

SOC 305: CRITICAL THINKING IN SOCIAL SCIENCE



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SOC 305 Critical Thinking in Social Science
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SOC 305: Information Page

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TABLE OF CONTENTS

SOC 305: Critical Thinking in Social Science

SOC 305: Information Page

Licensing

1: Introduction to Sociology

- 1.1: Introduction
- 1.2: What Is Sociology?
- 1.3: The History of Sociology
- 1.4: Theoretical Perspectives
 - 1.4.1: Sociological Imagination
- 1.5: Why Study Sociology?
- 1.6: Key Terms
- 1.7: Section Summary
- 1.8: References
- 1.9: Crash Course Video- Sociological Theories

2: What is Critical Thinking?

- 2.1: Critical Thinking Defined
- 2.2: Critical Thinking Skills
- 2.3: The Critical Thinking Process
- 2.4: Knowledge and Literacy
- 2.5: Thinking vs. Intelligence
- 2.6: Video - 5 Tips to Improve Your Critical Thinking

3: Language and Its Meaning

- 3.1: Communication in Practice
- 3.2: Centering Audiences
- 3.3: Sapir-Whorf Hypothesis
- 3.4: The Influence of the Structure of Language

4: What is an Argument?

- 4.1: Defining An Argument
- 4.2: Identifying Arguments
- 4.3: Toulmin Approach to Argument
- 4.4: No Absolute Certainties
- 4.5: Arguments vs. Explanations
- 4.6: Creating A Counter Argument
- 4.7: Video - Understanding Arguments

5: Clarity, Consistency, and Structure

- 5.1: Clarity
- 5.2: Defining a Claim
- 5.3: Characteristics of a Claim

- 5.4: Consistency and Validity
- 5.5: Truth vs. Validity
- 5.6: Soundness
- 5.7: Structure

6: Assumptions

- 6.1: The Skill of Knowing What Questions to Ask
- 6.2: Assumptions and Inferences
- 6.3: Challenging Our Assumptions
- 6.4: Issues

7: Exploring Evidence

- 7.1: Finding and Evaluating Research Sources
- 7.2: Strategies For Conducting Research
- 7.3: The Building Blocks of an Argument
- 7.4: Defining Evidence
- 7.5: Checking on the Domain Indicators
- 7.6: Using Evidence
- 7.7: Testing of Fake News Sources
- 7.8: The Focus of this Chapter
- 7.9: Video - Evaluating Sources
- 7.10: Video - Evaluating Evidence

8: Identifying Flaws

- 8.1: The Logic of Our Arguments
- 8.2: Overview of Reasoning
- 8.3: Types of Reasoning
- 8.4: Fallacies
- 8.5: The Focus of this Chapter
- 8.6: Cognitive Dissonance
- 8.7: Video - Five Fallacies Examples
- 8.8: Video - More Fallacies Examples

9: Critical Reading and Note-Making

- 9.1: Prelude to Reading and Notetaking
- 9.2: The Nature and Types of Reading
- 9.3: Effective Reading Strategies
- 9.4: Taking Notes
- 9.5: Summary

10: Critical Writing

- 10.1: The Rhetorical Nature of Reports
- 10.2: Video - Critical Essay Writing with Examples

11: Evaluating Critical Writing

- 11.1: Formatting the Report
- 11.2: Evaluating Writing

12: Critical Reflection

- [12.1: Reflection](#)
- [12.2: Reflective Writing](#)

[Index](#)

[Detailed Licensing](#)

[Detailed Licensing](#)

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CHAPTER OVERVIEW

1: Introduction to Sociology

Sociology is the study of social behavior or society, including its origins, development, organization, networks, and institutions. It is a social science that uses various methods of empirical investigation and critical analysis to develop a body of knowledge about social order, disorder, and change. Many sociologists aim to conduct research that may be applied directly to social policy and welfare, while others focus primarily on refining the theoretical understanding of social processes. Subject matter ranges from the micro-sociology level of individual agency and interaction to the macro level of systems and the social structure.

[1.1: Introduction](#)

[1.2: What Is Sociology?](#)

[1.3: The History of Sociology](#)

[1.4: Theoretical Perspectives](#)

[1.4.1: Sociological Imagination](#)

[1.5: Why Study Sociology?](#)

[1.6: Key Terms](#)

[1.7: Section Summary](#)

[1.8: References](#)

[1.9: Crash Course Video- Sociological Theories](#)

Thumbnail: Inside view of Ruca Che arena in Neuquén, Argentina, during a rock concert. (Public domain; Diegoluciano)

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1.1: Introduction



Figure 1.1: Every day, 7.5 million people use the railways around Mumbai, India. The vast majority of them don't know each other, but they share much in common as they move together. (Credit: Rajarshi MITRA/flickr)

Chapter Outline

1.1 What Is Sociology?

1.2 The History of Sociology

1.3 Theoretical Perspectives in Sociology

1.4 Why Study Sociology?

A busy commuter train station might seem like a very individualized place. Tens of thousands or hundreds of thousands of strangers flow through with a singular purpose: to get where they need to go. Whether walking through main doors at a pace of a dozen people each second, or arriving by train hundreds at a time, the station can feel a bit like a balloon being pumped too full. Throngs of people cluster in tight bottlenecks until they burst through corridors and stairways and tunnels to reach the next stage of their journey. In some stations, walking against the crowd can be a tedious, nearly impossible process. And cutting across a river of determined commuters can be almost dangerous. Things are fast, relentless, and necessary.

But are those hundred thousand or half a million or, in the case of Tokyo's Shinjuku station, 3.5 million people really acting individually? It may seem surprising, but even with those numbers, strangers from across cities can synch up on the same schedules, use the same doors, take one leg of the trip together every day before separating into different directions. After just a few months, faces can become familiar, and senses can be tuned. An experienced commuter can tell where another person is going according to their pace and whatever announcement just went out; they may slow up a bit to let the other person pass, or hold a door open just a bit longer than usual, certain that someone will grab the handle behind them. Many regulars don't need to check the schedule board; they sense whether a train is running late or whether a track has changed simply by the movement of the crowd.

And then the customs develop: Which side to walk on, how fast to go, where to stand, how much space to leave between people on the escalator. When you board early, which seat should you take? When you see someone running for the train, do you jam the closing door with your foot? How does the crowd treat people who ask for food or money? What's the risk level in telling someone to be quiet?

Very few of these behaviors are taught. None are written down. But the transit hub, that pocket of constant flow, is an echo of its society. It takes on some aspects of the city and country around it, but its people also form an informal group of their own. Sociologists, as you will learn, may study these people. Sociologists may seek to understand how they feel about their trip, be it proud or annoyed or just plain exhausted. Sociologists might study how length of commute relates to job satisfaction or family relationships. They may study the ways that conditions of a train station affect attitudes about government, or how the difficulty of commuting may lead people to relocate. This understanding isn't just a collection of interesting facts; it can influence government policy and spending decisions, employer interventions, and healthcare practices. The work sociologists do to understand our society, and the work you will do in learning about it, is meaningful to our lives and our futures.

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1.2: What Is Sociology?

Learning Objectives

By the end of this section, you should be able to:

- Explain concepts central to sociology.
- Describe how different sociological perspectives have developed.

What Are Society and Culture?



Figure 1.2: Sociologists learn about society while studying one-to-one and group interactions. (Credit: GlacierNPS/Flickr)

Sociology is the scientific and systematic study of groups and group interactions, societies and social interactions, from small and personal groups to very large groups. A group of people who live in a defined geographic area, who interact with one another, and who share a common culture is what sociologists call a society.

Sociologists study all aspects and levels of society. Sociologists working from the micro-level study small groups and individual interactions, while those using macro-level analysis look at trends among and between large groups and societies. For example, a micro-level study might look at the accepted rules of conversation in various groups such as among teenagers or business professionals. In contrast, a macro-level analysis might research the ways that language use has changed over time or in social media outlets.

The term culture refers to the group's shared practices, values, and beliefs. Culture encompasses a group's way of life, from routine, everyday interactions to the most important parts of group members' lives. It includes everything produced by a society, including all the social rules.

Sociologists often study culture using the sociological imagination, which pioneer sociologist C. Wright Mills described as an awareness of the relationship between a person's behavior and experience and the wider culture that shaped the person's choices and perceptions. It's a way of seeing our own and other people's behavior in relationship to history and social structure (1959). One illustration of this is a person's decision to marry. In the United States, this choice is heavily influenced by individual feelings. However, the social acceptability of marriage relative to the person's circumstances also plays a part.

Remember, though, that culture is a product of the people in a society. Sociologists take care not to treat the concept of "culture" as though it were alive and real. The error of treating an abstract concept as though it has a real, material existence is known as reification (Sahn, 2013).

Studying Patterns: How Sociologists View Society

All sociologists are interested in the experiences of individuals and how those experiences are shaped by interactions with social groups and society. To a sociologist, the personal decisions an individual makes do not exist in a vacuum. Cultural patterns, social forces and influences put pressure on people to select one choice over another. Sociologists try to identify these general patterns by examining the behavior of large groups of people living in the same society and experiencing the same societal pressures.

Consider the changes in U.S. families. The “typical” family in past decades consisted of married parents living in a home with their unmarried children. Today, the percent of unmarried couples, same-sex couples, single-parent and single-adult households is increasing, as well as is the number of expanded households, in which extended family members such as grandparents, cousins, or adult children live together in the family home. While 15 million mothers still make up the majority of single parents, 3.5 million fathers are also raising their children alone (U.S. Census Bureau, 2020). Increasingly, single people and cohabitating couples are choosing to raise children outside of marriage through surrogates or adoption.

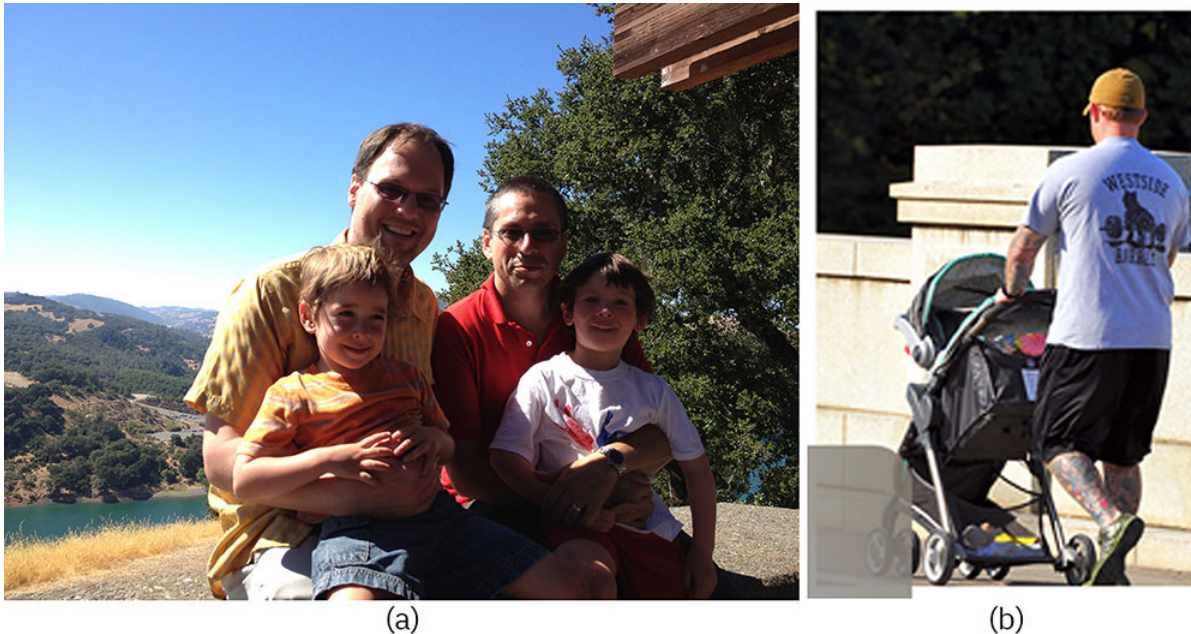


Figure 1.3: Modern U.S. families may be very different in makeup from what was historically typical. (Credit A: Paul Brody/flickr; B: Tony Alter/Wikimedia Commons)

Some sociologists study social facts—the laws, morals, values, religious beliefs, customs, fashions, rituals, and cultural rules that govern social life—that may contribute to these changes in the family. Do people in the United States view marriage and family differently over the years? Do they view them differently than Peruvians? Do employment and economic conditions play a role in families? Other sociologists are studying the consequences of these new patterns, such as the ways children influence and are influenced by them and/or the changing needs for education, housing, and healthcare.

