with the text.

## The Funnel Technique for Introductions

Your introduction should establish a shared context between you and your reader. Compositions often start with a hook that grabs the reader's attention. In academic writing, the first sentences also set up the general context for the text. Once you have captured the reader's attention and set up the topic for your text, add more details about your topic by stating general facts or ideas about the subject. As you move deeper into your introduction, you gradually narrow the focus, moving closer to your thesis or your statement of intention. Moving smoothly and logically from your introductory remarks to your thesis statement or statement of intent can be achieved using a funnel technique, as illustrated in Figure 1.

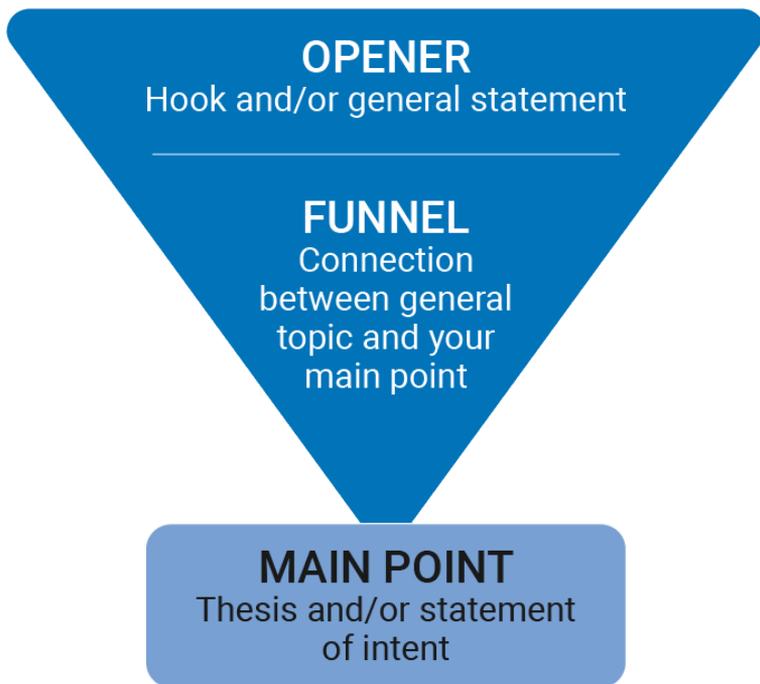


Figure 1. A diagram of the funnel technique for introductions

Remember that as your texts get longer, so too will your introductions. You may need to split your introduction into multiple paragraphs to help the reader find your meaning more easily.

In the following sections, we will examine each part of the funnel technique more closely.

## The opener

Your introduction should begin with a hook that captures your readers' interest and establishes the general topic of the composition.

Immediately capturing your readers' interest increases the likelihood that they will read what you are about to discuss. You can garner curiosity for your composition in a number of ways. Try to get your readers personally involved by doing any of the following:

- Appealing to their emotions
- Using logic
- Beginning with a provocative question or opinion
- Opening with a startling statistic or surprising fact
- Raising a question or a series of questions
- Presenting an explanation or rationalization for your essay
- Opening with a relevant quotation or incident
- Opening with a striking image
- Including a personal anecdote

Here are some examples of strong openers in academic papers:

“Every time a student sits down to write for us, he has to invent the university for the occasion—invent the university, that is, or a branch of it, like History or Anthropology or Economics or English.” (Bartholomae, 1986)

This opening sentence introduces the provocative opinion that when we ask students to write academic essays in their first year of university, they have to “invent the university” because it is impossible for them to know what the university is at this point.

“Cultural critic Stanley Fish come talkin  
bout—in his three-piece New York Times “What  
Should Colleges Teach?” suit—there only one  
way to speak and write to get ahead in the  
world, that writin teachers should “clear [they]  
mind of the orthodoxies that have taken hold in  
the composition world” (“Part 3”). (Young, 2010)

From this opening sentence, the reader immediately knows that something interesting is going to happen in this essay. The sentence is written using African-American Vernacular English (AAVE), a dialect of American English. AAVE is juxtaposed with a quote from a white cultural critic, a juxtaposition that immediately captures our attention.

“We wish to suggest a structure for the salt of  
deoxyribose nucleic acid (D.N.A.). This structure  
has novel features which are of considerable  
biological interest.” (Watson & Crick, 1953)

This opener is wonderful in its directness and understated approach. Watson and Crick are announcing one of the most important scientific discoveries ever: the discovery of the structure of DNA, and yet they do not shout their discovery from the rooftops. This understated approach catches our

attention in the same way that a speaker who lowers their voice does.

## The funnel

Before you tell your reader the main point of your composition, you have to give them more information about your topic. Typically, you set up your main point by moving from a general statement about your topic to your more specific main point. Each sentence in the funnel structure is more specific and leads the reader more closely to your focus.

Here's an example of the funnel structure in an introductory paragraph:

[Opener] Many decisions are based on beliefs concerning the likelihood of uncertain events such as the outcome of an election, the guilt of a defendant, or the future value of the dollar.

[Funnel] These beliefs are usually expressed in statements such as “I think that...,” “chances are...,” “it is unlikely that...,” and so forth.

Occasionally, beliefs concerning uncertain events are expressed in numerical form as odds or subjective probabilities. What determines such beliefs? How do people assess the probability of an uncertain event or the value of an uncertain quantity? [Main point] This article shows that people rely on a limited number of heuristic principles, which reduce the complex

tasks of assessing probabilities and predicting values to simpler judgmental operations. In general, these heuristics are quite useful, but sometimes they lead to severe and systematic errors. (Tversky & Kahneman, 1974, p. 1124)

Notice how the authors move the reader from a general statement about the topic to the narrow focus of their paper in four sentences:

1. These beliefs are usually expressed in statements such as “I think that...,” “chances are...,” “it is unlikely that...,” and so forth.
2. Occasionally, beliefs concerning uncertain events are expressed in numerical form as odds or subjective probabilities.
3. What determines such beliefs?
4. How do people assess the probability of an uncertain event or the value of an uncertain quantity?

The final two sentences of the funnel are questions, which help to set up the authors’ intention to answer these questions in the body of their paper.

## The main point

Introductory paragraphs using the funnel technique typically end with a statement of the author’s main point. How the author frames and expresses their main point depends on the audience for the paper and the discipline in which they are writing.

In high school, you likely learned that you should end your

introductory paragraph with a thesis statement, or a strong argumentative claim about a topic. Humanities disciplines often use this strategy in their academic writing. However, many academic writers use a different approach to setting up their main point at the end of an introductory paragraph; they state what they intend to explore in their text without making a strong argumentative claim.

Let's look at examples of how three authors introduce the main point of their texts.

### *Example 1*

Thematic analysis is a poorly demarcated and rarely acknowledged, yet widely used qualitative analytic method (Boyatzis, 1998; Roulston, 2001) within and beyond psychology. In this paper, we aim to fill what we, as researchers and teachers in qualitative psychology, have experienced as a current gap – the absence of a paper which adequately outlines the theory, application and evaluation of thematic analysis, and one which does so in a way accessible to students and those not particularly familiar with qualitative research. That is, we aim to write a paper that will be useful as both a teaching and research tool in qualitative psychology. **Therefore, in this paper we discuss theory and method for thematic analysis, and clarify the similarities and differences between different approaches that share features in common with a thematic approach.** (Braun & Clarke, 2006, p. 77)

## *Example 2*

Systematic reviews and meta-analyses have become increasingly important in health care. Clinicians read them to keep up to date with their specialty and they are often used as a starting point for developing clinical practice guidelines. Granting agencies may require a systematic review to ensure there is justification for further research and some medical journals are moving in this direction. As with all research, the value of a systematic review depends on what was done, what was found, and the clarity of reporting. As with other publications, the reporting quality of systematic reviews varies, limiting readers' ability to assess the strengths and weaknesses of those reviews.

Several early studies evaluated the quality of review reports. In 1987 Mulrow examined 50 review articles published in four leading medical journals in 1985 and 1986 and found that none met all eight explicit scientific criteria, such as a quality assessment of included studies. In 1987 Sacks and colleagues evaluated the adequacy of reporting of 83 meta-analyses on 23 characteristics in six domains. Reporting was generally poor; between one and 14 characteristics were adequately reported (mean 7.7, standard deviation 2.7). A 1996 update of this study found little improvement.

In 1996, to address the suboptimal reporting of meta-analyses, an international group developed a guidance called the QUOROM statement (Quality Of Reporting Of Meta-analyses), which focused on the reporting of meta-analyses of randomised controlled trials. **In this article, we summarise a revision of these guidelines, renamed PRISMA (Preferred Reporting Items for Systematic reviews and Meta-Analyses), which have been updated to address several conceptual and practical advances in the science of systematic reviews.** (Moher, Liberati, Tetzlaff & Altman, 2009, para. 1-3). [Footnote citations have been removed from this introduction.]

### *Example 3*

When I am talking to a person or a group and struggling to find words or thoughts, I often find myself involuntarily closing my eyes as I speak. I realize now that this behavior is an instinctive attempt to blot out awareness of audience when I need all my concentration for just trying to figure out or express what I want to say. Because the audience is so imperiously present in a speaking situation, my instinct reacts with this active attempt to avoid audience awareness. This behavior—in a sense impolite or anti-social—is not so uncommon. Even when we write, alone in a room to an absent audience, there are occasions when we are struggling to figure something out and need to push

aside awareness of those absent readers. As Donald Murray puts it, “My sense of audience is so strong that I have to suppress my conscious awareness of audience to hear what the text demands” (Berkenkotter and Murray 171). **In recognition of how pervasive the role of audience is in writing, I write to celebrate the benefits of ignoring audience.** (Elbow, 1987, p. 50)

In the first two examples, the authors end their introductions with a clear statement of what will happen in their texts. In the third example, the author ends their introductory paragraph with a sentence that states their position on the topic; this example is much more closely related to the traditional idea of a thesis statement than the first two examples.

These examples illustrate the importance of adhering to conventions in various disciplines, as they may vary significantly.

## Writing Strong Conclusions

It is not unusual to want to rush when you approach your conclusion, and even experienced writers may falter in this last stage of drafting. But what good writers remember is that it is vital to put just as much attention into the conclusion as into the rest of the essay. After all, a hasty ending can undermine an otherwise strong essay.

A conclusion that does not correspond to the rest of your essay, has loose ends, or is unorganized can unsettle your readers and raise doubts about the entire essay. However, if you have worked hard to write the introduction and body, your conclusion can often be the most logical part to compose.