Sociologists identify and study patterns related to all kinds of contemporary social issues. The “Stop and Frisk” policy, the emergence of new political factions, how Twitter influences everyday communication—these are all examples of topics that sociologists might explore.

Studying Part and Whole: How Sociologists View Social Structures

A key component of the sociological perspective is the idea that the individual and society are inseparable. It is impossible to study one without the other. German sociologist Norbert Elias called the process of simultaneously analyzing the behavior of individuals and the society that shapes that behavior *figuration*.

Consider religion. While people experience religion in a distinctly individual manner, religion exists in a larger social context as a social institution. For instance, an individual’s religious practice may be influenced by what government dictates, holidays, teachers, places of worship, rituals, and so on. These influences underscore the important relationship between individual practices of religion and social pressures that influence that religious experience (Elias, 1978). In simpler terms, *figuration* means that as one analyzes the social institutions in a society, the individuals using that institution in any fashion need to be ‘figured’ in to the analysis.

Sociology in the Real World: Individual-Society Connections

When sociologist Nathan Kierns spoke to his friend Ashley (a pseudonym) about the move she and her partner had made from an urban center to a small Midwestern town, he was curious about how the social pressures placed on a lesbian couple differed from one community to the other. Ashley said that in the city they had been accustomed to getting looks and hearing comments when she and her partner walked hand in hand. Otherwise, she felt that they were at least being tolerated. There had been little to no outright discrimination.

Things changed when they moved to the small town for her partner's job. For the first time, Ashley found herself experiencing direct discrimination because of her sexual orientation. Some of it was particularly hurtful. Landlords would not rent to them. Ashley, who is a highly trained professional, had a great deal of difficulty finding a new job.

When Nathan asked Ashley if she and her partner became discouraged or bitter about this new situation, Ashley said that rather than letting it get to them, they decided to do something about it. Ashley approached groups at a local college and several churches in the area. Together they decided to form the town's first Gay-Straight Alliance.

The alliance has worked successfully to educate their community about same-sex couples. It also worked to raise awareness about the kinds of discrimination that Ashley and her partner experienced in the town and how those could be eliminated. The alliance has become a strong advocacy group, and it is working to attain equal rights for lesbian, gay, bisexual, and transgender, or LGBTQ individuals.

Kierns observed that this is an excellent example of how negative social forces can result in a positive response from individuals to bring about social change (Kierns, 2011).

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1.3: The History of Sociology

Learning Objectives

By the end of this section, you should be able to:

- Explain why sociology emerged when it did
- Describe how sociology became a separate academic discipline



Figure 1.4: People have been thinking like sociologists long before sociology became a distinct academic discipline: Plato and Aristotle, Confucius, Khaldun, Voltaire, and Mary Wollenscraft set the stage for modern sociology. (Credit: A, B, C, and E Wikimedia Commons; D: publicdomainfiles.com.)

For millennia, people have been fascinated by the relationships between individuals and societies. Many topics studied by ancient philosophers in their desire to describe an ideal society are still studied in modern sociology, including theories of social conflict, economics, social cohesion, and power in a continued attempt to describe an ideal society (Hannoum, 2003). Although we are more familiar with western philosophers like Plato and his student, Aristotle, eastern philosophers also thought about social issues.

Until recently, we have very few texts that are non-religious in nature that theorize about social life. From 4th century through the 19th century, the Catholic Church was the seat of power from today's Turkey in the east to western and northern Europe, including the British Isles. Only monks who were charged with rewriting holy texts by hand and the aristocracy were literate. Moreover, the Church consolidated power. In the year 800, Pope Leo III named Charlemagne, the king of Francia (today's France, Belgium, Netherlands and Germany) emperor of the Holy Roman Empire, giving one individual control over most of Europe. Doing so gave the Catholic Church the power to maintain its own traditions safeguard them from the influence of people practicing other religions. If any social patterns challenged any belief of the Church, those practitioners were massacred, burned at the stake, or labeled heretics. As a result, the records that we have are extremely subjective and do not offer an unbiased view of social practice.

In the 13th century, Ma Tuan-Lin, a Chinese historian, was the first to record, in his seminal encyclopedia titled *General Study of Literary Remains*, the social dynamics underlying and generating historical development.

In the 14th century, the Tunisian historian Ibn Khaldun (1332–1406) set the foundation for both modern sociology and economics. Khaldun proposed a theory of social conflict and provided a comparison of nomadic and sedentary life, an analysis of political economy, and a study connecting a tribe's social cohesion to its capacity for power (Hannoum, 2003). Khaldun often challenged authorities. As sociologists continue to study and report on social issues and problems, they often find themselves in the center of controversy.

From 1347 to 1522, the bubonic plague ravaged Europe, killing up to 35% of population (Armstrong, 2019). The plague dealt a major blow to the credibility of the Catholic Church. Out of this chaos emerged the work of Copernicus, Galileo, Leonardo, Newton, Linnaeus, and other philosophers whose work sometimes contradicted church teachings. Events once held to be the product of the divine hand could be analyzed by human reason and observation and could be explained by scientific, testable, and retestable hypotheses. As literacy spread through conquests and colonization, more records and literature became available for sociologists and historians to put social puzzles together.

In the 18th century, Enlightenment philosophers developed general principles that could be used to explain social life. Thinkers such as John Locke, François-Marie Arouet (Voltaire), Immanuel Kant, and Thomas Hobbes responded to what they saw as social ills by writing on topics that they hoped would lead to social reform. Mary Wollstonecraft (1759–1797) wrote about women's

conditions in society. Like Harriet Martineau and Jane Addams, her works were long ignored by the male academic structure, but since the 1970s, Wollstonecraft has been widely considered the first feminist thinker of consequence. Ideas about economic systems, the family, health and hygiene, national offense and defense, were among the many concerns of social life.

The early 19th century saw great changes with the Industrial Revolution, increased mobility, and new kinds of employment. It was also a period of increased trade, travel, and globalization that exposed many people — for the first time—to societies and cultures other than their own. Millions of people moved into cities and many people turned away from their traditional religious beliefs. Ideas spread rapidly, groups were created, political decisions became public decisions. Among a new generation of philosophers, there were some who believed they could make sense of it all.

Creating a Discipline: European Theorists



Figure 1.5: Early major European theorists. Top row, left to right: Auguste Comte, Harriet Martineau, and Herbert Spencer. Bottom row, left to right: Georg Simmel, Émile Durkheim, and Max Weber. (Credit: Wikimedia Commons; Julius Cornelius Schaarwächter/Public domain.)

Auguste Comte (1798 – 1857)

The term sociology was first coined in 1780 by the French essayist Emmanuel-Joseph Sieyès (1748–1836) in an unpublished manuscript (Fauré et al. 1999). In 1838, the term was reintroduced by Auguste Comte (1798–1857). Comte originally studied to be an engineer, but later became a pupil of social philosopher Claude Henri de Rouvroy Comte de Saint-Simon (1760–1825). They both thought that social scientists could study society using the same scientific methods utilized in natural sciences. Comte also

believed in the potential of social scientists to work toward the betterment of society. He held that once scholars identified the laws that governed society, sociologists could address problems such as poor education and poverty (Abercrombie et al. 2000).

Comte named the scientific study of social patterns positivism. He described his philosophy in a series of books called *The Course in Positive Philosophy* (1830–1842) and *A General View of Positivism* (1848). He believed that revealing the laws by which societies and individuals interact would usher in a new “positivist” age of history. While the field and its terminology have grown, sociologists still believe in the positive impact of their work.

Harriet Martineau (1802 – 1876)

Harriet Martineau introduced sociology to English speaking scholars through her translation of Comte’s writing from French to English. She was an early analyst of social practices, including economics, social class, religion, suicide, government, and women’s rights. Her career began with *Illustrations of Political Economy*, a work educating ordinary people about the principles of economics (Johnson, 2003). She later developed the first systematic methodological international comparisons of social institutions in two of her most famous sociological works: *Society in America* (1837) and *Retrospect of Western Travel* (1838).

Martineau found the workings of capitalism at odds with the professed moral principles of people in the United States. She pointed out the faults with the free enterprise system in which workers were exploited and impoverished while business owners became wealthy. She further noted that the belief that all are created equal was inconsistent with the lack of women’s rights. Much like Mary Wollstonecraft, Martineau was often discounted in her own time because academic sociology was a male-dominated profession.

Karl Marx (1818-1883)

Karl Marx was a German philosopher and economist. In 1848, he and Friedrich Engels (1820–1895) coauthored the *Communist Manifesto*. This book is one of the most influential political manuscripts in history. It also presents Marx’s theory of society, which differed from what Comte proposed.

Marx rejected Comte’s positivism. He believed that societies grew and changed as a result of the struggles of different social classes over the means of production. At the time he was developing his theories, the Industrial Revolution and the rise of capitalism led to great disparities in wealth between the owners of the factories and workers. Capitalism, an economic system characterized by private or corporate ownership of goods and the means to produce them, had developed in many nations.

Marx predicted that inequalities of capitalism would become so extreme that workers would eventually revolt. This would lead to the collapse of capitalism, which would be replaced by communism. Communism is an economic system under which there is no private or corporate ownership: everything is owned communally and distributed as needed. Marx believed that communism was a more equitable system than capitalism.

While his economic predictions did not materialize in the time frame he predicted, Marx’s idea that social conflict leads to change in society is still one of the major theories used in modern sociology.

Herbert Spencer (1820–1903)

In 1873, the English philosopher Herbert Spencer published *The Study of Sociology*, the first book with the term “sociology” in the title. Spencer rejected much of Comte’s philosophy as well as Marx’s theory of class struggle and his support of communism. Instead, he favored a form of government that allowed market forces to control capitalism. His work influenced many early sociologists including Émile Durkheim (1858–1917). Spencer, using Charles Darwin’s work as a comparison said, “This survival of the fittest, which I have here sought to express in mechanical terms, is that which Mr. Darwin has called ‘natural selection,’ or the preservation of favoured races in the struggle for life.” (Spencer, 1864) The statement is often misinterpreted and adopted by those who believe in the superiority of one race over another.

Georg Simmel (1858–1918)

Georg Simmel was a German art critic who wrote widely on social and political issues as well. Simmel took an anti-positivism stance and addressed topics such as social conflict, the function of money, individual identity in city life, and the European fear of outsiders (Stapley 2010). Much of his work focused on micro-level theories and analyzed the dynamics of two-person and three-person groups. His work also emphasized individual culture as the creative capacities of individuals (Ritzer and Goodman 2004).

Émile Durkheim (1858–1917)

Émile Durkheim helped establish sociology as a formal academic discipline by establishing the first European department of sociology at the University of Bordeaux in 1895 and by publishing his *Rules of the Sociological Method* in 1895. In *Division of Labour in Society* (1893), Durkheim further laid out his theory on how societies transformed from a primitive state into a capitalist, industrial society. According to Durkheim, people rise to their proper levels in society based on merit.

Durkheim believed that sociologists could study objective social facts (Poggi, 2000). He also believed that through such studies it would be possible to determine if a society was “healthy” or “pathological.” Healthy societies were stable while pathological societies experienced a breakdown in social norms.

In 1897, Durkheim attempted to demonstrate the effectiveness of his rules of social research when he published a work titled *Suicide*. Durkheim examined suicide statistics in different police districts to research differences between Catholic and Protestant communities. He attributed the differences to socio-religious forces rather than to individual or psychological causes.

Max Weber (1864–1920)

Prominent sociologist Max Weber established a sociology department in Germany at the Ludwig Maximilians University of Munich in 1919. Weber wrote on many topics related to sociology including political change in Russia and social forces that affect factory workers. He is known best for his 1904 book, *The Protestant Ethic and the Spirit of Capitalism*. The theory that Weber sets forth in this book is still controversial. Some believe that Weber argued that the beliefs of many Protestants, especially Calvinists, led to the rise of capitalism. Others interpret it as simply claiming that the ideologies of capitalism and Protestantism are complementary.

Weber believed that it was difficult, if not impossible, to use standard scientific methods to accurately predict the behavior of groups as some sociologists hoped to do. Weber argued that the influence of culture on human behavior had to be taken into account. This even applied to the researchers themselves, who should be aware of how their own cultural biases could influence their research. To deal with this problem, Weber and Wilhelm Dilthey introduced the concept of *verstehen*, a German word that means to understand in a deep way. In seeking *verstehen*, outside observers of a social world—an entire culture or a small setting—attempt to understand it from an insider’s point of view.

In *The Nature of Social Action*, Weber described sociology as striving to “... interpret the meaning of social action and thereby give a causal explanation of the way in which action proceeds and the effects it produces.” He and other like-minded sociologists proposed a philosophy of anti-positivism whereby social researchers would strive for subjectivity as they worked to represent social processes, cultural norms, and societal values. This approach led to some research methods whose aim was not to generalize or predict (traditional in science), but to systematically gain an in-depth understanding of social worlds.

The different approaches to research based on positivism or anti-positivism are often considered the foundation for the differences found today between quantitative sociology and qualitative sociology. Quantitative sociology uses statistical methods such as surveys with large numbers of participants. Researchers analyze data using statistical techniques to see if they can uncover patterns of human behavior. Qualitative sociology seeks to understand human behavior by learning about it through in-depth interviews, focus groups, and analysis of content sources (like books, magazines, journals, and popular media).

Social Policy and Debate: Should We Raise the Minimum Wage?

During his hard-fought 2020 campaign, President Joe Biden promised Americans that he would raise the federal minimum wage. Opponents of raising the minimum wage argue that some workers would get larger paychecks while others would lose their jobs, and companies would be less likely to hire new workers because of the increased cost of paying them. Biden and other proponents of raising the minimum wage contend that some job loss would be greatly offset by the positive effects on the standard of living of low-wage workers and reducing the income gap between the rich and poor.

Sociologists may consider the minimum wage issue from differing perspectives as well. How much of an impact would a minimum wage raise have for a single mother? Some might study the economic effects, such as her ability to pay bills and keep food on the table. Others might look at how reduced economic stress could improve family relationships. Some sociologists might research the impact on the status of small business owners. These could all be examples of public sociology, a branch of sociology that strives to bring sociological dialogue to public forums. The goals of public sociology are to increase understanding of the social factors that underlie social problems and assist in finding solutions. According to Michael Burawoy (2005), the challenge of public sociology is to engage multiple publics in multiple ways.

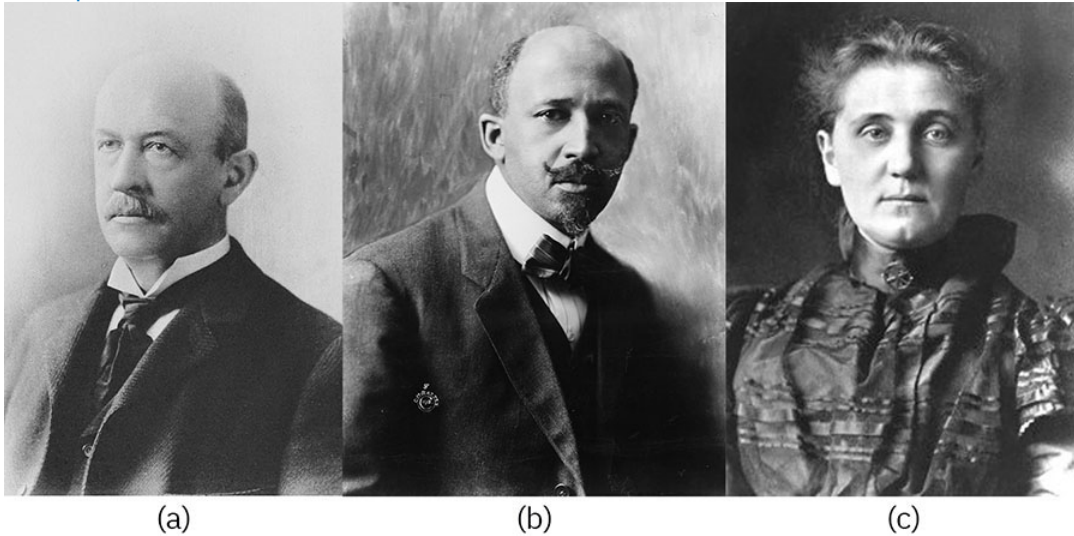


Figure 1.6: From left to right, William Sumner, W.E.B. Du Bois, and Jane Addams. (Credit A, B, and C: Wikimedia Commons.)

In the early 1900s, sociology reached universities in the United States. William Sumner held the first professorship in sociology (Yale University), Franklin Giddings was the first full professor of Sociology (Columbia University), and Albion Small wrote the first sociology textbook. Early American sociologists tested and applied the theories of the Europeans and became leaders in social research. Lester Ward (1841 – 1913) developed social research methods and argued for the use of the scientific method and quantitative data (Chapter 2) to show the effectiveness of policies. In order for sociology to gain respectability in American academia, social researchers understood that they must adopt empirical approaches.

W.E.B. Du Bois (1868-1963)

William Edward Burghardt (W.E.B.) Du Bois, a Harvard-trained historian, pioneered the use of rigorous empirical methodology into sociology. His groundbreaking 1896-1897 study of the African American community in Philadelphia incorporated hundreds of interviews Du Bois conducted in order to document the familial and employment structures and assess the chief challenges of the community. These new, comprehensive research methods stood in stark contrast to the less scientific practices of the time, which Du Bois critiqued as being similar to doing research as if through the window of a moving car. His scientific approach became highly influential to entire schools of sociological study, and is considered a forerunner to contemporary practices. Additionally, Du Bois' 1899 publication provided empirical evidence to challenge pseudoscientific ideas of biological racism (Morris, 2015; Green & Wortham, 2018), which had been used as justification to oppress people of different races.

Du Bois also played a prominent role in the effort to increase rights for Black people. Concerned at the slow pace of progress and advice from some Black leaders to be more accommodating of racism, Du Bois became a leader in what would later be known as the Niagara Movement. In 1905, he and others drafted a declaration that called for immediate political, economic, and social equality for African Americans. A few years later, he helped found the National Association for the Advancement of Colored People (NAACP) and served as its director of publications.

Thorstein Veblen (1857 – 1929)

After a brief stint as an unemployed college graduate, Thorstein Veblen began to study the economy through a social lens, writing about the leisure class, the business class, and other areas that touched on the idea of 'working' itself. He researched the chronically unemployed, the currently unemployed, the working classes, and the impact of technology and business within society. Veblen is known as a co-founder of the branch (or school) of institutional economics.

Jane Addams (1860-1935)

Jane Addams founded *Hull House*, a center that served needy immigrants through social and educational programs while providing extensive opportunities for sociological research. Founded in Chicago, Addams worked closely with University of Chicago's Chicago School of Sociology. This school of thought places much importance on environment in which relationships and behaviors develop. Research conducted at Hull House informed child labor, immigration, health care, and other areas of public policy.

Charles Horton Cooley (1864-1929)

Charles Horton Cooley posited that individuals compare themselves to others in order to check themselves against social standards and remain part of the group. Calling this idea ‘the looking-glass self,’ Cooley argued that we ‘see’ ourselves by the reactions of others with whom we interact. If someone reacts positively to our behavior, theoretically we will continue that behavior. He wrote substantially on what he saw as the order of life in *Human Nature and the Social Order* (1902) followed by *Social Organization* in 1909. He was very concerned with the increasing individualism and competitiveness of US society, fearing it would disrupt families as primary groups lost their importance.

George Herbert Mead (1863–1931)

George Herbert Mead was a philosopher and sociologist whose work focused on the ways in which the mind and the self were developed as a result of social processes (Cronk, n.d.). He argued that how an individual comes to view himself or herself is based to a very large extent on interactions with others. Though Mead adopted Cooley’s concept of ‘looking-glasses,’ Mead felt that an individual’s reaction to a positive or negative reflection depended on who the ‘other’ was. Individuals that had the greatest impact on a person’s life were significant others while generalized others were the organized and generalized attitude of a social group. Mead often shares the title of father of symbolic interactionism with Cooley and Erving Goffman.

Robert E. Park (1864-1944)

Robert E. Park is best known as the founder of social ecology. Attached to the Chicago School, Park focused on how individuals lived within their environment. One of the first sociologists to focus on ethnic minorities, he wrote on the Belgian oppression of the Congolese. When he returned to the US, he and Ernest Burgess researched the inner city to show that no matter who lived there, social chaos was prevalent. As such, it was not the residents who caused the chaos but the environment.

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1.4: Theoretical Perspectives

Learning Objectives

By the end of this section you should be able to:

- Describe the ways that sociological theories are used to explain social institutions.
- Differentiate between functionalism, conflict theory, and symbolic interactionism.



Figure 1.7: Sociologists develop theories to explain social occurrences such as protest rallies. (Credit: David Shankbone/flickr)

Sociologists study social events, interactions, and patterns, and they develop theories to explain why things work as they do. In sociology, a theory is a way to explain different aspects of social interactions and to create a testable proposition, called a hypothesis, about society (Allan 2006).

For example, although suicide is generally considered an individual phenomenon, Émile Durkheim was interested in studying the social factors that affect it. He studied social solidarity, social ties within a group, and hypothesized that differences in suicide rates might be explained by religious differences. Durkheim gathered a large amount of data about Europeans and found that Protestants were more likely to commit suicide than Catholics. His work supports the utility of theory in sociological research.

Theories vary in scope depending on the scale of the issues that they are meant to explain. Macro-level theories relate to large-scale issues and large groups of people, while micro-level theories look at very specific relationships between individuals or small groups. Grand theories attempt to explain large-scale relationships and answer fundamental questions such as why societies form and why they change. Sociological theory is constantly evolving and should never be considered complete. Classic sociological theories are still considered important and current, but new sociological theories build upon the work of their predecessors and add to them (Calhoun, 2002).

In sociology, a few theories provide broad perspectives that help explain many different aspects of social life, and these are called paradigms. Paradigms are philosophical and theoretical frameworks used within a discipline to formulate theories, generalizations, and the experiments performed in support of them. Three paradigms have come to dominate sociological thinking because they provide useful explanations: structural functionalism, conflict theory, and symbolic interactionism.

Table 1.1 Sociological Theories or Perspectives: Different sociological perspectives enable sociologists to view social issues through a variety of useful lenses.

Sociological Theories/Paradigms	Level of Analysis	Focus	Analogies	Questions that might be asked
Structural Functionalism	Macro or Mid	The way each part of society functions together to contribute to the functioning of the whole.	How each organ works to keep your body healthy (or not.)	How does education work to transmit culture?
Conflict Theory	Macro	The way inequities and inequalities contribute to social, political, and power differences and how they perpetuate power.	The ones with the most toys wins and they will change the rules to the games to keep winning.	Does education transmit only the values of the most dominant groups?
Symbolic Interactionism	Micro	The way one-on-one interactions and communications behave.	What's it mean to be an X?	How do students react to cultural messages in school?