## Common moves in strong conclusions

In academic writing, a strong conclusion may use several key strategies:

- A summary of the composition's main points and argument
- An acknowledgement of the limitations of the research or ideas
- An exploration of the broader implications of the ideas in the text. The implications section of a conclusion is often structured from specific to general, with the broadest implications stated last.
- A final emphatic statement that leaves the reader with closure

Conclusions tend to be less rigidly structured than introductory paragraphs in academic writing, and writers will use a combination of these strategies. Let's look at the conclusions that match the introductory paragraphs above.

### *Example 1*

[Summary] Finally, it is worth noting that thematic analysis currently has no particular kudos as an analytic method / this, we argue,

stems from the very fact that it is poorly demarcated and claimed, yet widely used.

[Implications] This means that thematic analysis is frequently, or appears to be, what is simply carried out by someone without the knowledge or skills to perform a supposedly more sophisticated / certainly more kudos-bearing / 'branded' form of analysis like grounded theory, IPA or DA. We hope this paper will change this view as, we argue, a rigorous thematic approach can produce an insightful analysis that answers particular research questions. What is important is choosing a method that is appropriate to your research question, rather than falling victim to 'methodolatry', where you are committed to method rather than topic/content or research questions (Holloway and Todres, 2003). Indeed, your method of analysis should be driven by both your research question and your broader theoretical assumptions. [Emphatic statement] As we have demonstrated, thematic analysis is a flexible approach that can be used across a range of epistemologies and research questions. (Braun & Clarke, 2006, p. 97)

In this conclusion, the authors spend several sentences exploring the implications of their paper. Note how each sentence in the implications section widens the scope of

discussion. Ultimately, the authors frame their exploration of the method of thematic analysis within the larger context of the role that methodology plays in research.

It is interesting to note that the authors were correct about the importance of this method to the field of psychology—it is one of the most cited papers ever.

### *Example 2*

[Summary] We have developed an explanatory document to increase the usefulness of PRISMA. For each checklist item, this document contains an example of good reporting, a rationale for its inclusion, and supporting evidence, including references, whenever possible. [Implications] We believe this document will also serve as a useful resource for those teaching systematic review methodology. We encourage journals to include reference to the explanatory document in their instructions to authors. [Limitations] Like any evidence based endeavour, PRISMA is a

living document. [Emphatic statement] To this end we invite readers to comment on the revised version, particularly the new checklist and flow diagram, through the PRISMA website. We will use such information to inform PRISMA's continued development. (Moher, Liberati, Tetzlaff & Altman, 2009, para. 21-2)

In this brief conclusion, the authors summarize the main point of their text. They follow the summary with two sentences that detail the implications of their work. Next, they explain that their work will have to be continually updated, and they invite readers to help inform PRISMA's future development.

### *Example 3*

[Summary] The theoretical relationships between discourse and audience are complex and paradoxical, but [Implications] the practical morals are simple:(1) Seek ways to heighten both the public and private dimensions of writing. (For activities, see the previous section.)

(2) When working on important audience-directed writing, we must try to emphasize audience awareness sometimes. A useful rule of thumb is to start by putting the readers in mind and carry on as long as things go well. If difficulties arise, try putting readers out of mind and write either to no audience, to self, or to an inviting audience. Finally, always revise with readers in mind. (Here's another occasion when orthodox advice about writing is wrong, but turns out right if applied to revising.)

(3) Seek ways to heighten awareness of one's writing process (through process writing and discussion) to get better at taking control and deciding when to keep readers in mind and

when to ignore them. Learn to discriminate factors like these:

(a) The writing task. Is this piece of writing really for an audience? More often than we realize, it is not. It is a draft that only we will see, though the final version will be for an audience; or exploratory writing for figuring something out; or some kind of personal private writing meant only for ourselves.

(b) Actual readers. When we put them in mind, are we helped or hindered?

(c) One's own temperament. Am I the sort of person who tends to think of what to say and how to say it when I keep readers in mind? Or someone (as I am) who needs long stretches of forgetting all about readers?

(d) Has some powerful "audience-in-the-head" tricked me into talking to it when I'm really trying to talk to someone else—distorting new business into old business? (I may be an inviting teacher-audience to my students, but they may not be able to pick up a pen without falling under the spell of a former, intimidating teacher.)

(e) Is double audience getting in my way? When I write a memo or report, I probably have

to suit it not only to my “target audience” but also to some colleagues or supervisor. When I write something for publication, it must be right for readers, but it won’t be published unless it is also right for the editors—and if it’s a book it won’t be much read unless it’s right for reviewers. Children’s stories won’t be bought unless they are right for editors and reviewers and parents. We often tell students to write to a particular “real-life” audience—or to peers in the class—but of course they are also writing for us as graders. (This problem is more common as more teachers get interested in audience and suggest “second” audiences.)

(f) Is teacher-audience getting in the way of my students’ writing? As teachers we must often read in an odd fashion: in stacks of 25 or 50 pieces all on the same topic; on topics we know better than the writer; not for pleasure or learning but to grade or find problems (see Elbow, *Writing with Power* 216-36).

[Emphatic statement] To list all these audience pitfalls is to show again the need for thinking about audience needs—yet also the need for vacations from readers to think in peace. (Elbow, 1987, pp. 66-7)

This lengthy conclusion focuses heavily on the

implications of the author's argument. There is a brief summary phrase (not even a full sentence), followed by a numbered list of practical implications designed to help writers and teachers of writing consider how thinking about the audience too much can impede a writer. Finally, the author ends on an emphatic statement.

From these examples, you can see that the structure of a conclusion often varies more than the structure of an introductory paragraph, but that some common moves are helpful for writers to master.

It is also important to note that there are a few moves that are generally frowned upon in conclusions. It is wise to avoid introducing new materials in a conclusion, as this has an unsettling effect on your reader. When you raise new points, you make your reader want more information, which you could not possibly provide in the limited space of your final paragraph. You should also avoid contradicting your main point in the conclusion. You may want to indicate that there are limitations to your ideas, but you don't want to undermine your main point.

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# Writing Strong Paragraphs

A paragraph is a distinct and separate piece of writing that forms part of an overall text. Each paragraph contains one key idea or topic and at least one controlling idea. When writing a larger text, such as an essay, the writer must also consider how the ideas in each paragraph connect to each other. Writers structure their text into paragraphs to help the reader better digest their meaning.

Different genres of writing may have different expectations when it comes to paragraph structure and paragraph length. For instance, it is common to use short paragraphs in emails to help the reader quickly understand the important information. In an academic essay, however, your paragraphs will be longer and will likely convey evidence to support an argument.

If you are used to writing five-paragraph essays, you should note that your university writing assignments will likely have more than five paragraphs, and you will have to learn where to add paragraph breaks. The number of paragraphs in your writing will depend on the length of the text, the content, and the conventions of the genre you are writing.

This chapter explores how body paragraphs should connect to your thesis statement and provides a useful academic structure for a basic body paragraph and the elements that contribute to its cohesiveness.

## How Do Body Paragraphs Relate to the Thesis?

If your thesis gives the reader a roadmap to your essay, then the body paragraphs should closely follow that map. The reader should be able to predict what follows your introductory paragraph by simply reading the thesis statement.

The body paragraphs present the evidence you have gathered

to confirm your thesis. Before you begin to support your thesis in the body, you must find information from a variety of sources that support and give credit to what you are trying to prove.

## Identify primary support for your thesis

Without primary support, your argument is not likely to be convincing. Primary support can be described as the major points you choose to expand on your thesis. It is the most important information you select to argue for your point of view. Each point you choose will be incorporated into the topic sentence for each body paragraph you write. Your primary supporting points are further supported by supporting details within the paragraphs.

In order to fulfill the requirements of good primary support, the information you choose must meet the following standards:

- **Be specific.** The main points you make about your thesis and the examples you use to expand on those points need to be specific. Use specific examples to provide the evidence and to build upon your general ideas. These types of examples give your reader something narrow to focus on, and if used properly, they leave little doubt about your claim. General examples, while they convey the necessary information, are not nearly as compelling or useful in writing because they are too obvious and typical.
- **Be relevant to the thesis.** Primary support is considered strong when it relates directly to the thesis. Primary support should show, explain, or prove your main argument without delving into irrelevant details. When faced with lots of information that could be used to prove your thesis, you may think you need to include it all in your body paragraphs. But effective writers resist the temptation to lose focus. Choose your examples wisely by making sure they directly connect to

your thesis.

- **Be detailed.** Remember that your thesis, while specific, should not be very detailed. The body paragraphs are where you develop the discussion that a thorough essay requires. Using detailed support shows readers that you have considered all the facts and chosen only the most precise details to enhance your point of view.

## Choose evidence that supports your thesis

To support your thesis, you need evidence. Evidence includes anything that can help support your stance. The following are the kinds of evidence you will encounter as you conduct your research:

- **Facts.** Facts are the best kind of evidence to use because they often cannot be disputed. They can support your stance by providing background information on or a solid foundation for your point of view. However, some facts may still need explanation. For example, the sentence “The most populated state in the United States is California” is a pure fact, but it may require some explanation to make it relevant to your specific argument. In academic writing, facts often come from peer-reviewed sources that present research based on systematic analysis.
- **Judgments.** Judgments are conclusions drawn from the given facts. Judgments are more credible than opinions because they are founded upon careful reasoning and examination of a topic.
- **Testimony.** Testimony consists of direct quotations from either an eyewitness or an expert witness. An eyewitness is someone who has direct experience with a subject; he adds authenticity to an argument based on facts. An expert witness is a person who has extensive experience with a topic. This person studies

the facts and provides commentary based on either facts or judgments, or both. An expert witness adds authority and credibility to an argument. In academic writing, testimony often comes in the form of quotations.

- **Personal observation.** Personal observation is similar to testimony, but personal observation consists of your testimony. It reflects what you know to be true because you have experiences and have formed either opinions or judgments about them. For instance, if you are one of five children and your thesis states that being part of a large family is beneficial to a child's social development, you could use your own experience to support your thesis.

## T.E.E.L. Structure for Paragraphs in Academic Writing

To present the primary support and evidence in your body paragraphs, consider using the T.E.E.L. paragraph structure.

Here's where the acronym comes from:

T – Topic sentence with a controlling idea

E – Explain and make a claim (about the controlling idea)

E – Evidence from academic sources (plus evaluate how this supports the claim)

L – Link back to the key idea or argument (or to the topic of the next paragraph)

This simple paragraph structure will introduce your ideas to the reader, add additional explanations and evidence for support and then link all this information back to the main idea of the overall paragraph or essay. While there are definitely other ways to structure paragraphs, the T.E.E.L. structure offers a good starting point.

## What Is a Topic Sentence?

A topic sentence makes a connection between the overall topic or main idea of the essay and a controlling idea. For example, the overall topic of an essay could be sustainable energy. The controlling ideas might examine solar, wind, and hydroelectricity. Each controlling idea becomes the basis for a paragraph, whereas the overall topic remains the same throughout the essay.