Functionalism

Functionalism, also called structural-functional theory, sees society as a structure with interrelated parts designed to meet the biological and social needs of the individuals in that society. Functionalism grew out of the writings of English philosopher and biologist, Herbert Spencer, who saw similarities between society and the human body. He argued that just as the various organs of the body work together to keep the body functioning, the various parts of society work together to keep society functioning (Spencer, 1898). The parts of society that Spencer referred to were the social institutions, or patterns of beliefs and behaviors focused on meeting social needs, such as government, education, family, healthcare, religion, and the economy.

Émile Durkheim applied Spencer's theory to explain how societies change and survive over time. Durkheim believed that society is a complex system of interrelated and interdependent parts that work together to maintain stability (Durkheim, 1893), and that society is held together by shared values, languages, and symbols. He believed that to study society, a sociologist must look beyond individuals to social facts such as laws, morals, values, religious beliefs, customs, fashion, and rituals, which all serve to govern social life (Durkheim, 1895). Alfred Radcliff-Brown (1881–1955) defined the function of any recurrent activity as the part it played in social life as a whole, and therefore the contribution it makes to social stability and continuity (Radcliff-Brown 1952). In a healthy society, all parts work together to maintain stability, a state called dynamic equilibrium by later sociologists such as Parsons (1961).

Durkheim believed that individuals may make up society, but in order to study society, sociologists have to look beyond individuals to social facts. . Each of these social facts serves one or more functions within a society. For example, one function of a society's laws may be to protect society from violence, while another is to punish criminal behavior, while another is to preserve public health.

Another noted structural functionalist, Robert Merton (1910–2003), pointed out that social processes often have many functions. Manifest functions are the consequences of a social process that are sought or anticipated, while latent functions are the unsought consequences of a social process. A manifest function of a college education, for example, includes gaining knowledge, preparing for a career, and finding a good job that utilizes that education. Latent functions of your college years include meeting new people, participating in extracurricular activities, or even finding a spouse or partner. Another latent function of education is creating a hierarchy of employment based on the level of education attained. Latent functions can be beneficial, neutral, or harmful. Social processes that have undesirable consequences for the operation of society are called dysfunctions. In education, examples of dysfunction include getting bad grades, truancy, dropping out, not graduating, and not finding suitable employment.

Criticism

One criticism of the structural-functional theory is that it can't adequately explain social change even though the functions are processes. Also problematic is the somewhat circular nature of this theory: repetitive behavior patterns are assumed to have a function, yet we profess to know that they have a function only because they are repeated. Furthermore, dysfunctions may

continue, even though they don't serve a function, which seemingly contradicts the basic premise of the theory. Many sociologists now believe that functionalism is no longer useful as a macro-level theory, but that it does serve a useful purpose in some mid-level analyses.

Big Picture: A Global Culture?



Figure 1.8: Some sociologists see the online world contributing to the creation of an emerging global culture. Are you a part of any global communities? This Indiana rabbi is participating in what was recognized as the longest Zoom meeting, which started in Australia after the Sabbath and proceeded through each of the world's time zones, effectively lasting much longer than a day. (Credit: Chabad Lubavitch/flickr)

Sociologists around the world look closely for signs of what would be an unprecedented event: the emergence of a global culture. In the past, empires such as those that existed in China, Europe, Africa, and Central and South America linked people from many different countries, but those people rarely became part of a common culture. They lived too far from each other, spoke different languages, practiced different religions, and traded few goods. Today, increases in communication, travel, and trade have made the world a much smaller place. More and more people are able to communicate with each other instantly—wherever they are located—by telephone, video, and text. They share movies, television shows, music, games, and information over the Internet. Students can study with teachers and pupils from the other side of the globe. Governments find it harder to hide conditions inside their countries from the rest of the world.

Sociologists research many different aspects of this potential global culture. Some explore the dynamics involved in the social interactions of global online communities, such as when members feel a closer kinship to other group members than to people residing in their own countries. Other sociologists study the impact this growing international culture has on smaller, less-powerful local cultures. Yet other researchers explore how international markets and the outsourcing of labor impact social inequalities. Sociology can play a key role in people's abilities to understand the nature of this emerging global culture and how to respond to it.

Conflict Theory

Conflict theory looks at society as a competition for limited resources. This perspective is a macro-level approach most identified with the writings of German philosopher and economist Karl Marx, who saw society as being made up of individuals in different social classes who must compete for social, material, and political resources such as food and housing, employment, education, and

leisure time. Social institutions like government, education, and religion reflect this competition in their inherent inequalities and help maintain the unequal social structure. Some individuals and organizations are able to obtain and keep more resources than others, and these “winners” use their power and influence to maintain social institutions. The perpetuation of power results in the perpetuation of oppression.

Several theorists suggested variations on this basic theme like Polish-Austrian sociologist Ludwig Gumpлович (1838–1909) who expanded on Marx’s ideas by arguing that war and conquest are the bases of civilizations. He believed that cultural and ethnic conflicts led to states being identified and defined by a dominant group that had power over other groups (Irving, 2007).

German sociologist Max Weber (1864–1920) agreed with Marx but also believed that, in addition to economic inequalities, inequalities of political power and social structure cause conflict. Weber noted that different groups were affected differently based on education, race, and gender, and that people’s reactions to inequality were moderated by class differences and rates of social mobility, as well as by perceptions about the legitimacy of those in power. A reader of Marx, Georg Simmel believed that conflict can help integrate and stabilize a society. He said that the intensity of the conflict varies depending on the emotional involvement of the parties, the degree of solidarity within the opposing groups, and the clarity and limited nature of the goals. Simmel also showed that groups work to create internal solidarity, centralize power, and reduce dissent. The stronger the bond, the weaker the discord. Resolving conflicts can reduce tension and hostility and can pave the way for future agreements.

In the 1930s and 1940s, German philosophers, known as the Frankfurt School, developed critical theory as an elaboration on Marxist principles. Critical theory is an expansion of conflict theory and is broader than just sociology, incorporating other social sciences and philosophy. A critical theory is a holistic theory and attempts to address structural issues causing inequality. It must explain what’s wrong in current social reality, identify the people who can make changes, and provide practical goals for social transformation (Horkheimer, 1982).

More recently, inequality based on gender or race has been explained in a similar manner and has identified institutionalized power structures that help to maintain inequality between groups. Janet Saltzman Chafetz (1941–2006) presented a model of feminist theory that attempts to explain the forces that maintain gender inequality as well as a theory of how such a system can be changed (Turner, 2003). Similarly, critical race theory grew out of a critical analysis of race and racism from a legal point of view. Critical race theory looks at structural inequality based on white privilege and associated wealth, power, and prestige.

Sociology in the Real World: Farming and Locavores: How Sociological Perspectives Might View Food Consumption

The consumption of food is a commonplace, daily occurrence. Yet, it can also be associated with important moments in our lives. Eating can be an individual or a group action, and eating habits and customs are influenced by our cultures. In the context of society, our nation’s food system is at the core of numerous social movements, political issues, and economic debates. Any of these factors might become a topic of sociological study.

A structural-functional approach to the topic of food consumption might analyze the role of the agriculture industry within the nation’s economy and how this has changed from the early days of manual-labor farming to modern mechanized production. Another might study the different functions of processes in food production, from farming and harvesting to flashy packaging and mass consumerism.

A conflict theorist might be interested in the power differentials present in the regulation of food, by exploring where people’s right to information intersects with corporations’ drive for profit and how the government mediates those interests. Or a conflict theorist might examine the power and powerlessness experienced by local farmers versus large farming conglomerates, such as the documentary *Food Inc.*, which depicts as resulting from Monsanto’s patenting of seed technology. Another topic of study might be how nutrition varies between different social classes.

A sociologist viewing food consumption through a symbolic interactionist lens would be more interested in microlevel topics, such as the symbolic use of food in religious rituals, or the role it plays in the social interaction of a family dinner. This perspective might also explore the interactions among group members who identify themselves based on their sharing a particular diet, such as vegetarians (people who don’t eat meat) or locavores (people who strive to eat locally produced food).

Criticism

Just as structural functionalism was criticized for focusing too much on the stability of societies, conflict theory has been criticized because it tends to focus on conflict to the exclusion of recognizing stability. Many social structures are extremely stable or have

gradually progressed over time rather than changing abruptly as conflict theory would suggest.

Symbolic Interactionist Theory

Symbolic interactionism is a micro-level theory that focuses on the relationships among individuals within a society. Communication—the exchange of meaning through language and symbols—is believed to be the way in which people make sense of their social worlds. Theorists Herman and Reynolds (1994) note that this perspective sees people as being active in shaping the social world rather than simply being acted upon.

George Herbert Mead is considered a founder of symbolic interactionism though he never published his work on it (LaRossa and Reitzes, 1993). Mead's student, Herbert Blumer (1900-1987), coined the term “symbolic interactionism” and outlined these basic premises: humans interact with things based on meanings ascribed to those things; the ascribed meaning of things comes from our interactions with others and society; the meanings of things are interpreted by a person when dealing with things in specific circumstances (Blumer 1969). If you love books, for example, a symbolic interactionist might propose that you learned that books are good or important in the interactions you had with family, friends, school, or church. Maybe your family had a special reading time each week, getting your library card was treated as a special event, or bedtime stories were associated with warmth and comfort.

Social scientists who apply symbolic-interactionist thinking look for patterns of interaction between individuals. Their studies often involve observation of one-on-one interactions. For example, while a conflict theorist studying a political protest might focus on class difference, a symbolic interactionist would be more interested in how individuals in the protesting group interact, as well as the signs and symbols protesters use to communicate their message.

The focus on the importance of symbols in building a society led sociologists like Erving Goffman (1922-1982) to develop a technique called dramaturgical analysis. Goffman used theater as an analogy for social interaction and recognized that people's interactions showed patterns of cultural “scripts.” He argued that individuals were actors in a play. We switched roles, sometimes minute to minute—for example, from student or daughter to dog walker. Because it can be unclear what part a person may play in a given situation, he or she has to improvise his or her role as the situation unfolds (Goffman, 1958).

Studies that use the symbolic interactionist perspective are more likely to use qualitative research methods, such as in-depth interviews or participant observation, because they seek to understand the symbolic worlds in which research subjects live.

Constructivism is an extension of symbolic interaction theory which proposes that reality is what humans cognitively construct it to be. We develop social constructs based on interactions with others, and those constructs that last over time are those that have meanings which are widely agreed-upon or generally accepted by most within the society. This approach is often used to examine what's defined as deviant within a society. There is no absolute definition of deviance, and different societies have constructed different meanings for deviance, as well as associating different behaviors with deviance.

One situation that illustrates this is what you believe you're to do if you find a wallet in the street. In the United States, turning the wallet in to local authorities would be considered the appropriate action, and to keep the wallet would be seen as deviant. In contrast, many Eastern societies would consider it much more appropriate to keep the wallet and search for the owner yourself. Turning it over to someone else, even the authorities, would be considered deviant behavior.

Criticism

Research done from this perspective is often scrutinized because of the difficulty of remaining objective. Others criticize the extremely narrow focus on symbolic interaction. Proponents, of course, consider this one of its greatest strengths.

Sociological Theory Today

These three approaches still provide the main foundation of modern sociological theory though they have evolved. Structural-functionalism was a dominant force after World War II and until the 1960s and 1970s. At that time, sociologists began to feel that structural-functionalism did not sufficiently explain the rapid social changes happening in the United States at that time. The women's movement and the Civil Rights movement forced academics to develop approaches to study these emerging social practices.

Conflict theory then gained prominence, with its emphasis on institutionalized social inequality. Critical theory, and the particular aspects of feminist theory and critical race theory, focused on creating social change through the application of sociological principles. The field saw a renewed emphasis on helping ordinary people understand sociology principles, in the form of public sociology.

Gaining prominence in the wake of Mead's work in the 1920s and 1930s, symbolic interactionism declined in influence during the 1960s and 1970s only to be revitalized at the turn of the twenty-first century (Stryker, 1987). Postmodern social theory developed in the 1980s to look at society through an entirely new lens by rejecting previous macro-level attempts to explain social phenomena. Its growth in popularity coincides with the rise of constructivist views of symbolic interactionism.

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1.4.1: Sociological Imagination

Social Structure and the Sociological Imagination

One way sociology achieves a more complete understanding of social reality is through its focus on the importance of the social forces affecting our behavior, attitudes, and life chances. This focus involves an emphasis on social structure, the social patterns through which a society is organized. Social structure can be both horizontal or vertical. Horizontal social structure refers to the social relationships and the social and physical characteristics of communities to which individuals belong. Some people belong to many networks of social relationships, including groups like the PTA and the Boy or Girl Scouts, while other people have fewer such networks. Some people grew up on streets where the houses were crowded together, while other people grew up in areas where the homes were much farther apart. These are examples of the sorts of factors constituting the horizontal social structure that forms such an important part of our social environment and backgrounds.

The other dimension of social structure is vertical. Vertical social structure, more commonly called social inequality, refers to ways in which a society or group ranks people in a hierarchy, with some more “equal” than others. In the United States and most other industrial societies, such things as wealth, power, race and ethnicity, and gender help determine one’s social ranking, or position, in the vertical social structure. Some people are at the top of society, while many more are in the middle or at the bottom. People’s positions in society’s hierarchy in turn often have profound consequences for their attitudes, behaviors, and life chances, both for themselves and for their children.

In recognizing the importance of social structure, sociology stresses that individual problems are often rooted in problems stemming from the horizontal and vertical social structures of society. This key insight informed C. Wright Mills’s (1959) classic distinction between personal troubles and public issues. *Personal troubles* refer to a problem affecting individuals that the affected person, as well as other members of society, typically blame on the individual’s own failings. Examples include such different problems as eating disorders, divorce, and unemployment. *Public issues*, whose source lies in the social structure and culture of a society, refer to a social problem affecting many individuals. Thus problems in society help account for problems that individuals experience. Mills, feeling that many problems ordinarily considered private troubles are best understood as public issues, coined the term sociological imagination to refer to the ability to appreciate the structural basis for individual problems.

To illustrate Mills’s viewpoint, let’s use our sociological imaginations to understand some important contemporary social problems. We will start with unemployment, which Mills himself discussed. If only a few people were unemployed, Mills wrote, we could reasonably explain their unemployment by saying they were lazy, lacked good work habits, and so forth. If so, their unemployment would be their own personal trouble. But when millions of people are out of work, unemployment is best understood as a public issue because, as Mills (1959, p. 9) put it, “the very structure of opportunities has collapsed. Both the correct statement of the problem and the range of possible solutions require us to consider the economic and political institutions of the society, and not merely the personal situation and character of a scatter of individuals.” The growing unemployment rate stemming from the severe economic downturn that began in 2008 provides a telling example of the point Mills was making. Millions of people lost their jobs through no fault of their own. While some individuals are undoubtedly unemployed because they are lazy or lack good work habits, a more structural explanation focusing on lack of opportunity is needed to explain why so many people were out of work as this book went to press. If so, unemployment is best understood as a public issue rather than a personal trouble. The same can be said for the unemployment rate in the second quarter of 2020. According to the Bureau of Labor Statistics (2021), the unemployment rate rose to 13.9 during April, May and June of 2020. Why were so many Americans out of work? Were they just lazy? No, there was a global pandemic which caused many businesses to close during those months of 2020.

Another contemporary problem is crime. If crime were only a personal trouble, then we could blame crime on the moral failings of individuals, and many explanations of crime do precisely this. But such an approach ignores the fact that crime is a public issue, as structural factors such as inequality and the physical characteristics of communities contribute to high crime rates among certain groups in American society. As an illustration, consider identical twins separated at birth. One twin grows up in a wealthy suburb or rural area, while the other twin grows up in a blighted neighborhood in a poor, urban area. Twenty years later, which twin will be more likely to have a criminal record? You probably answered the twin growing up in the poor, run-down urban neighborhood. If so, you recognize that there is something about growing up in that type of neighborhood that increases the chances of a person becoming prone to crime. That “something” is the structural factors just mentioned. Criminal behavior is a public issue, not just a personal trouble.



Figure 1.4.1: Although eating disorders often stem from personal problems, they also may reflect a cultural emphasis for women to have slender bodies. © Thinkstock

A final problem we will consider for now is eating disorders. We usually consider a person's eating disorder to be a personal trouble that stems from a lack of control, low self-esteem, or other personal problem. This explanation may be OK as far as it goes, but it does not help us understand why so many people have the personal problems that lead to eating disorders. Perhaps more important, this belief also neglects the larger social and cultural forces that help explain such disorders. For example, most Americans with eating disorders are women, not men. This gender difference forces us to ask what it is about being a woman in American society that makes eating disorders so much more common. To begin to answer this question, we need to look to the standard of beauty for women that emphasizes a slender body (Whitehead & Kurz, 2008). If this cultural standard did not exist, far fewer American women would suffer from eating disorders than do now. Even if every girl and woman with an eating disorder were cured, others would take their places unless we could somehow change the cultural standard of female slenderness. To the extent this explanation makes sense, eating disorders are best understood as a public issue, not just as a personal trouble.

Picking up on Mills's argument, William Ryan (1976) pointed out that Americans typically blame the victim when they think about the reasons for social problems such as poverty, unemployment, and crime. They feel that these problems stem from personal failings of the people suffering them, not from structural problems in the larger society. Using Mills's terms, Americans tend to think of social problems as personal troubles rather than public issues. They thus subscribe to a blaming the victim ideology rather than to a blaming the system belief.

To help us understand a blaming-the-victim ideology, let's consider why poor children in urban areas often learn very little in their schools. A blaming-the-victim approach, according to Ryan, would say that the children's parents do not care about their learning, fail to teach them good study habits, and do not encourage them to take school seriously. This type of explanation may apply to some parents, in Ryan's opinion, but it ignores a much more important reason: the sad shape of America's urban schools, which are decrepit structures housing old textbooks and out-of-date equipment. To improve the schooling of children in urban areas, he wrote, we must improve the schools themselves, and not just try to "improve" the parents.

As this example suggests, a blaming-the-victim approach points to solutions to social problems such as poverty and illiteracy that are very different from those suggested by a more structural approach that "blames the system." If we blame the victim, we would spend our limited dollars to address the personal failings of individuals who suffer from poverty, illiteracy, poor health, eating disorders, and other difficulties. If instead we blame the system, we would focus our attention on the various social conditions (decrepit schools, cultural standards of female beauty, and the like) that account for these difficulties. A sociological perspective suggests that the latter approach is ultimately needed to help us deal successfully with the social problems facing us today.

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1.5: Why Study Sociology?

Learning Objectives

By the end of this section, you should be able to:

- Explain why it is worthwhile to study sociology.
- Identify ways sociology is applied in the real world.



Figure 1.9: The research of Kenneth and Mamie Clark helped the Supreme Court decide to end “separate but equal” racial segregation in schools in the United States. (Credit: University of Texas)

When Elizabeth Eckford tried to enter Central High School in Little Rock, Arkansas, in September 1957, she was met by an angry crowd and was turned away by authorities. But she knew she had the law on her side. Three years earlier in the landmark *Brown vs. the Board of Education* decision, the U.S. Supreme Court had overturned twenty-one state laws that allowed Black and White people to be taught in separate school systems as long as the school systems were “equal.” The decision was nothing short of momentous, not only for education, but for a number of other segregation and discrimination issues that have lasted into this decade. And in that momentous decision, the Supreme Court cited the research of the husband-and-wife team of social scientists, Kenneth and Mamie Clark, as evidence that segregation generates in minority students a feeling of inferiority. In the ‘doll test,’ for example, the Clarks showed children four dolls, two with white skin and yellow hair and two with brown skin and black hair. When asked which doll they preferred, the majority of Black children chose the doll with the light skin doll, and they assigned positive characteristics to it. Most of the Black children discarded the doll with the brown skin—the one that had a closer resemblance to themselves.

When asked to choose the doll that looked like them, many children left the room, started to cry, and/or became depressed. The Clarks’ research contributed to the Supreme Court’s conclusion that separate but equal was damaging to students, and that separate facilities are unequal.

Sociology and a Better Society

Since it was first founded, many people interested in sociology have been driven by the scholarly desire to contribute knowledge to this field, while others have seen it as way not only to study society but also to improve it. Besides desegregation, sociology has played a crucial role in many important social reforms, such as equal opportunity for women in the workplace, improved treatment for individuals with mental illnesses or learning disabilities, increased accessibility and accommodation for people with physical disabilities, the right of native populations to preserve their land and culture, and prison system reforms.

The predominant American sociologist, the late Peter L. Berger (1929–2017), in his 1963 book, *Invitation to Sociology: A Humanistic Perspective*, describes a sociologist as “someone concerned with understanding society in a disciplined way.” He

asserts that sociologists have a natural interest in the monumental moments of people's lives, as well as a fascination with banal, everyday occurrences. Berger also describes the “aha” moment when a sociological theory becomes applicable and understood:

[T]here is a deceptive simplicity and obviousness about some sociological investigations. One reads them, nods at the familiar scene, remarks that one has heard all this before and don't people have better things to do than to waste their time on truisms—until one is suddenly brought up against an insight that radically questions everything one had previously assumed about this familiar scene. This is the point at which one begins to sense the excitement of sociology. (Berger, 1963)

Sociology can be exciting because it teaches people ways to recognize how they fit into the world and how others perceive them. Looking at themselves and society from a sociological perspective helps people see where they connect to different groups based on the many different ways they classify themselves and how society classifies them in turn. It raises awareness of how those classifications—such as economic and status levels, education, ethnicity, or sexual orientation—affect perceptions.

Sociology teaches people not to accept easy explanations. It teaches them a way to organize their thinking so that they can ask better questions and formulate better answers. It makes people more aware that there are many different kinds of people in the world who do not necessarily think the way they do. It increases their willingness and ability to try to see the world from other people's perspectives. This prepares them to live and work in an increasingly diverse and integrated world.

Sociology in the Workplace

Employers continue to seek people with what are called “transferable skills.” This means that they want to hire people whose knowledge and education can be applied in a variety of settings and whose skills will contribute to various tasks.

Studying sociology can provide people with this wide knowledge and a skill set that can contribute to many workplaces, including

- an understanding of social systems and large bureaucracies;
- the ability to devise and carry out research projects to assess whether a program or policy is working;
- the ability to collect, read, and analyze statistical information from polls or surveys;
- the ability to recognize important differences in people's social, cultural, and economic backgrounds;
- skills in preparing reports and communicating complex ideas; and
- the capacity for critical thinking about social issues and problems that confront modern society. (Department of Sociology, University of Alabama-Huntsville)

Sociology prepares people for a wide variety of careers. Besides actually conducting social research or training others in the field, people who graduate from college with a degree in sociology are hired by government agencies and corporations in fields such as social services, counseling (e.g., family planning, career, substance abuse), community planning, health services, marketing, market research, and human resources. Even a small amount of training in sociology can be an asset in careers like sales, public relations, journalism, teaching, law, and criminal justice.

Sociology in the Real World: Social Networking Consequences

You've probably heard a cautionary story that goes something like this: A high school student spent years working hard, engaging in their community, helping others, and generally growing into a positive and promising young adult. During senior year, they start the college application process, and after a couple of interviews and other interactions, things are looking bright at several of their top choices. But when the time arrives for those fateful notifications about acceptance or rejection, the student and their family are shocked to get rejected from all schools but one. Inquiries from family members and guidance counselors had no results. The only news came in the form of a letter three weeks later from the one school that had accepted the student.

“...After an initial investigation, the University has determined that several posts attributed to you violate our policies, and are offensive and troubling...”

The letter's remaining two pages detailed the ongoing investigation and outlined the potential outcomes. But that one statement said it all: The student had posted something offensive on social media, and their prospective colleges had found it.