It is often taught that each new paragraph represents a new topic, though in actuality the topic remains the same and the controlling idea changes.

## What Is a Controlling Idea?

A controlling idea limits, restricts, or controls what is being discussed in relation to the main topic.

For example:

- Sustainable energy (topic) has long been a topic of discussion and solar energy (controlling idea), in particular, has had a great deal of attention.

This signals to the reader that the essay is about sustainable energy, though in this particular paragraph only solar energy will be discussed. Therefore, the topic is restricted to only solar energy (controlling idea). It may go on to discuss both the positive and negative attributes of solar energy, however, it is still being controlled by one idea.

In the next paragraph, the topic will remain sustainable energy, but the controlling idea will change to wind power; the third paragraph will discuss hydro power. When you understand the building blocks behind good paragraph structure, the essay begins to write itself.

## What Am I Explaining to the Reader?

The next sentence or sentences should elaborate on the controlling idea and may make an assertion or claim about it.

For example:

- Modern Australian homeowners are turning to solar panels to offset their electricity costs (fact); however, their effectiveness is greatly depleted in sustained cloudy weather (claim).

## What Is the Evidence Meant to Support?

Given that the claim is often unsupported initially, the next sentences should provide supporting information for the controlling idea and the claim made in relation to it.

For example:

- According to Energy Australia (2020), solar panels operate at 10-25% capacity in cloudy weather, although this varies depending on the type of panel.

Writers can build on their discussion or argument by adding more evidence to support the claim. Use reputable academic sources.

## What Am I Evaluating?

It is important not to assume that the reader will make the mental connection between the claim and the evidence. Therefore, evaluate the relevance and explicitly state the connection to the reader.

For example:

- This demonstrates that solar energy, while environmentally supportive, may not be a solution to all of Australia's energy needs.

## How do I link my topic, claim, and evidence?

If we use the analogy of the gears working together, think of the linking sentence as the one that turns back in on the contents of the paragraph and locks it all together.

For example:

- Sustainable energy is currently being debated and solar power offers one alternative, though it may be less productive on cloudy days depending on the quality of solar panels being installed on Australians' roofs.

A linking sentence can also be used to draw the reader to the next paragraph and provide a mental bridge between controlling ideas for the reader. This creates good cohesion and coherence throughout the essay.

For example:

- While there are benefits to using solar energy to offset household electricity costs, even if somewhat inconsistent in cloudy weather, wind power (the next controlling idea) also offers a more sustainable energy source than our finite fossil fuel supplies.

The next paragraph could discuss how wind power is infinite and therefore far more sustainable than fossil fuels.

Now let's put it all together:

Sustainable energy (topic) has long been a topic of discussion and solar energy (controlling idea), in particular, has had a great deal of attention. Modern Australian homeowners are turning to

solar panels to offset their electricity costs (fact); however, their effectiveness is greatly depleted in sustained cloudy weather (claim). According to Energy Australia (2020), solar panels operate at 10-25% capacity in cloudy weather, although this varies depending on the type of panel (evidence). This demonstrates that solar energy, while environmentally supportive, may not be the solution to all of Australia's energy needs (evaluation and explanation of evidence). \*\*Sustainable energy is currently being debated and solar power offers one alternative, though it may be less productive on cloudy days depending on the quality of solar panels being installed on Australians' rooves (links back to claim).

Or

\*\*While there are benefits to using solar energy to offset household electricity costs, even if somewhat inconsistent in cloudy weather, wind power (next controlling idea) also offers a more sustainable energy source than our finite fossil fuel supplies (links to next controlling idea in the essay).

## How Long Should My Paragraphs Be?

Paragraphs will vary in length depending on the genre that you are writing. One good way to check to see if your paragraphs are the right length is to look at good examples of the genre and count the words in a paragraph.

Also, remember that paragraphs are about readers. A paragraph gives the reader a place to pause and take a breath. If your paragraphs get too long, there is a good chance that your reader will get frustrated with your writing. One good rule of thumb is to double-check any paragraph over 250 words to see if you can split it.

## Summary

These are the basics of writing a well-structured academic body paragraph. Repeat this process to structure an essay demonstrating a logical progression of thoughts, claims, and supporting evidence. T.E.E.L. is an easy acronym to remember and great to fall back on if you get lost in your writing. You can augment your paragraphs with further evidence, explanations, and elaborations; you are not limited to only two “E” sentences.

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# Using Visuals to Communicate

## Introduction

It may be a cliché to say, “A picture is worth a thousand words,” but visual images have power. Good communication, even academic communication, is a multisensory experience. Children first learning how to read often gravitate toward books with engaging pictures. As adults, we progress to denser books without pictures, yet we still visualize ideas to help us comprehend the text. Advertisers favour visual media—television, magazines, and billboards—because they are the best way to hook an audience. Websites rely on colour, graphics, icons, and a clear system of visual organization to engage Internet surfers. Visuals bring ideas to life for many readers and audiences in multiple ways:

- As a link between raw data and usable knowledge
- To provide concrete, vivid, and quick representations
- To save space
- To speak in a universal language
- To be persuasive (Picardi, 2001)

## When Should You Use a Visual?

Academic writers include visuals in their texts for the following reasons:

## Representational

These visuals physically represent or resemble objects or actions in the text and are relevant to the content of the text. For example, rather than giving a detailed textual description of a new playground, you might include an image or render of the new playground and use the text to highlight specific features or information.

## Analogical

Analogical visuals are used to compare and contrast two things and explain their likeness or correspondence. For example, a marketing textbook author might clarify the difference between targeted marketing and mass marketing by including images of a single fisherman with a single fishing rod and line next to an image of a bigger boat with a fishing net. By using the fishing analogy, the marketing textbook author is attempting to connect possible prior understanding of the audience, a visual, and the concepts of targeted marketing versus mass marketing.

## Organizational

The purpose of organizational images is to provide structure to information, visually define relationships, and illustrate connections. A chart of the hierarchical structure of a company is one example of an organizational image.

Note that academic writers do not typically use visuals to decorate their texts, as this may distract from the meaning they are trying to convey.

# Types of Visuals

Visuals in academic writing are typically referred to as figures. Figures can include the following types of visuals:

- Symbols
- Maps
- Graphs and tables
- Diagrams
- Illustrations
- Photos

We will describe these in more detail below.

## Symbols

Symbols include a range of items that can be either pictographic or abstract. We are surrounded by symbols, but how often do you think about the symbols that communicate with you daily? What symbols can you see right now in your surroundings? The icons for the apps on your phone are familiar symbols to you. How about the TV remote control, which uses symbols to indicate the function of its buttons. Company logos lead you to identify the brand before you even read any words. Or look at the tags on your clothing; they use symbols to tell you how to wash and dry the garments as intended.

Do you know what these mean?



Figure 1.  
Icons in  
everyday life  
by L.  
Underwood

# Maps

Maps sometimes include map charts or statistical maps. Maps are often used to communicate geographical and other information in one visual (Picardi, 2001).



Figure 2.  
Canada  
weather map  
by L.  
Underwood

# Graphs and Tables

Graphs can take various forms, the most common being line graphs, bar graphs, and pie charts. Each type is better suited to different situations and purposes. For example, line graphs show change quickly, while bar charts are effective to compare data, and pie charts visualize the relation between parts and the whole (Picardi, 2001). Tables can be more effective for arguments that include qualitative data (not just numbers).

### Alberta Population Growth

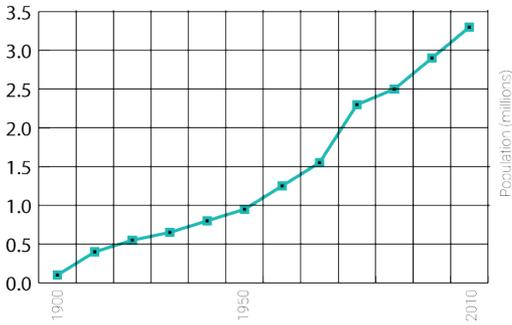


Figure 3. Population growth line graph by L. Underwood

### Population by Province/Territory

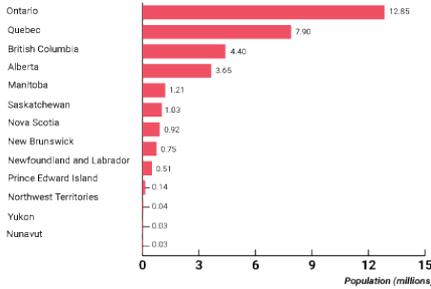


Figure 4. Canadian population bar graph by L. Underwood

Percent of Canada's Population (2011)

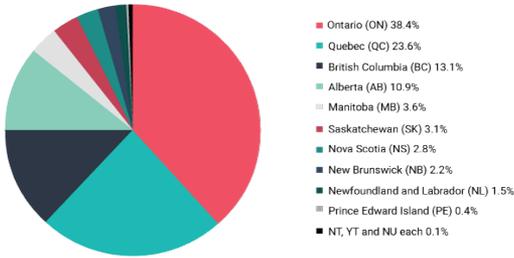


Figure 5.  
Percent of  
Canada's  
population  
by L.  
Underwood

### Tip

If you are working with numerical information, consider whether a pie chart, bar graph, or line graph might be an effective way to present the content. A table can help you organize numerical information, but it is not the most effective way to emphasize contrasting data or to show changes over time.

## Diagrams

Saunders (1994) describes diagrams as “visuals drawn to represent

and identify parts of a whole, a process, a general scheme, and/or the flow of results of an action or process.” One example of a diagram would be a flow chart. Flow charts are often used to show physical processes, such as in a manufacturing facility, or in the decision-making procedures of a larger corporation, for example. Flow charts combine the use of text, colour, and shapes to indicate various functions performed in a process.

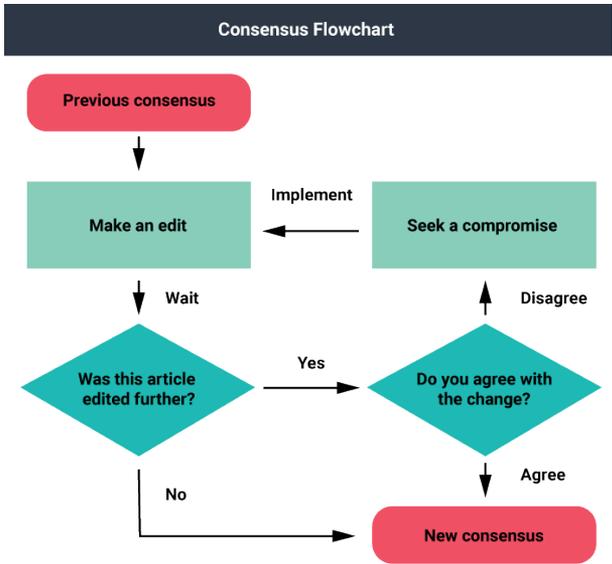


Figure 6.  
Consensus  
flowchart by  
L.  
Underwood

## Photographs

Photographs (still or moving) depict concrete objects, tell a story, provide a scenario, and persuade an audience.

# Illustrations

Illustrations can be realistic or abstract. There are instances where a photograph may be too rich in visual elements, and a simpler line drawing communicates more quickly and clearly. For example, next time you are in a public building, look around for the fire escape plan. Is it a photograph or a line drawing? Illustrations offer a simpler visual and can be easier to understand than photographs because they filter out unnecessary information.

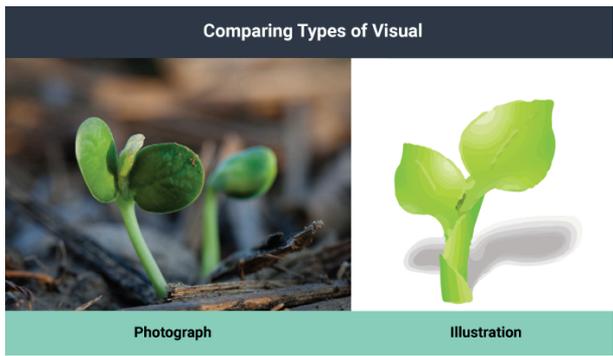


Figure 7.  
Comparing  
types of  
visuals by L.  
Underwood

## Choosing a Type of Visual

There are many considerations to keep in mind when choosing visuals. Remember that any visuals you use should enhance the content of the text. For example, only add photos if viewing the photos will clarify the text. Near each visual, explain its purpose concisely using a caption, and refer to your visual explicitly in your text. Do not expect your readers to figure out the importance of the visuals on their own.

The following table summarizes the visuals you might choose based on your communication purpose.

<b>Communication Purpose</b>	<b>Appropriate Visuals</b>
Depict an object	Photo, 3D Model, Illustration
Persuade an audience	Photo, Illustration, Chart
Demonstrate a procedure	Photo, Illustration, Flowchart
Explain a process	Diagram, Symbol, Illustration
Make comparisons	Bar graph, Line graph, Table
Demonstrate trends or data	Line graph
Organize information	Organize information Map, Table

Table 1. Communication purpose and appropriate choice of visual

## Finding and Crediting Visuals

You have three choices for finding visuals to use in your work. You can search the Internet, use photos you have taken, or create images yourself.

### Finding visuals online

The Internet is a powerful tool you can use to find visuals to complement your work. If you simply click on “images” for your topic in a search engine, you will generate royalty-free and copyright-protected images. However, if you include a term such as stock images, stock photos, or royalty-free images along with your topic, you will be able to narrow your search to royalty-free items. Some search engines can help you filter your search by license type as well. For example, Google Images includes a search tool that allows you to filter the results by license type. We should mention, however, that this tool is not perfect, and you should check the

source of the image directly for its licensing requirements. You should not take an image from a search engine unless you are sure the creator has provided a license that allows you to do so.

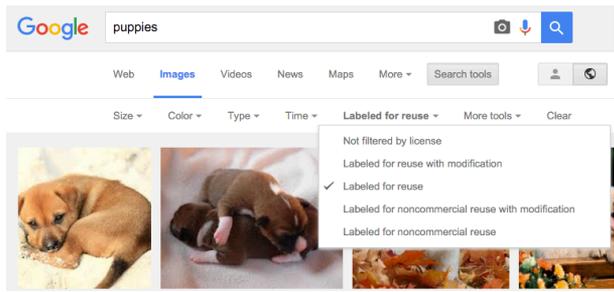


Figure 8.  
Google  
image search  
tools  
screenshot  
from Google

When searching Google Images, you can search for images with specific permissions by clicking “Search Tools,” then “Usage Rights.”

You could also use a stock photo website that provides pay-per-use professional photos. Even on these sites, you also need to be sure that the creator has provided a license for the image to be used freely in the way you intend to use it (for example, under a Creative Commons license).

### *About Copyright*



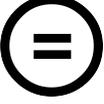
Any time an individual or group creates something, such as a

visual, they automatically have the rights to that visual and copies of it (i.e., copyright). They do not need to register with any organization in order to get the copyrights for their work; it is assumed as soon as they create it. This means that others must seek permission, and often pay a fee, to use the work. For example, a photographer might sell one of their photos to a magazine under the condition that they will be paid based on the number of copies printed or sold.

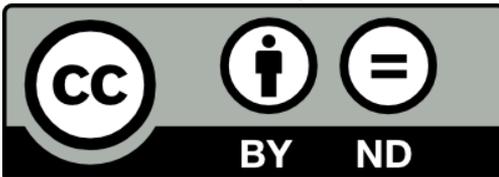
### *About Creative Commons*



Creative Commons allows creators to share their work with fewer restrictions than copyright. There are four distinct conditions available in a Creative Commons license: attribution, share-alike, non-commercial, and no derivatives. Upon creating a work, an author may attach a Creative Commons license that combines these conditions. The table below outlines the conditions in more detail.

	Attribution - BY	Others may copy, distribute, display, and perform your copyrighted work, and create derivatives based on (adapt, modify) your work, so long as they give you credit the way you request.
	Non-Commercial - NC	Others may copy, distribute, display, and perform your copyrighted work, and create derivatives based on (adapt, modify) your work, but for non-commercial purposes only.
	ShareAlike - SA	Others may create and distribute derivatives based on (adapt, modify) your work, but they must use an identical license to the license that your work uses.
	No-Derivative Works - ND	Others may distribute, display, and perform your copyrighted work; however, their material must be your work verbatim, not derivatives of your work.

For example, an author may wish to have their work distributed and available for free, but does not want anyone to change their work. They might consider using a Creative Commons attribution, no-derivatives license. Their work would include the following image and statement, as well as a hyperlink to the license deed:



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When using Creative Commons works, ensure you follow the license requirements of the work you are using. This often includes identifying the original creator and a link to the Creative Commons license itself.

An image may also be in the Public Domain, meaning that the creator's intellectual property rights have expired, been forfeited,

or are inapplicable. In this case, the image is free to use globally without restriction.

For guidance on how to find Creative Commons materials, using the Creative Commons search portal, see [How to Find Creative Commons Materials Using the Creative Commons Search Portal: A Guide for Instructors and Students](#).

## Using your own photos

You could, of course, use any photographs you take yourself. To avoid rights issues, ask any human subjects included in your photos to sign a waiver giving you permission to use their likenesses. In the case of minors, you need to ask their guardians to sign the permission form.

Similarly, pictures taken by friends or relatives could be available as long as you get signed permission to use the photo, as well as signed permission from any human subjects in the photo. Although it might seem silly to ask your sister, for example, to give you signed permission to use her photo or image, you never know what complications you could encounter later on. So, always protect yourself with permission.

## Making your own visuals

A third option is to create your visuals. You do not have to be an artist to choose this option successfully. You can use computer programs to generate professional-looking charts, graphs, tables, flowcharts, and diagrams, or hire a graphic designer to do this for you.

Subject your visuals to the same level of scrutiny as your writing. Keep in mind that if you find one person has a problem with one of

your visuals, there will be others who also take exception. On the other hand, remember that you can never please everyone, so you will have to use your judgment.

You can generate some types of visuals using Generative AI tools. If you decide to use these tools, remember that you should consider the ethical implications of using them, you should be aware of their limitations, and you should acknowledge your use of any Generative AI tools.

## Uses and Abuses of Visuals

Choose visuals to advance your argument rather than just to decorate your pages. Just as you would not include words that are fluff, you should not include meaningless images. Also, just as you aim to avoid the use of fallacies in your text, you also need to be careful not to use fallacious visuals. For example, if you were arguing for the proposition that big dogs make good pets for families, you might show a picture of a friendly-looking Rottweiler puppy. But if you were against families having big dogs for pets, you might choose an image of a mean-looking adult Rottweiler baring its teeth. Watch out for the use of visuals that sway your opinion in the material you read, and use objective images in your own work.

Thanks to programs such as Adobe Photoshop, you can easily alter a photo, but make sure to do so ethically. For example, say that you are making an argument that a company unfairly hires only young people and discharges employees as they age. You decide to show a photo of some of the employees to make your point. You take a photo of the company's employees (both old and young) and crop the original photo to show only the young employees. This cropping choice would be misleading and unethical.

You have probably seen tables or graphs that convey something that is not exactly accurate. For example, the two graphs in the image below could be used as proof that “twice as many” high school

teachers as grade school teachers choose to use computer-driven whiteboards. Graph A seems to support this statement nicely. If you look at Graph B, however, you realize that the entire sample includes only two teachers, so “twice as many” means, literally, two rather than one—an inadequate sample that leads to neither impressive nor convincing data. Be very careful not to misrepresent data using tables and graphs, whether knowingly or accidentally.

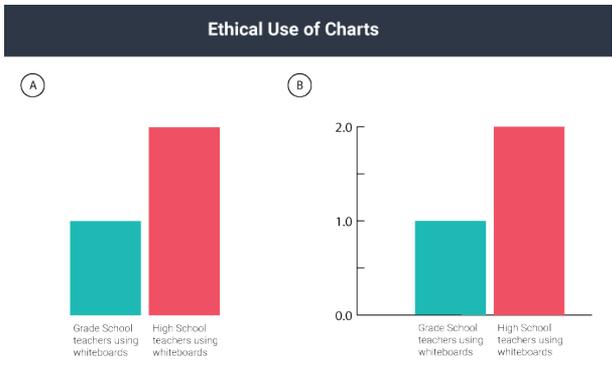


Figure 9. Ethical use of charts by L. Underwood

## Weighing Your Options for Visuals

Visuals, like verbal or written text, can make ethical, logical, and emotional appeals. Two examples of ethical appeals are a respected logo and a photo of the author in professional dress. Graphs, charts, and tables are examples of logical appeals. For the most part, nearly all visuals, because they quickly catch a reader’s eye, operate on an emotional level—even those that are designed to make ethical and logical appeals.

Consider the following options when you choose visuals for your work:

- Choose visuals that your audience will understand and

appreciate. Besides adding information, visuals help to establish common ground with your audience.

- Consider the possible emotional reactions to your visuals and decide if they are reactions you want to evoke.
- Make sure you choose ethically.
- Make sure you present the information accurately and in a balanced way when using images such as charts and tables.
- Look for royalty-free visuals or create your own, unless you are prepared to pay for visuals.
- Make sure you choose visuals that align with the ethical standards of your work, because visuals can sway readers quickly. If your text is solidly ethical but your picture(s) are inflammatory, you might compromise the ethics of your work.
- Keep captions brief if you need to use them. Some images carry meaning without any explanation. If you cannot keep the caption brief, you probably need a different visual or better context for the visual in the text surrounding it.