Two years earlier, at the beginning of sophomore year, the student had posted two comments and a meme that mocked a classmate who had been assaulted at a party. Even though the student had removed them within a few days, the posts lived on in other forums and on a few friends' pages; there was also the possibility that someone had screen-grabbed them. While social media posts are protected forms of speech in relation to the government, colleges can review them as they evaluate applicants. Employers can do the same, as can romantic partners or even volunteer organizations.

You may believe that a 15-year-old's social media comments should not impact them years later. Or you may feel that someone who jokes about assault may be a risk to commit a similar act or fail to stop or report one. Sociologists may consider all of those assumptions, and may seek answers or information through research to uncover the impacts, risks, tendencies, and outcomes on the different groups involved. For example, a sociologist might work to discover answers to the following questions:

- Is abusive speech or assault less likely to occur at colleges that screen applicants' social media posts?
- Do sensitivity trainings or cultural competency programs have an effect on online speech?
- Do colleges treat all community members equally when they discover someone has posted offensive comments or other content?
- Are algorithms and artificial intelligence used to detect problematic comments biased against certain people or communities?

None of these questions could be answered by a single study or even a group of them. But like the Supreme Court's use of Mamie and Kenneth Clarke's research, college administrators, high school counselors, and technology companies can use the outcomes of research and analysis to make decisions or implement programs.

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1.6: Key Terms

antipositivism | the view that social researchers should strive for subjectivity as they worked to represent social processes, cultural norms, and societal values

conflict theory | a theory that looks at society as a competition for limited resources

constructivism | an extension of symbolic interaction theory which proposes that reality is what humans cognitively construct it to be

culture | a group's shared practices, values, and beliefs

dramaturgical analysis | a technique sociologists use in which they view society through the metaphor of theatrical performance

dynamic equilibrium | a stable state in which all parts of a healthy society work together properly

dysfunctions | social patterns that have undesirable consequences for the operation of society

figuration | the process of simultaneously analyzing the behavior of an individual and the society that shapes that behavior

function | the part a recurrent activity plays in the social life as a whole and the contribution it makes to structural continuity

functionalism | a theoretical approach that sees society as a structure with interrelated parts designed to meet the biological and social needs of individuals that make up that society

generalized others | the organized and generalized attitude of a social group

grand theories | an attempt to explain large-scale relationships and answer fundamental questions such as why societies form and why they change

hypothesis | a testable proposition

latent functions | the unrecognized or unintended consequences of a social process

macro-level | a wide-scale view of the role of social structures within a society

manifest functions | sought consequences of a social process

micro-level theories | the study of specific relationships between individuals or small groups

paradigms | philosophical and theoretical frameworks used within a discipline to formulate theories, generalizations, and the experiments performed in support of them

positivism | the scientific study of social patterns

qualitative sociology | in-depth interviews, focus groups, and/or analysis of content sources as the source of its data

quantitative sociology | statistical methods such as surveys with large numbers of participants

reification | an error of treating an abstract concept as though it has a real, material existence

significant others | specific individuals that impact a person's life

social facts | the laws, morals, values, religious beliefs, customs, fashions, rituals, and all of the cultural rules that govern social life

social institutions | patterns of beliefs and behaviors focused on meeting social needs

social solidarity | the social ties that bind a group of people together such as kinship, shared location, and religion

society | a group of people who live in a defined geographical area who interact with one another and who share a common culture

sociological imagination | the ability to understand how your own past relates to that of other people, as well as to history in general and societal structures in particular

sociology | the systematic study of society and social interaction

symbolic interactionism | a theoretical perspective through which scholars examine the relationship of individuals within their society by studying their communication (language and symbols)

theory | a proposed explanation about social interactions or society

verstehen | a German word that means to understand in a deep way

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1.7: Section Summary

1.1 What Is Sociology?

Sociology is the systematic and scientific study of society and social interaction. In order to carry out their studies, sociologists identify cultural patterns and social forces and determine how they affect individuals and groups. They also develop ways to apply their findings to the real world.

1.2 The History of Sociology

Sociology was developed as an academic and scientific way to study and theorize about the changes to society brought on by the Industrial Revolution in the eighteenth and nineteenth centuries. Some of the earliest sociologists thought that societies and individuals' roles in society could be studied using the same scientific methodologies that were used in the natural sciences, while others believed that it was impossible to predict human behavior scientifically, and still others debated the value of such predictions. Those perspectives continue to be represented within sociology today.

1.3 Theoretical Perspectives in Sociology

Sociologists develop theories to explain social events, interactions, and patterns. A theory is a proposed explanation of those social interactions. Theories have different scales. Macro-level theories, such as structural functionalism and conflict theory, attempt to explain how societies operate as a whole. Micro-level theories, such as symbolic interactionism, focus on interactions between individuals.

1.4 Why Study Sociology?

Studying sociology is beneficial both for the individual and for society. By studying sociology people learn how to think critically about social issues and problems that confront our society. The study of sociology enriches students' lives and prepares them for careers in an increasingly diverse world. Society benefits because people with sociological training are better prepared to make informed decisions about social issues and take effective action to deal with them.

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1.9: Crash Course Video- Sociological Theories

📌 Major Sociological Paradigms: Crash Course Sociology #2



The thumbnail for the video 'Major Sociological Paradigms: Crash Course Sociology #2' features a green background with a large white number '2' on the right. In the center, there are colorful geometric shapes: a red triangle, a blue circle, and a yellow triangle. The text 'MAJOR SOCIOLOGICAL PARADIGMS' is written in large, bold, white capital letters. Above it, 'Crash Course' is written in a smaller font, and 'SOCILOGY' is written in a medium font. A QR code is located in the top left corner. At the bottom, there is a 'Watch on YouTube' button with the YouTube logo.

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CHAPTER OVERVIEW

2: What is Critical Thinking?

[2.1: Critical Thinking Defined](#)

[2.2: Critical Thinking Skills](#)

[2.3: The Critical Thinking Process](#)

[2.4: Knowledge and Literacy](#)

[2.5: Thinking vs. Intelligence](#)

[2.6: Video - 5 Tips to Improve Your Critical Thinking](#)

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2.1: Critical Thinking Defined

I have been talking all around critical thinking, it seems that we should finally define critical thinking. As you might guess, there is no, one simple definition of critical thinking. Below are several definitions that will give us a variety of ways of looking at critical thinking.

Authors Goodwin Watson and Edwin Glaser in their 1937 book, *Manual of Directions for Discrimination of Arguments Test*, define critical thinking as,

*“...a persistent effort to examine any belief or form of knowledge in the light of evidence that supports it and the further conclusions to which it tends, as well as the ability to recognize problems, to weigh evidence, to comprehend and use language with accuracy and discrimination, to interpret data, to recognize the existence or nonexistence of logical relationships between propositions, to draw warranted conclusions and generalizations and to test the conclusions by applying them to new situations to which they seem pertinent.”*¹

In the book, *Critical Thinking*, B. K. Beyer explains that,

Author W. G. Sumner back in 1940 emphasized that importance of critical thinking and that if we are educated in it, we “cannot be stampeded.”

[Critical thinking is] ... the examination and test of propositions of any kind which are offered for acceptance, in order to find out whether they correspond to reality or not. The critical faculty is a product of education and training. It is a mental habit and power. It is a prime condition of human welfare that men and women should be trained in it. It is our only guarantee against delusion, deception, superstition, and misapprehension of ourselves and our earthly circumstances.

*Education is good just so far as it produces well-developed critical faculty . . . A teacher of any subject, who insists on accuracy and a rational control of all processes and methods, and who holds everything open to unlimited verification and revision, is cultivating that method as a habit in the pupils. Men educated in it cannot be stampeded . . . They are slow to believe. They can hold things as possible or probable in all degrees, without certainty and without pain. They can wait for evidence and weigh evidence . . . They can resist appeals to their dearest prejudices. Education in the critical faculty is the only education of which it can be truly said that it makes good citizens. Sumner.*³

The Foundation for Critical Thinking founded by the late Richard Paul, offers the following definition for critical thinking:

*"Critical thinking is that mod of thinking--about any subject, content, or problem -- in which the thinker improves the quality of his or her thinking by skillfully analyzing, assessing, and reconstructing it. Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem-solving abilities, as well as a commitment to overcome our native egocentrism and socioicentrism."*⁴

Richard Paul argued that critical thinking involves the willingness to question and challenge our deepest beliefs and prejudices. He felt that critical thinking is a call to think for oneself without prejudice so we may attain a perspective from which to reflect upon human affairs in a more objective way in order to come to an understanding of how we should act.

Authors Moore and Parker in their book *Critical Thinking* write,

*"Critical thinking is the careful, deliberate determination of whether we should accept, reject or suspend judgment about a claim and of the degree of confidence with which we accept or reject it. The ability to think critically is vitally important, in fact, our lives depend on it."*⁵

The wording of the California State University requirement for a course in critical thinking, defines critical thinking as,

Why teach critical thinking? Most of the experts in the critical thinking discipline see students as too often being just passive receptors of information. Through technology, the amount of information available today is massive. This information explosion is likely to continue in the future. Students need a guide to sort through information and not just passively accept it.⁶

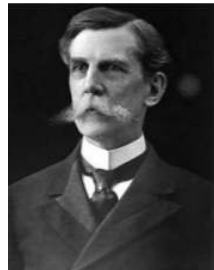
Critical thinking involves questioning. It is important to teach students how to ask good questions, to think critically, in order to continue the advancement of the very fields we are teaching. Richard Paul says, *"Every field stays alive only to the extent that fresh questions are generated and taken seriously."*⁸

Researcher, B. K. Beyer sees the teaching of critical thinking as important to the very state of our nation. He argues that to live successfully in a democracy, people must be able to think critically in order to make sound decisions about personal and civic affairs. If students learn to think critically, then they can use good thinking as the guide by which they live their lives.⁹



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One way of realizing the goals of critical thinking is by learning the skills of argumentation and by applying those skills to everyday decision-making and conflict situations in our life. The key to being in charge of our life is the ability to make effective decisions. To be effective critical decision makers, we need to be able to analyze and evaluate the information we receive in order to determine the best course of action to take.



8.9.2: "Oliver Wendell Holmes" by Unkown is in the Public Domain, CC0

"The main part of intellectual education is not the acquisition of facts, but learning how to make facts live." --Oliver Wendell Holmes¹¹

As Patterson and Zarefsky conclude,

"The view of argumentation as a critical device depends on certain assumptions. The premises that actions should be reasonable, that decisions should be justified through critical inquiry and persuasive explanation of ideas, and that a clash of ideas helps arrive at the probable truth are fundamental to such a view. Argumentation allows people to resolve differences, permits opposing views to be considered before decisions are made, and enhances the quality of social decisions."
¹²(Patterson, 1983)

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2.2: Critical Thinking Skills

We are not born with natural critical thinking abilities. **Critical thinking is a skill that can be developed.** The good news is that we all have the ability to improve our critical thinking skills. We can become more effective decision makers and improve our self-confidence. Below are some of those Critical Thinking Skills that can be developed and enhanced:

Critical thinkers are intellectually curious. This skill implies that the critical thinker is never totally satisfied with what they know. He or she seeks answers to various kinds of questions and problems. The critical thinker is concerned with investigating the causes and seeking explanations of events; asking why, how, who, what, when, and where.

Critical thinkers are open-minded. An open-minded person is one who is confident enough in his/her abilities to accept new and contradictory ideas, which challenge his/her current beliefs. This is opposed to being “tolerant” where the dogmatic person may politely listen to other arguments, but their minds will not be changed.

The open-minded person is one who is not only willing to listen to new ideas, but will alter an already adopted position if the new data dictates. The open-minded person is willing to consider a wide variety of positions and beliefs as possibly being valid. Open-minded people are flexible. They are willing to change their beliefs and methods of inquiry, if they are faced with a more valid argument. Open-minded people show a willingness to admit they may be wrong and that other ideas they did not accept may be correct. Critical thinkers do not just want to prove they are correct; they are open-minded enough to change their mind.