## Additional Resources

If you would like to read more about finding, using, and attributing Creative Commons–licensed materials, see the following sites:

- [How to find Creative Commons–licensed materials](#)
  - [How to find Creative Commons materials using Google](#)
  - [How to find Creative Commons materials using YouTube](#)
- 

## References

Picardi, R. P. (2001). Skills of workplace communication. [electronic

resource] : a handbook for T&D specialists and their organizations. Westport, Conn.: Quorum Books, 2001.

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# Editing for Wordiness

Sometimes, writers use too many words when fewer words will appeal more to their audience and better fit their purpose. Eliminating wordiness helps all readers by making your ideas clear, direct, and straightforward. Removing unnecessary words eliminates the possibility that your reader will get bored or confused.

Here are some common examples of wordiness to look for in your draft. These strategies also help you to meet word count requirements for assignments and publications.

## Sentences that Begin with “There is” or “There are”

When we use “there is” or “there are” at the beginning of a sentence, these expressions replace the sentence’s subject or the person, place, or thing that is doing the action. These expressions are called dummy subjects. Replacing them with specific subjects improves the wordiness and clarity of the sentence.

**Wordy:** There are two major experiments that the Biology Department sponsors.

**Revised:** The Biology Department sponsors two major experiments.

Sentences with Unnecessary Modifiers

When we speak, we often add extra words to add emphasis. This is not necessary in writing, however. When you edit for wordiness, look for extra adjectives. Delete any adjectives that do not contribute significantly to the meaning of your sentence.

**Wordy:** Two extremely famous and well-known consumer

advocates spoke eloquently in favour of the proposed important legislation.

**Revised:** Two well-known consumer advocates spoke in favour of the proposed legislation.

## Sentences with Deadwood Phrases

Be judicious when you use deadwood phrases such as in terms of, with a mind to, on the subject of, as to whether or not, more or less, as far as...is concerned, and similar expressions. You can usually find a more straightforward way to state your point.

**Wordy:** As a world leader in the field of green technology, the company plans to focus its efforts in the area of geothermal energy. A report as to whether or not to use geysers as an energy source is in the process of preparation.

**Revised:** As a world leader in green technology, the company plans to focus on geothermal energy. A report about using geysers as an energy source is in preparation.

## Sentences in the Passive Voice

Sentences with passive-voice verbs often create confusion because the sentence's subject does not act. Sentences are clearer when the sentence's subject performs the action and is followed by a strong verb. Use strong active-voice verbs in place of forms of to be, which can lead to wordiness. Avoid passive voice when you can.

Note that there are some circumstances where the passive voice is encouraged. For instance, in lab reports, you generally describe your actions during an experiment in the passive voice. You write, "200 mL of distilled water was poured into a 500 mL beaker" instead of "I poured 200 mL of distilled water into a beaker." This is common

in scientific reports because scientific writers want to move attention away from the human performing the experiment.

Here's a guide to help you identify the passive voice in your writing.

## How to Identify the Passive Voice

### 1. **Look for a form of “to be”**

Check if the sentence contains a form of the verb “to be” (e.g., is, are, was, were, has been, will be, etc.).

These are often clues that the sentence might be in the passive voice.

- Example: “The cake was baked by Sarah.”

### 2. **Find the main verb**

Identify the main action (verb) in the sentence. Ask yourself: What is happening in this sentence?

- Example: In “The report was written by the student,” the main verb is “written.”

### 3. **Identify the subject and object**

Determine who or what is performing the action (subject) and who or what is receiving it (object). In passive voice, the subject of the sentence is often receiving the action instead of doing it.

- Example: In “The book was read by John,” the book (the subject) is receiving the action of

being read.

4. **Look for a “by” phrase** (Optional)

Many passive sentences include a prepositional phrase starting with “by” to indicate who performed the action. If you see this structure, it’s likely passive voice

- Example: “The decision was made by the committee.”

Note: Not all passive sentences include a “by” phrase. If you don’t see a “by” phrase, but you suspect a sentence is in the passive voice, you can try adding “by the zombies” after the verb. For example, take the sentence “The cheese was eaten.” To check if this sentence is in the passive voice, add “by the zombies.” You get, “The cheese was eaten by the zombies.” This is a grammatical sentence in English and indicates that the sentence is in the passive voice. We can rewrite the sentence using the active voice: “The zombies ate cheese.” This eliminates extra words and makes the sentence clearer.

5. **Ask: Can I rewrite this in active voice?**

Try rephrasing the sentence so that the subject performs the action directly. If you can rewrite it this way, it’s likely in passive voice.

- Passive: “The test results were analyzed by the scientist.”
- Active: “The scientist analyzed the test results.”

## 6. Check for emphasis on action or object

Passive voice often emphasizes what happened or to whom it happened, rather than who performed the action. If this is true for your sentence, it may be in passive voice.

- Example: “A solution was prepared for further testing.” (Focus is on what was prepared, not who prepared it.)

## Sentences with Constructions that Can Be Shortened

When editing for wordiness, look for ways to shorten constructions that add words to your sentences. In the following example, it is possible to remove “which is” and to combine the second and third sentences.

**Wordy:** The ebook reader, which is a recent invention, may become as commonplace as the cell phone. My over-sixty uncle bought an ebook reader. His wife bought an ebook reader, too.

**Revised:** The ebook reader, a recent invention, may become as commonplace as the cell phone. My over-sixty uncle and his wife both bought ebook readers.

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# Editing for Cohesion

## What is Cohesion?

When we talk about cohesion in writing, we are talking about how your sentences flow together. In cohesive writing, the writer considers the relationship between all their sentences and employs strategies to make the relationship between sentences clear to the reader. Reading cohesive writing is a smooth journey for readers, but reading writing where there is no flow between sentences is a bumpy ride, requiring the reader to expend extra effort to understand the relationship between ideas.

Let's look at a few examples. Read the following sets of sentences. Which sets of sentences do you feel flow better?

### Set 1

- A. The experiment failed to produce significant results. Consequently, the researchers decided to redesign the study.
- B. The experiment failed to produce significant results. The researchers decided to redesign the study.

## Set 2

- A. The government released new climate targets. The targets were criticized by environmental groups.
- B. The government released new climate targets. This announcement was criticized by environmental groups.

## Set 3

- A. The city unveiled a new bike lane along Main Street. Cyclists say the design makes their commute faster and safer.
- B. The city unveiled a new bike lane along Main Street. The new design, cyclists say, makes their commute faster and safer.

You likely found that Example A flowed better than Example B in Set 1, Example B flowed better than Example A in Set 2, and Example B flowed better than Example A in Set 3. These examples demonstrate three techniques for improving the flow between sentences:

1. Using transitional words and phrases
2. Using pronouns
3. Using the given-new principle

The following sections will describe these strategies in detail.

## Using Transitional Words and Phrases

Transitional words or phrases typically appear at the beginning of a sentence, and they help to specify the relationship between two sentences. Let's look at the sentences you read above more closely.

- A. The experiment failed to produce significant results. Consequently, the researchers decided to redesign the study.
- B. The experiment failed to produce significant results. The researchers decided to redesign the study.

In this set of sentences, Example A uses the transitional word “consequently.” This additional word helps clarify the relationship between the first and second sentences by indicating to the reader that the action in the second sentence occurred as a result of the action in the first sentence. This additional word adds cohesion to the sentence pair and helps the reader understand the writer's meaning more clearly.

You may have learned the basic transitional words or phrases in Table 1. These can be effective when writing simple information in a structure where you simply add one idea after another, or want to show the order of events.

---

first	firstly	first of all
second	secondly	next
third	thirdly	then
last	last but not least,	finally
moreover	furthermore	besides

---

Table 1. A list of commonly used transitional words and phrases

However, more complex university-level writing requires more

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

Consider the transitions in Table 2 and how they are categorized. While this is not an exhaustive list, it will give you a sense of the many transitional words and phrases that you can choose from, and demonstrate the need to choose the one that most effectively conveys your meaning.

<b>Addition</b>	<b>Comparison</b>	<b>Contrast</b>	<b>Cause and Effect</b>
<p>also</p> <p>and</p> <p>in addition</p> <p>in fact</p> <p>indeed</p> <p>so too</p> <p>as well as</p> <p>furthermore</p> <p>moreover</p>	<p>along the same lines</p> <p>in the same way</p> <p>similarly</p> <p>likewise</p> <p>like</p>	<p>although</p> <p>but</p> <p>in contrast</p> <p>conversely</p> <p>despite</p> <p>even though</p> <p>however</p> <p>nevertheless</p> <p>whereas</p> <p>yet</p> <p>while</p> <p>on the other hand</p>	<p>accordingly</p> <p>as a result</p> <p>consequently</p> <p>hence</p> <p>it follows,</p> <p>then</p> <p>since</p> <p>so</p> <p>then</p> <p>therefore</p> <p>thus</p>
<b>Conclusion</b>	<b>Example</b>	<b>Concession</b>	<b>Elaboration</b>
<p>as a result</p> <p>consequently</p> <p>hence</p> <p>in conclusion</p> <p>in short</p> <p>in sum</p> <p>it follow, then</p> <p>so</p> <p>therefore</p> <p>thus</p>	<p>as an illustration</p> <p>consider</p> <p>for example</p> <p>for instance</p> <p>specifically</p> <p>a case in point</p>	<p>admittedly</p> <p>granted</p> <p>of course</p> <p>naturally</p> <p>to be sure</p> <p>conceding</p> <p>that</p> <p>although it is true that...</p>	<p>admittedly</p> <p>granted</p> <p>of course</p> <p>naturally</p> <p>to be sure</p> <p>conceding</p> <p>that</p> <p>although it is true that...</p> <p>by extension</p> <p>in short</p> <p>that is to say</p> <p>in other words</p> <p>to put it another way</p> <p>to put it bluntly</p> <p>to put it succinctly</p> <p>ultimately</p>

Table 2. A list of more sophisticated transition words and phrases to use in university writing

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

## Using Pronouns

Using pronouns—words that stand in for a noun previously mentioned (also called the antecedent)—can also help to build cohesion or flow between sentences. Let’s look at the second set of sentences from the introduction to this chapter again.

- A. The government released new climate targets. The targets were criticized by environmental groups.
- B. The government released new climate targets. This announcement was criticized by environmental groups.

The second sentence starts with “this” (also known as a demonstrative pronoun) and “announcement.” The use of “this” here helps the reader to understand that “announcement” refers to the action in the previous sentence. This builds cohesion.

Here’s another example, where personal pronouns help to build cohesion.

- A. The researchers completed the experiment. The researchers published the results in a major journal.

- B. The researchers completed the experiment. They published their results in a major journal.

Here, the pronouns “they” and “their” help to build a relationship between the two sentences.

While using pronouns can be a powerful cohesion-building strategy, you have to be careful. Using pronouns can also introduce confusion. Consider the following sentence sets.

- A. The supervisor praised Jordan after the meeting. The supervisor asked Alex to revise the report.
- B. The supervisor praised Jordan after the meeting. He asked him to revise the report.

In Example B, it is not clear to whom “he” and “him” refer. Using pronouns in this case resulted in an ambiguous reference.

When using pronouns, you should also be sure that the antecedent (the noun to which the pronoun refers) is not too far away. For example, in the following passage, the pronoun “it” in the final sentence is unclear because we do not know which pronoun “it” refers to because the pronoun is too distant from its antecedent “the study.”

Dr. Li published a groundbreaking study on coral bleaching and its relationship to ocean acidification. The study received widespread media attention, and several research institutions cited its findings. Dr. Li was honoured at an international panel on climate change. It contributed to greater public awareness about the issue of coral bleaching.

Finally, be careful when you use the demonstrative pronoun “this.” It is generally better to use “this” with a noun, rather than on its own. Have a look at the following passage. Can you determine what the “this” refers to?

Riley gathered survey data from over 500 participants, analyzing their responses to questions on workplace communication. After creating charts and identifying patterns in the data, Riley began drafting a report. Several peer reviewers commented on the clarity of the visuals. This helped guide the final edits.

The final sentence would be improved by the inclusion of a specific noun. For example, revising the final sentence to “These comments helped guide the final drafts” would help to clarify the relationship between the last sentence and the previous one.

## Using the Given-New Principle

Another strategy to improve the cohesion of your writing is to use the given-new principle. The given-new principle refers to a common, but often overlooked, pattern in how we present information in our sentences in English. In English, we like to present old or given information that the reader is likely to know in the first part of a sentence and to add new information that the reader is unlikely to know at the end of the sentence. We can use this principle to build links between sentences.

Let’s look at how this principle is at work in the examples at the beginning of this chapter.

- A. The city unveiled a new bike lane along Main Street. Cyclists say the design makes their commute faster and safer.
- B. The city unveiled a new bike lane along Main Street. The new design, cyclists say, makes their commute faster and safer.

Example B uses the given-new principle, whereas Example A does not. This is how it works. In sentence 1, we can assume the old or given information is “The city.” The new information is “unveiled a new bike lane along Main Street.” See Figure 1 for a diagram of this sentence.

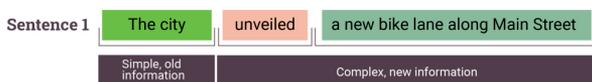


Figure 1. A diagram showing given and new information

Sentence 2 flows better with Sentence 1 if we start by repeating the information provided as new information in Sentence 1. The new information provided in Sentence 1 becomes the given information in Sentence 2. By moving “this new design” to the beginning of Sentence 2, we have created a chain of two sentences using the given-new principle. The second sentence uses the new information in the first sentence as its given information. This creates flow between sentences and helps the reader to parse the meaning more clearly. See Figure 2 for a diagram of the chain of information created by using the given-new principle.

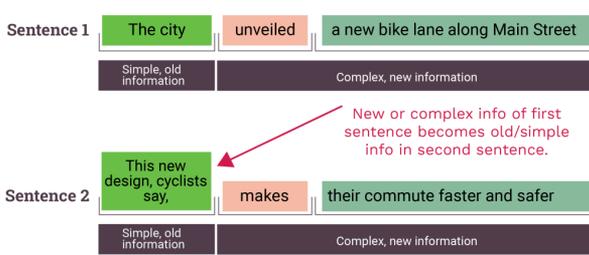


Figure 2. A diagram showing the given-new principle in use

While it isn't always possible to build given-new chains across sentences, it is a strategy that has a lot of impact when you do use it. It can turn clunky writing into polished and professional writing quickly.

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# Editing for Emphasis

You can help your readers understand which of your ideas you consider most important by using emphasis and subordination. There are a variety of strategies to choose from to emphasize an idea or to subordinate (or de-emphasize) it.

## Use Sentences to Emphasize or Subordinate Ideas

To emphasize an idea, place it in a short sentence at the beginning of the paragraph. Short and simple sentences most effectively convey important ideas. You can provide further explanation, sufficient examples, or evidence in the sentences that follow.

To subordinate an idea, place it in a compound sentence. You can also subordinate an idea by placing it in the middle of your paragraphs, as these tend to receive the least attention.

### Example

- **Emphasis:** Smoking will no longer be permitted in the building. The committee on employee health and safety reached this decision after considering evidence from researchers and physicians on the dangers of second-hand smoke.

- Subordination: The committee on employee health and safety has finished considering evidence, and they have decided that smoking will no longer be permitted in the building.

In the first example, the writer states the main point right away—"Smoking will no longer be permitted in the building"—followed by the reasoning.

In the second example, the writer chooses instead to start with the reasoning before stating the main point (effectively subordinating it by pushing it to the end of the sentence). This strategy can be rhetorically effective, especially when delivering bad or unpleasant news—providing the reasons first can help cushion the impact of the bad news. Be careful not to unintentionally subordinate essential ideas or points.

## Use Language to Emphasize or Subordinate Ideas

The language you use (or diction or vocabulary) can also suggest how important an idea is. Use phrases such as most important, major, or primary when discussing ideas you want to emphasize, and phrases such as a minor point to consider or less important to discuss ideas you want to subordinate.

## Example

- Emphasis: Our primary consideration must be cost.
- Subordination: A minor consideration is appearance.

## Use Active or Passive Voice to Emphasize or Subordinate Ideas

Use active voice to emphasize the person or thing performing the action; use passive voice to emphasize the action that is being performed.

## Example

- Active voice: Scientists have conducted experiments to test the hypothesis.
- Passive voice: Experiments have been conducted to

test the hypothesis.

Generally, it's preferable to use the active voice; however, passive voice can be rhetorically effective in some cases. For instance, note in the active example above how the focus of the sentence (its subject) is on the scientists who have conducted the experiments; in the second example, the focus is on the experiments, thereby emphasizing those and subordinating the scientists.

## Use Physical Page Spacing to Emphasize or Subordinate Ideas

The amount of space you devote to an idea on the page will help convey the idea's importance to the reader: Emphasized ideas tend to be given more space on the page than subordinated ideas.

### Example

- Communication is arguably the most important activity in any profession. When preparing a technical document, it is vitally important to understand your audience: Will your report be read by people with a

vast knowledge of the subject or by novices just entering the field? Knowing your audience affects the style and scope of your report. In the technical fields, reports are often generated from carrying out an experiment (research) and may be in the form of a word-processed document or a bound log/lab book.

- Writing reports based on your lab experiments is one approach to creating a technical report.

The first example would appear more important (visually speaking) to readers simply because there is more information than in the second sample.

## Use Repetition to Emphasize or Subordinate Ideas

Repeating important ideas is a good way to emphasize them as well. Be careful not to overuse this strategy, as you may lose reader interest.

## Example

- Our primary consideration must be cost—cost to build, cost for additional products and supplies, cost for overhead and maintenance, and cost for increased staffing.
- We are proposing a number of increases for our expansion, an increase in staffing, an increase in sales, an increase in our product line, an increase in our customer base, an increase in customer satisfaction, and an increase in our public visibility.

## Use Parallelism to Create Memorable Sentences

Parallelism is the use of a similar structure in related words, clauses, or phrases. It creates a sense of rhythm and balance within a sentence. Parallelism also helps to make a sentence memorable. Consider the following examples. Would they be as memorable without the rhythm created by the parallel structure?

- Fool me once, shame on you; fool me twice, shame on me.
- We came, we saw, we conquered.
- Ask not what your country can do for you, ask what you can do for your country.

As readers, we often correct faulty parallelism—a lack of parallel structure—intuitively because an unbalanced sentence sounds awkward and poorly constructed.

Read the following sentences aloud:

- Kelly had to iron, do the washing, and shopping before her parents arrived.
- Driving a car requires coordination, patience, and to have good eyesight.
- Ali prefers jeans to wearing a suit.

All of these sentences contain faulty parallelism. Although they are factually correct, the construction is clunky and confusing. In the first example, three different verb forms are used. In the second and third examples, the writer begins each sentence by using a noun (coordination, jeans), but ends with a phrase (to have good eyesight, wearing a suit).

Now read the same three sentences that have correct parallelism.

- Kelly had to do the ironing, washing, and shopping before her parents arrived.
- Driving a car requires coordination, patience, and good eyesight.
- Ali prefers wearing jeans to wearing a suit.

When these sentences are written using a parallel structure, they sound more aesthetically pleasing because they are balanced. Repetition of grammatical construction also minimizes the amount of work the reader has to do to decode the sentence. This enables the reader to focus on the main idea in the sentence and not on how the sentence is put together.

A simple way to check for parallelism in your writing is to make sure you have paired nouns with nouns, verbs with verbs, prepositional phrases with prepositional phrases, and so on.

Underline each element in a sentence and check that the corresponding element uses the same grammatical form.

## Creating Parallelism Using Coordinating Conjunctions

When you connect two clauses using a coordinating conjunction (for, and, nor, but, or, yet, so), make sure that the same grammatical structure is used on each side of the conjunction. Take a look at the following example:

Faulty parallelism: When I walk the dog, I like to listen to music and talking to friends on the phone.

Correct parallelism: When I walk the dog, I like listening to music and talking to friends on the phone.

The first sentence uses two different verb forms (to listen, talking). In the second sentence, the grammatical construction on each side of the coordinating conjunction (and) is the same, creating a parallel sentence.

The same technique should be used for joining items or lists in a series:

Faulty parallelism: This committee needs to decide whether the company should reduce its workforce, cut its benefits, or lowering workers' wages.

Correct parallelism: This committee needs to decide whether the company should reduce its workforce, cut its benefits, or lower workers' wages.

The first sentence contains two items that use the same verb construction (reduce, cut) and a third item that uses a different verb form (lowering). The second sentence uses the same verb construction in all three items, creating a parallel structure.

You should also use parallelism in bullet lists and headings where possible. Notice that the headings in this chapter follow the same parallel structure.

## Creating Parallelism Using Than or As

When you are making a comparison, the two items being compared should have a parallel structure. Comparing two items without using parallel structure can lead to confusion about what is being compared. Comparisons frequently use the words *than* or *as*, and the items on each side of these comparison words should be parallel. Take a look at the following example:

Faulty parallelism: Swimming in the ocean is much tougher than in a pool.

Correct parallelism: Swimming in the ocean is much tougher than swimming in a pool.