Critical thinkers avoid “Red Herrings.” Critical thinkers follow a line of reasoning consistently to a particular conclusion. They avoid irrelevancies, called “red herrings,” that stray from the issue being argued. When Jim and his wife Suzy argue, and Jim feels he is losing, he looks at Suzy and says, “You argue pretty well for a short person.” He is hoping to draw her off the argument and send her fishing for the “red herring,” her being short. If she takes the bait the original argument fades away. Critical thinkers won’t go after “red herrings.”

Critical thinkers are aware of their own biases. All humans are biased, some more than others. Some know that they have biases, some are not aware of their biases. We all have biases that we are not aware of and the critical thinker strives to learn them, so he or she can be more in charge of their thinking. It may be too much of a challenge to eliminate the different biases we have. Instead a critical thinker needs to be aware of the bias and how it will affect the thinking process. Thinking about thinking is referred to as metacognition. A critical thinker looks at how he or she thinks and makes decisions in order to improve the process.

“The test of a first-rate intelligence is the ability to hold two opposed ideas in mind at the same time and still retain the ability to function.”

----F. Scott Fitzgerald¹



Critical thinkers learn to handle confusion. People will do almost anything to avoid the mental pain that comes with lingering confusion. We bypass it, avoid it, and even try to pass it off to someone else. In this haste to avoid confusion we often make quick decisions based on limited data or overworked stereotypes. The critical thinker allows him or herself to be confused as they work through the argument towards a conclusion.

Critical thinkers are able to control and use their emotions. Notice this does not say, “Eliminate emotions.” We gather all sorts of valuable data through our emotions, that we can use in the decision-making process. We just have to be careful not to let

emotions dominate our critical thinking and argumentation. Nothing will destroy the critical thinking process faster than misplaced or misdirected anger, fear, or frustration.

Critical thinkers are sensitive and empathetic to the needs of others. Critical thinkers need to pay particular attention to the needs of their target audience. The needs, concerns, and desires of your audience may be different than yours. The critical thinker is more effective if he or she can understand those concerns. They may not agree with them, but at least they understand them. The target audience may be the person trying to convince you of their argument or the person you are trying to convince with your argument. Persuasion usually takes place when an advocate is able to meet the needs of his or her target audience. In fact, your needs may be unimportant as it pertains to moving a target audience towards adherence to your point of view.

Critical thinkers can distinguish between a conclusion that might be “true” and one that they would like to be “true.” Notice the use of “truth” with a lower case “t.” This “truth” refers to just what a person believes, not the ultimate correct position that would be indicated by “Truth.” A conclusion that might be true, is based on calculating the probability of its outcome, to see if it has a reasonable chance of becoming a reality. The second type, a conclusion that you would like to be true, is based more on your wishing, wanting, and desiring that it become a reality. The first can be put to the tests of critical reasoning, but the second cannot, and, therefore, is of little value in critical thinking. You may believe your child to be a great person, but the evidence might suggest otherwise.

Critical thinkers know when to admit to not knowing something. An essential prerequisite to understanding is humility; to be able to admit when you don’t know an answer to a situation. Although we want to protect our egos by believing we know everything, learning comes from questioning, not from knowing all the answers. When we can admit that we don’t know, we are more likely to ask questions that will enable us to learn. By giving ourselves permission to admit we don’t know everything, we can overcome the fear that our lack of knowledge will be discovered. The energy expended trying to cover up what we don’t know diminishes our ability to learn. If we are always trying to disguise our lack of knowledge of a subject, we will never fully understand what it is we don’t know about it. Feel free to say, “I don’t know.”

Critical Thinkers are independent Thinkers. They have the confidence to state their opinions and point of view to others who might disagree. They use the skills of critical thinking to support their positions and make their arguments.

Critical thinkers seek a “dialogical” approach to the process of argument. “Dialogical” thinkers seriously seek points of view other than their own. The ability to think “dialogically” would include the abilities to: analyze, synthesize, compare and contrast, explain, evaluate, justify, recognize valid and invalid conclusions, identify or anticipate or pose problems, look for alternatives, apply logical principles, and solve conventional or novel problems. These are many of the skills of critically thinkers.

Stephen Brookfield in his book, *Challenging Adults to Explore Alternative Ways of Thinking*, writes,

*“Critical thinking is only possible when people probe their habitual ways of thinking, for their underlying assumptions, those taken-for-granted values, common-sense ideas, and stereotypical notions about human nature that underlie our actions.”*²

We are looking at the process of argumentation and the type of person who can be most effective in an argumentative situation. You as a critical thinker will be both involved in an argument and an observer of an argument. We can improve our abilities to do both.

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2.3: The Critical Thinking Process

In the critical thinking process, many factors are taken into consideration before a decision is made. Critical thinking involves using logical, emotional, and ethical criteria as one strives to make up his or her mind. Decisions are reached only after a careful examination of all available data, and are made as a result of considering all of the alternatives and their various consequences.

Can critical thinking be taught? From the work of Dr. Edward de Bono and others like Richard Paul the answer appears to be yes.

Professor of Social Ecology, Peter Scharf, is concerned about the lack of a school curriculum that teaches thinking. Scharf says,

“To be a professional of any kind in the next 20 years, or even an enlightened citizen, will require a complicated set of thinking skills, more than reading and writing. The world isn’t as filtered as it once was. Kids are thinking. What we’re trying to do is have them do it well.”

No one approach is the best, and no one approach works well all of the time. Different presidents have been different types of thinkers. In 1962, when President Kennedy was faced with Soviet missiles in Cuba, he brought together all of his personal advisors, cabinet members, and military personnel to advise him on what course of action ought to be taken by the United States. Kennedy solicited suggestions from numerous advisors who advocated many different positions, from doing nothing to eliminating the missiles with a nuclear strike.

Patterson and Zarefsky write in their book, *CONTEMPORARY DEBATE*,

*“President Kennedy recognized the invaluable benefits derived from a clash of ideas in reaching a decision. Faced with the Cuban missile crisis, Kennedy rejected the decision- making methods of chance, impulse, or authoritarian action. Instead, he insisted in a high- level debate among experts before making a final decision about the action to take.”*¹

The term we use for examining our thinking is metacognition or the metacognitive process, which simply means “thinking about our thinking.” By stepping back and looking at our level of intellectual and emotional intelligence and seeing how we think, we can improve our thinking.

The good news is that we can become smarter and smarter. We can improve our critical thinking ability and our argumentative skills. This allows us to be in better control of our lives.

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2.4: Knowledge and Literacy

Another area of our intellectual capability is literacy. Not only is knowledge the acquisition and storage of factual information, but it also includes literacy. Literacy has traditionally been thought of as the ability to read and write. However, in a society as technologically advanced as ours, this minimum ability hardly qualifies someone to be labeled as literate. Our complex, technological society requires one to be literate in a number of areas.

Functional Literacy: This is the ability to operate within the demands of our environment. Functional literacy means that we can balance a checkbook, fill out a job application, prepare an income tax form, figure a home budget, and relate to others. It is the source of information over which we have the most control.

Media Literacy: This is the ability to manage what we watch, read, and listen to. The media has become an important part of our daily lives. Media literacy is the ability to apply critical thinking skills to the media.

"Media literacy is the ability to sift through and analyze the messages that inform, entertain and sell to us every day. It's the ability to bring critical thinking skills to bear on all media— from music videos and Web environments to product placement in films and virtual displays on NHL hockey boards. It's about asking pertinent questions about what's there, and noticing what's not there. And it's the instinct to question what lies behind media productions— the motives, the money, the values and the ownership— and to be aware of how these factors influence content."

--Jane Tallim, contributor for Media Smarts¹

Statistics from the Neilson television ratings service indicate that the average American watches over six hours of television per day. It is hard to imagine that our view of people, events, and things in our life is not be affected by what is viewed on television. Consider the millions of people who understand the world only from reading Facebook. As the influence of the media increases, so will the need to manage the media.

The Center for Media Literacy has many experts who suggest a variety of questions that we can ask as we watch different messages on the variety of medias that are available. In no particular order, here are some of the questions you might want to consider.

- Who the media was intended for?
- Who wants to reach this audience? And why?
- Whose perspective is this story told?
- Whose voices are heard and whose voices are absent?
- What strategies does this message use to get my attention and make me feel included?
- Who profits from this presentation and who loses?
- Who created this message?
- What techniques are used to attract my attention?
- How might different people understand this message differently from me?
- What lifestyles, values, and points of view are represented in or omitted from this message?
- Why was this message sent?

More than you thought?

Here is a great test for you, find a story that is in the news. Then go search a variety of news outlets from television to radio, to websites, to blogs, and see how the story is different. Ask some of the above questions. Notice the differences you find in the stories and the way they are presented. Often it is not what is there that is different, it is what they leave out that makes the stories so different.

Information/Reference Literacy: This refers to understanding data of all types, from a textbook on critical thinking to a business spreadsheet to e-information from the internet. As the amount of information continues to grow, doubling every four years, people are expected to know more about almost everything. Consider the explosion of information available through the Internet with millions of web pages. From entertainment, to bill paying to research, access to the Internet has become more and more of a necessity. A poll conducted by the BBC in early 2010 found that almost four in five internet users and non-users around the world felt that access to the Internet was a fundamental human right. And in several countries including Finland, Greece, Spain, Estonia, and France, it has actually become a protected human right. On July 6, 2012, the United Nations Human Rights Council backed the notion that Internet access and online freedom of expression is a basic human right.

But as an unfiltered medium, people are individually responsible for knowing what specific electronic information and what web sites are reliable and trustworthy. Many college libraries offer online courses that can improve our Information Literacy.

Cultural Literacy: This type of literacy encompasses history, philosophy, and the arts, any expression that represents an attempt to understand and come to terms with our civilization. Although it is correct that no two humans know exactly the same things, they often have a great deal of knowledge in common. To a large extent this common knowledge or collective memory allows people to communicate, to work together, and to live together. It forms the basis for communities, and if enough people share it, it is a distinguishing characteristic of a national culture. The form and content of this common knowledge constitute one of the elements that make each national culture unique

Cultural literacy, unlike expert knowledge, is meant to be shared by everyone. It is that shifting body of information that our culture has found useful, and therefore worth preserving. Only a small fraction of what we read and hear gains a secure place on the memory shelves of the culturally literate, but the importance of this information is beyond question. This shared information is the foundation of our public discourse. It allows us to comprehend our daily newspapers and news reports, to understand our peers and leaders, and even to share our jokes. Cultural literacy is the context of what we say and read.

Cultural literacy has its roots in what cognitive scientists call “schema theory.” Schema theory describes how people organize all of the amount of background knowledge which they accumulate about the world. This theory asserts that knowledge is organized into mental units called **schemas**. When people learn, when they build knowledge, they are either creating new schemas, or linking together preexisting schemas in new ways. In teaching we call this constructionist learning where students take what is being taught in class and actually construct new knowledge.

Everybody has different experiences, so everyone develops a somewhat different view of the world. However, we also share many common experiences. Most Americans have seen a baseball game, gone to a movie, and have eaten at McDonald’s. Shared schemas constitute an important part of our shared cultural knowledge. When people communicate, they depend on these shared schemas. Conan O’Brien can’t make a joke about sushi unless he can reasonably assume that most of his audience has had the experience of eating sushi. The more background knowledge two people share, the less they have to make explicit in their conversations.

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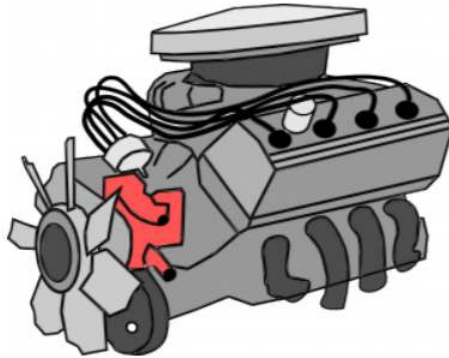
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2.5: Thinking vs. Intelligence

Now we can look at the relationship between Intelligence, knowledge, and finally thinking. There is a difference between intelligence and actual thinking. Too often more credit is given to the person who is “highly intelligent” than the person who effectively uses that intelligence to critically think, argue, and arrive at a decision.