In the first sentence, the elements before the comparison word (*than*) are not equal to the elements after the comparison word. It appears that the writer is comparing an action (swimming) with a noun (a pool). In the second sentence, the writer uses the same grammatical construction to create a parallel structure. This clarifies that an action is being compared with another action.

To correct some instances of faulty parallelism, it may be necessary to add or delete words in a sentence.

Faulty parallelism: A brisk walk is as beneficial to your health as going for a run.

Correct parallelism: Going for a brisk walk is as beneficial to your health as going for a run.

In this example, it is necessary to add the verb phrase *going for*

to the sentence in order to clarify that the act of walking is being compared to the act of running.

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# Editing for Inclusivity

In your writing, you want to ensure that your language conveys respect and creates a safe environment for your audience. Inclusive language means words, phrases or tones that do not contain discriminatory, stereotyped, or prejudiced ideas of groups of people. By being inclusive in the way you write, you will not exclude any members of your audience.

According to Seneca Polytechnic's (2023) *Inclusive Writing Guide*, there are six basic principles you can apply to help you communicate with care.

1. **Respect individual preferences and avoid generalizations.**

Individuals and groups are diverse, and each may have its own preferred language. Don't assume that the same language or term can be applied to all individuals in the same group. If you're unsure of what terminology to use when writing about a person or group, it's always best to ask them whenever possible.

2. **Be respectful.** Choose words with care. Review and reflect on the words you're using and ensure that they're respectful and don't reinforce stereotypes. In addition, consider that the overall content (including the images that you use and the tone of your writing) is inclusive and respectful.

3. **Be conscious of false hierarchies.** When conducting comparisons, consider which groups are compared. For example, describing one group as "normal" can exclude other groups and make readers think that they are "abnormal" (American Psychological Association, 2024). Similarly, be thoughtful when determining the order in which groups will be presented. Automatically mentioning socially dominant groups at the beginning can make it seem that the groups that follow are less important or inferior.

4. **Share only what is relevant.** Ask yourself if you need to refer

to a person's or group's identity (e.g., gender, race) in your writing. For example, it may be sufficient to say “a group of doctors” instead of “a group of female doctors”.

5. **Be consistently inclusive.** Inclusive writing is not a one-time thing. Inclusive writing style, techniques, and language should be used in all forms of communication. Your school or workplace may also have their own inclusive writing guidelines. If this is the case, follow your organization's guidelines to ensure that your writing is consistent with your organization's preferred language and style.
6. **Create content for everyone.** Inclusive writing techniques work together with principles of effective communication. In addition to using inclusive language, create content for your audience that is clear, accessible, and accurate.

As discussed in the chapter [“Using Generative AI Responsibly,”](#) Generative AI models and LLMs have been trained on massive amounts of text and data; as a result, their output will reflect the information contained in that training material, including discrimination, stereotypes, and prejudices. For this reason, when reviewing output created by LLMs, you should carefully check to ensure that the content you transfer to your messages and documents is free of these biases.

## Disability-inclusive language

When writing about people with disabilities, the APA's [Inclusive Language Guide](#) recommends the following approaches:

1. Person-first
2. Identity-first

Person-first language focuses on the person and puts less emphasis on the disability or diagnosis. For example:

- A person who uses a wheelchair
- A person who uses a walking cane

Identity-first language places emphasis on the disability. Some individuals and groups may prefer identity-first language since they view their disability as an important part of their identity. For example:

- Wheelchair user
- A blind person

Always ask the person or group you are writing to identify their preference. This will ensure that you do not offend or alienate your audience.

## Gender-inclusive language

It has been commonly accepted for many years that the use of 'man' as a generic term excludes women and non-binary individuals. Words like 'mankind' and 'chairman' make people think 'male' rather than 'female' and render other genders invisible (QUT, 2010). The use of 'man' or 'men' and 'woman' or 'women' is an expression of binary language and doesn't allow for people who don't identify as male or female. Use inclusive words (see Table 1) that are non-binary and gender-neutral (QUT, 2010). Always avoid phrases that may be gender-specific, stereotypical, or potentially exclusive. Instead, use non-binary pronouns so that misgendering doesn't occur.

Instead of	Consider
man, mankind, spokesman, chairman, workmanship, man the desk/phones, manpower	humans, humankind, spokesperson, chairperson, quality of work/skill, attend the desk/phone, workforce
A supervisor must give his approval	Supervisors must give their approval
girls in the office, woman doctor, male nurse, cleaning lady, female professor, authoress, manageress	office staff, doctor, nurse, cleaner, professor, author, manager
Good morning, ladies and gentlemen	Good morning, colleagues/everyone
The guys in the office will help	The staff in the office will help

Table 1. A table comparing language practices to avoid and inclusive language. From Andersen, 2022. Note. From [“Enhancing inclusion, diversity, equity and accessibility \(IDEA\) in Open Educational Resources \(OER\)”](#) by Nikki Andersen, 2022.

## Pronouns

Pronouns are linguistic tools that replace a person’s name in conversation. While some languages have pronouns that denote gender, others do not.

In the English language, “he/his” and “she/her” are frequently used gender-specific pronouns for third-person singular references. Using ‘they’ as a gender-neutral or general pronoun can make your writing more inclusive. In fact, the pronoun ‘they’ has been utilized as a gender-neutral term for centuries, and most contemporary style guides accept “they” for third-person singular references.

Because pronouns can reflect a person’s gender identity, it’s crucial to use the correct ones for respectful and inclusive communication. To prevent incorrect gender identification, it’s always recommended that you ask your audience.

## Gender and Sexuality Diverse Terms

It is also essential to understand the meanings behind the words people use regarding gender and sexual diversity. This includes sexual orientation, gender identity and expression, and sex characteristics.

### Titles of address

At the university, you will notice that some people are given the titles “Professor” or “Doctor.” The “Professor” title is linked to a job position at the university level. A professor-level job typically involves research and teaching, and not all of your instructors may be in that position. Nevertheless, you can likely safely address any instructors as “Professor,” as it is not gendered and won’t cause offence.

The title “Doctor” or “Dr” is given to people who have completed doctorates (Ph.D.s) or who have a medical degree that is associated with this title. Women sometimes find that their doctor titles are omitted more frequently than men’s doctor titles, so avoid this mistake.

In some work and professional settings, you may use titles like “Mr.,” “Mrs.,” or “Ms.” “Mrs.” is used for women who are married, and “Ms.” is a general title used for all women. Avoid the use of “Mrs.” in professional settings as marital status is irrelevant in these contexts.

Where possible, confirm with the individual their preferred title of address.

Always omit any references to gender when you are writing to an unknown audience.

<b>Instead of</b>	<b>Consider</b>
Ms. Alex Cruz	Alex Cruz
Dear Ms. Cruz	Dear Alex Cruz
Dear Sir Dear Madam Dear Sir or Madam	Dear Homeowner/ Colleague/ Hiring Manager/ etc.

Table 2. Titles and salutations with gender-inclusive alternatives. Note. From [“Inclusive writing”](#) by Seneca Polytechnic, 2023, [CC BY-NC 4.0](#).

## Indigenous Peoples

Deciding what terminology to use to identify Indigenous people is important, especially considering the historical and present context in which terminology is used to marginalize and oppress the original inhabitants of this land.

The word Indigenous is itself a good place to start. Those who are considered Indigenous today, are descendants of people who were living on this land prior to colonization by Europeans. You will still find the term ‘Aboriginal,’ rather than Indigenous, used in some contexts, including official Canadian Government documents, but the term Indigenous is becoming the preferred overall term to use.

In what is now known as Canada, there are three distinct groups of Indigenous people – First Nations, Métis, and Inuit. According to their own traditions and teachings, the Inuit and First Nations people have been on this land since time immemorial (forever). People who identify as Métis are descendants of First Nations and European parentage.

Indigenous people identify themselves in many different ways. A term that one person embraces could offend another (review Table 3.2.4). Therefore, it is important to be respectful of how Indigenous people themselves want or choose to be identified.

Instead of...	Consider...
Indian, Native People, Indigenous Canadian, Native Canadian, Aboriginal(s) (noun)	Indigenous Peoples (collectively refers to Indigenous population and includes First Nation, Métis, and Inuit). This should be capitalized.  First Nations, Métis, Inuit Name of specific community Note: In Canada, Aboriginal (adjective) may still be used although Indigenous is the more preferred term.
Eskimo	Inuit (plural), or Inuk (singular)
Avoid using possessives when discussing Indigenous Peoples since it implies that Indigenous Peoples belong to Canada.  Examples: Canada’s Indigenous Peoples, Canada’s Métis people, our Aboriginal people, Indigenous Peoples of Canada	You could use something like: <ul style="list-style-type: none"> <li>• Indigenous Peoples in Canada</li> <li>• Indigenous Peoples within Canada</li> <li>• Indigenous Peoples in Ontario</li> <li>• Indigenous Peoples in the territory formerly known as Ontario</li> </ul>

Table 3. Outdated and updated terms for Indigenous Peoples. Note. From [“Inclusive writing”](#) by Seneca Polytechnic, 2023, [CC BY-NC 4.0](#).

## Racialized Communities or Groups

Before you write about or mention an individual's identity, always confirm how they identify first. A person's race should only be mentioned if it is relevant. For example, ‘this week will discuss civil rights activist Dr Martin Luther King Jr., who is remembered as one

of the most influential and inspirational African-American leaders in history.’

Terms such as ‘visible minority’ and ‘person of colour’ may be considered outdated terms (see Table 4). Instead, consider using the following, depending on the context:

- racialized person
- racialized group
- member of a racialized community
- equity-deserving group

The Ontario Human Rights Commission uses the term “members of racialized communities.” This expression may also be used for members of marginalized religious groups.

Never use language that might marginalize, offend, or inaccurately represent people based on their race, ethnicity, or other aspects of their identity.

Insensitive Language	Suggested Alternatives	Notes
Caucasian	white people	In reality, there is no biological “race”. The term Caucasian was created as a way to make white supremacy scientifically justifiable.
coloured, blacks	Black people	The word Black (as an adjective) is generally acceptable. It should be capitalized. Never use Black as a noun, either singular or plural. Some people may use terms such as Black Canadian, African Canadian, or African American. Note that not all Black people may identify with these terms.
visible minority, racial minority	Equity-deserving group	The word “minority” creates the false impression that non-white racial groups form a smaller percentage of the population than the white “majority”.
ghetto, inner-city	<p>Use the name of the neighbourhood or area.</p> <p>If appropriate, use neutral terms such as city centre or central urban.</p> <p>If referring to low-income neighbourhoods, use words such as under-resourced, under-served, or low-income.</p>	
orientals	Asian people, Asian Canadian individuals, [specific nationality]	The term “Oriental” is outdated and is associated with a period in U.S. history when people from East Asia had subordinate status in society.
foreigners, illegal aliens	newcomers, refugees	Avoid dehumanizing or othering language.

Insensitive Language	Suggested Alternatives	Notes
People(s) of Colour (POC)	Write specifically about the particular person or group.  If you need to generalize, use the term “racialized people(s)”	While terms such as POC and BIPOC have become popular over the past years, some writers and activists believe that grouping different populations together erases the experiences of each group.
slave; slavery	enslaved person; enslavement	The term “slave” reduces a person to a position they never chose to be in. It can also strip the person of their human identity. Continuing to use terms such as slave, slavery, and slave master normalizes the enslavement as a state of being.
slave master, slave owner	enslaver	Human beings cannot be “owned”. The verb “enslave” helps bring attention to the horrific acts involved in enslavement

ted alternatives for racialized groups and people. Note. From [“Inclusive writing”](#) by Seneca Polytechnic, 2023, [CC BY-NC 4.0](#).

## Asking Generative AI to Improve Inclusivity

You can ask a Generative AI tool like ChatGPT to review your document to ensure that it contains an inclusive approach. Here’s how you can do this:

1. Upload your document to the LLM
2. Input the following prompt into the context window: Please read the document I've uploaded. This document is going to be read by [state your audience and any characteristics that are relevant]. Review the language and personal referents and show me how I can improve in the area of inclusive language and inclusivity overall. I want to ensure that the document is respectful of all groups and cultures. Be specific as to where the changes would be needed.

Always remember that words matter. They reflect the values and knowledge of people using them and can reinforce both negative and positive perceptions about others. Language is not neutral. Inclusive language acknowledges the unique values, skills, viewpoints, experiences, culture, abilities and experiences of individuals or groups (QUT, 2010). Your use of inclusive language — how you speak, write, and visually represent others — is an important part of workplace communication.

## Additional Resources

Watch the video "[Disabled Person OR Person With a Disability?](#)" to learn more about identity-first versus person-first language.

Watch the video "[How to Talk About Indigenous People](#)" that clearly explains the use of the terms Indigenous, Aboriginal, First Nations, Métis, and Inuit.

To help authors write in ways that are inclusive and respectful of

diversity, most style guides now include guidelines for inclusive and bias-free language.

For example:

- The Government of Canada has released [Guidelines for Inclusive Writing](#). The guidelines provide advice on:
  - [Gender-inclusive writing techniques](#)
  - [Representation of non-binary gender in written communications](#)
  
- The American Psychological Association (APA) has released its second edition of the [Inclusive Language Guide](#). The APA has also developed bias-free language guidelines covering:
  - [Age](#)
  - [Disability](#)
  - [Gender](#)
  - [Racial and Ethnic Identity](#)
  - [Sexual Orientation](#)
  - [Socioeconomic status](#)
  - [Intersectionality](#)

## Other resources

- [Resources for inclusive and respectful language](#)
  - [Seneca's Inclusive Language Guide](#)
  - [Quick reference sheet on inclusive writing](#)
-

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# CONCLUSION

## Key Takeaways

We are now at the end of our time together in this exploration of writing, and we would like to leave you with some key insights about writing and academic writing. These are the insights that we hope you will take away from this textbook and your writing course, as they represent the most important ideas that you can take into other classes and other writing contexts.

## Effective Writing Makes Things Happen in the World

We never write without a purpose or context for our writing. We are always trying to do something with our writing, whether it be to showcase our learning in a school assignment, to record our thoughts and feelings in a personal diary, or to persuade an audience to change their behaviour or thinking. There is always a reason to write.

The best writing is the writing that fulfills its purpose as effectively and efficiently as possible. If you write an editorial to persuade local politicians about the value of a policy change, and the politicians then make that change, your writing has fulfilled its purpose. That is good writing.

Of course, becoming an effective writer who can make things happen in the world requires considerable practice. You must learn about your audience, master the writing conventions that matter to them, and understand where you can add your flair to capture the audience's attention and convey your message effectively.

You will continue to grow as a writer for your entire life. But you should never forget that, as a writer, you are always trying to make things happen around you. This is why you write.

## Writing is About Relationships and Community

We never write without a purpose, and we also rarely write without an audience. Because writing is about making things happen in the world, we have to write to or for someone. The fact that writing enables us to communicate across time and space sometimes obscures the fact that writing works by building a relationship between two people: the reader and the writer. Sometimes, these two parties conceive of that relationship in different ways, but it is always there in every piece of writing. Even a personal journal or diary is about communication between your present and future selves.

The relationship between the reader and writer is always embedded in larger networks of relationships or communities. These communities shape writing norms and conventions to achieve shared goals effectively. As writers, we are beholden to these relationships, and we rarely write without the influence and impact of our community. Academic writing, for instance, always reflects the values and the needs of the various communities at the university. In other words, academic writing is not one thing. It may share some standard features recognizable across various genres and disciplines, but there are also significant differences between what scholars consider to be good academic writing. Understanding the values of the communities that you are writing for will make you a better writer.

Because we are writing to communicate, we must master writing conventions to be credible writers; however, these are not the only important elements in effective writing. Good writing requires critical thinking and insight. It requires a human voice—evidence

that a human writer is sharing their unique personality and thoughts with us. This doesn't necessarily mean that the writer reveals personal details or talks about themselves in the writing—doing so would violate the norms in some genres. Instead, it means writing that conveys something compelling will be more effective than writing that merely follows conventions mindlessly. As writers, we need to learn where we can add our uniqueness to the writing while still meeting the audience's expectations.

Of course, this is easier said than done. To find your voice as a writer, you will need to cultivate critical thinking habits. You'll need to pay close attention to the writing that strikes this balance between meeting writing standards and engaging the reader with unique insight. The journey to becoming a more effective writer is, in many ways, a process of discovering how you, as the author, fit into writing that meets the needs of your audience. Cultivating a Growth Mindset Helps Overcome Common Challenges with Writing

As writers, it is easy to think that we are alone in finding writing to be a challenging task. However, writing, particularly academic writing, is a demanding mental task that requires the complex analysis and synthesis of ideas. When we write, we have to transpose the chaotic world around us into the straight line of language. Sometimes, this process can be overwhelming, and it is not unusual for writers to become stuck at some point in the writing process.

One of the best remedies for overcoming the challenges of writing is to develop a growth mindset about writing. As you learned earlier in the textbook, a person with a growth mindset sees writing as a craft that they can learn. They understand that there are many component skills and knowledges when it comes to writing, and they set out to learn more and practice these skills. A person with a growth mindset will actively seek out feedback and learn to revise their writing based on the feedback they receive. They will also understand that an ineffective piece of writing does not mean that they are a bad writer.

In this textbook, you have read about some of the standard

rhetorical moves in academic writing. The key takeaway here is that you can always break down writing and its elements into smaller, manageable skills that you can master one at a time. When you read texts that you find particularly compelling, analyze the moves that the authors make. How are other authors making things happen in the world? Can you use similar strategies in your writing?

Having a growth mindset also means setting achievable goals for yourself as a writer and reflecting critically on your progress. Now is a good time to ask yourself: What did you set out to achieve in your current course on writing? Did you achieve it? What might have interfered with or aided in your success? Where do you want to go next when it comes to writing?

Remember to be specific when you are setting your goals. “I want to become a better writer” is a good overall goal, but it is much more helpful to set smaller, specific goals, such as “I want to become better at integrating direct quotations into my writing.” Your progress as a writer will likely not be a linear process. You will experience both failures and successes, but adopting a growth mindset means recognizing that this is normal when learning a skill, especially one as complex as writing.

## Learn to use Generative AI Responsibly and Effectively

Generative AI and large language models, such as ChatGPT, Perplexity, and Gemini, will profoundly change the writing process. As writers, you will perpetually have to decide when and where you can and should use these tools to write what you need to write. While these tools have the potential to help us reduce the time we spend on onerous writing tasks that don't seem worth our time, such as filling out bureaucratic paperwork, they also have the potential to entice us to use them when we shouldn't, particularly in times when the loss or risk is too significant. For instance, current

news reports are full of cases where writers have chosen to use Generative AI to write a text and have been discovered. These cases expose the unstated rules of engagement between the reader and writer. When it is uncovered that a writer used Generative AI to write a text, the trust between the reader and the writer is compromised. The writer loses credibility and can no longer be trusted. This is a real danger if you rely too much on Generative AI to write: You will no longer be able to persuade your audience effectively.

When you are considering using Generative AI for a writing task, ask yourself if you are comfortable acknowledging this use to your audience. If not, ask yourself why you feel uncomfortable. Is your relationship to the reader meaningful? What will happen if you lose the trust of your audience? Use your answers to these questions to guide when to use Generative AI tools. The time saved may not be worth the damage to your relationship with the reader.

## Academic Writing is Constantly Changing

We might be tempted to think of academic writing and its genres, such as lab reports, critical essays, or research papers, as enduring types of text that have existed since the first universities and scientific experiments. However, this is far from the case. These genres, along with the other common genres of the academic community, were developed to address specific communicative problems. If the problem disappears, so too does the genre. For instance, before the advent of the Internet, scholars would have to write letters to other scholars requesting copies of research papers that were not available in their libraries. Now that we can easily access most published research papers, the article request letter has become obsolete.

Other academic genres will be born and will die during your lifetime, and the conventions and rules that you know now about

writing academic genres will adapt to the changing world around them. For this reason, it is important not to lose sight of the goals of the communities for whom you are writing. There may be times when you have to adapt what you know about writing to meet new needs in your communities. You may need to innovate and develop new genres, or you may need to adapt existing ones to new circumstances. Paying attention to subtle changes and being flexible are essential for being a successful writer.

## Academic Writing is Only one Type of Writing

We'd like to leave you with this final thought. Academic writing is not the only type of writing you will learn in your lifetime. You may also learn professional writing—writing in the workplace, public writing—writing for broad audiences, or creative writing—writing to express the joys and despair of the human condition. The strategies and techniques you learn as an academic writer may transfer easily to these other contexts. For instance, you may find that writing a business report is very similar to writing a research paper. You have to make a claim and support it with credible evidence. However, you may also find that the conventions of academic writing are not helpful in other contexts. A poster full of citations from academic research papers that show that smoking is harmful to health will not likely convince members of the public to quit smoking.

As you move from university into the workplace and your roles as productive and contributing citizens, you will have to learn new rhetorical moves to help you persuade new types of audiences. Academic writing provides an excellent foundation for this learning, but it is not the final chapter. Learning to make things happen with your words is a lifelong journey. It is a journey that will pose unexpected challenges and complex problems to solve, but if we pay close attention, it is also a journey that reveals how humans can

shape their world through the written word. Writing is a powerful tool that helps us navigate the complexities of our world.