Intelligence may describe our cognitive potential, but thinking examines how we actually use that potential. Brain training pioneer, Edward de Bono, explains our mental capacity by comparing it with the engine of an automobile. He compares the horsepower of an engine with intelligence, fuel with knowledge, and how well-tuned an engine is with one’s thinking ability. Just like having a high horse-powered engine that does not go anywhere because it is poorly tuned, so could a person be highly intelligent and still make poor decisions, because he or she does not have good thinking skills.



12.6.1: "Automobile engine" by Unkown on Pixabay

Horsepower --- Intelligence

Fuel --- Knowledge

Tuned --- Thinking

Smart = Effectively using thinking Skills to utilize your Knowledge and Intelligence.

Another way of looking at the interaction between intelligence, knowledge, and thinking is to compare them with the working of a computer. Intelligence can be related to the computer processor and memory storage. Knowledge is the data that is imputed into the computer. Thinking is the program that is written to utilize the capabilities of the computer in processing the information. No matter how impressive the computer processor is, without a quality program it is little more than a doorstep.

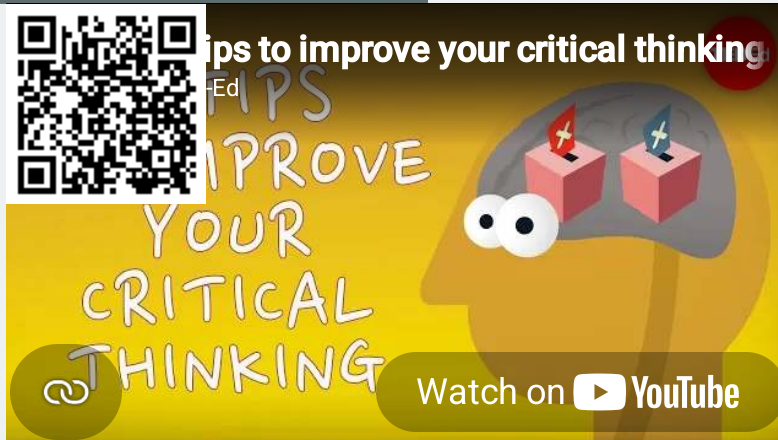
If a person has a level of cognitive ability, access to quality information, and effective thinking skills, then we can say that person is **smart**. Since thinking is necessary to best utilize a person’s intelligence, we need to more closely examine the skill of thinking.

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2.6: Video - 5 Tips to Improve Your Critical Thinking

📌 5 tips to improve your critical thinking - Samantha Agoos



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CHAPTER OVERVIEW

3: Language and Its Meaning

Learning Objectives

At the end of this chapter you will be able to do the following:

1. Define linguistic sexism.
2. Describe examples of linguistic sexism.
3. Examine some effects of gender-stereotyping in media.

[3.1: Communication in Practice](#)

[3.2: Centering Audiences](#)

[3.3: Sapir-Whorf Hypothesis](#)

[3.4: The Influence of the Structure of Language](#)

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3.1: Communication in Practice

Eden Jacobowitz is a student at the University of Pennsylvania. His studies were interrupted by a noisy crowd of students, many black and female. He yelled out his window, "Shut up, you water buffalo." He is now charged with racial harassment under the university's Code of Conduct. The school offered to dismiss the charge if he would apologize, attend a racial sensitivity seminar, agree to dormitory probation, and accept a temporary mark on his record which would brand him as guilty. He was told the term "water buffalo" could be interpreted as racist because a water buffalo is a dark primitive animal that lives in Africa. That is questionable semantics, dubious zoology, and incorrect geography. Water buffalo live in Asia, not in Africa. This from the University of Pennsylvania. Mr. Jacobowitz is fighting back. The rest of us, however, are still in trouble. The language police are at work on the campuses of our better schools. The word cops are marching under the banner of political correctness. The culture of victimization is hunting for quarry. American English is in danger of losing its muscle and energy. That's what these bozos are doing to us. (Kors & Silvergate, 1999).

This is a commentary by US news anchor John Chancellor on NBC news. A number of North American universities have explicit "speech codes" which seek to regulate what is perceived as harmful or hateful speech. These policies have been controversial, both in terms of the restrictions they place on individual freedom of speech and in how infractions are dealt with. Eden Jacobowitz defended his use of the term "water buffalo" as not intended to be a racial slur, but coming from Hebrew slang, *behema* (behemoth), used by Jews to refer to a loud, rowdy person. The charges against Jacobowitz were eventually dropped. The incident highlights the volatility of verbal exchanges and the opportunities for miscommunication and conflict, particularly between individuals from different ethnic or racial groups. In this unit we will be looking at language in the context of interpersonal and intergroup use. That will include gender-related communication patterns, as well as cultural and linguistic issues as they relate to friendships and romantic relationships. Conversational exchanges will be discussed from the larger linguistic context of speech communities and communication styles.



Figure 3.1.1: Free speech: Speaker in Hyde Park, London

Language and Relationships

Human beings are social animals. We live in community with others and tend to see ourselves through the relationships we have. These relationships vary significantly in terms of importance, permanence, and roles. We have long-lasting relationships with family members and brief encounters with strangers; in between are friends, schoolmates, work colleagues, romantic partners, Facebook "friends", Twitter followers, and a host of other possible relationships. Cultures differ in how such relationships are established and how significant a role they play in an individual's life. Courtship practices and mate selection, for example, can be quite different. In the US, men and women "go on dates" and it's likely that many Americans assume this is a universal human concept. But in reality this practice – and the whole idea of "dating" as practiced in the US – may be foreign, even to close cultural neighbors, such as Western Europeans.



Figure 3.1.1: Courtship practices in Western Cultures

Michael Agar reports on his experience in this regard. There is a set ritual around "dating" in the US, which is different from how Western European Europeans establish male-female relationships, where mixed gender group outings are preferred over one-on-one visits to a restaurant, movie, or club. In other cultures, dating might be seen as an even more foreign concept, in countries where arranged marriages are the norm, for example. The term is tied so closely to specific cultural patterns in the US context that finding a precise equivalent in languages other than American English is a challenge.

But what is a date?

Recently an Austrian friend of mine came to Washington to teach and study at Georgetown University. She could tack through English grammar with the best of them and had a better vocabulary than most of the native-born undergraduates in my lecture class. After a couple of months I met her for dinner and asked her how everything was going. "Fine," she said, and then, after a moment's hesitation, "But what is a 'date'?" She knew how to use the word in a sentence – "I'm going on a date"; "How about a date?" She wasn't confused because the word also means a number on a calendar or a sweet piece of fruit. But none of that explained what a "date" was. I started to answer, and the more I talked the more lost I became in how Americans see men and women, how they see relationships, intimacy - a host of connected assumptions that I'd never put into words before. And I was only trying to handle straight dates. It was quite different from her Austrian understanding of men and women and what they are to each other. For a while she looked at me as if I'd just stepped out of a flying saucer, until she finally decided I was serious.

Agar, 1994, p. 16

The kind of language we use in communicating can vary as much as the nature of our relationship. We speak quite differently with family members, than we do with work colleagues. The informal language used in text messaging is far removed from the formal **register** (language level/tone) we might use in writing a letter applying for a job. Sociolinguists study how we use language to accomplish tasks and to negotiate relationships. The kind of language used in making requests or expressing gratitude – what linguists call speech acts – can reveal quite a lot about the nature of our relationships. Using conditional forms (i.e., "Could you please...") softens a request in a context where politeness is called for to express respect or to maintain social harmony. This tends to vary significantly across cultures. In some Asian cultures, for example, making extensive use of "please" and "thank you" within a family environment is seen as inappropriate, in that it creates distance and expresses a sense of obligation that is counter to an informal, caring human relationship (D'Souza, 1988). The role that language plays in social settings is complex. It not only conveys information, but it also serves to build and maintain relationships. It can also divide and antagonize, as in the example of the "water buffalo" incident.

We tend to think of communication as sending and receiving messages (Rogers & Steinfatt, 1999). Spoken messages, however, may not have the same degree of efficiency in transmission as written communications. A letter usually will have clearly understood content. In speaking, the message may not be received in the way we intend. There may be specific language issues which influence the reception of the message. These may be both on the speaker's end — talking too fast or too quietly, for example, – or on the listener's side – knowledge gaps in vocabulary or inattention, for instance. In speaking, we need to pay attention not only to the content of what we are saying, but also to how we are transmitting that content. That involves consideration of our mode of speaking, but also of the likely communicative abilities of our interlocutor. From that perspective, communicating effectively depends on our ability to establish a relationship with the other person:

Successful 'communication' is not judged solely in terms of the efficiency of information exchange. It is focused on establishing and maintaining relationships. In this sense, the efficacy of communication depends upon using language to demonstrate one's

willingness to relate, which often involves the indirectness of politeness rather than the direct and 'efficient' choice of language full of information (Byram, 1997, p.3).

In other words, we need to take into account how our messages are likely to be received, based on the other person's communication style and on the conversation context.

Communication styles

Social scientists and linguists have been studying for some time how individuals and groups interact through language, both within the same language and between languages. They have sought to discover how and why language uses vary. One of the pioneers in this area was Basil Bernstein, who found through his research that "within the same society there can be different social groups or social classes whose communicative practices differ in important ways" (Philipsen & Albrecht, 1997, p. 122). In the US, for example, there are distinct differences in speech patterns between African-Americans and European-Americans. Bernstein (1964) described two essential patterns of speech, which he labeled **elaborated** and **restricted** codes. Elaborated code refers to contexts in which virtually all information is conveyed through the words spoken. Someone overhearing the conversation and not having any information about the interlocutor or the context would nevertheless be able to have a good understanding of the communication taking place. Restricted code, on the other hand, refers to conversations, if overheard, would not be understood because of a lack of background information and context.

These different modes of communication are often placed in relation to the distinction originally made by Edward Hall (1976) between **low-context** and **high-context** communications. In low-context messages, little (or "low") context is needed for comprehension because the essence of the communication is conveyed by the words used. That might at first blush seem to cover all human conversations. But in fact, there are interactions in which much of the message is conveyed by gestures (like bowing), body language (moving away from the speaker), or through the tone of voice (yelling). High-context messages refer to situations in which factors other than the actual words used may be vital to understanding. There can be conversations involving groups where silence is valued and in itself sends a message (in Native American cultures, for example) or where hierarchies dictate social behavior and interactions. While specific cultures are often identified as high or low context, it's more useful to apply such labels to individual speech in specific contexts.

High-context messages generally align with restricted speech codes in that a lot of verbiage is unnecessary and, in fact, what is not said may be as important as what is explicitly expressed. On the other hand, elaborated code is needed in low-context situations where little information is conveyed by nonverbal means. Restricted codes are most often associated with cultures labeled collectivistic, in which the status of the interactants dictates who says what to whom and how it is said. Restricted codes are also often found in "closed" communities such as the military or prison, but can also develop within any social group or individual who share social identifications, i.e. among spouses, coworkers, or fraternity brothers. People who spend a lot of time together in the same group inevitably develop shorthand ways of communicating. In some cases, such as in criminal gangs or religious cults, a specific verbal code may be developed to further group cohesion and exclude outsiders.

Interactions between conversants using opposing speech modes can lead to misunderstandings or conflict. Long pauses in a conversation may be normal and expected in some cultural contexts, but can be uncomfortable in others. A study by Stivers et al. (2009) compared ten languages in how long it took native speaker to respond to a yes/no question and found differences in the average gap before answering. Jumping into a conversation in order to end awkward pauses may limit the other person's ability to speak or to initiate conversational topics. Different cultural traditions may have different expectations in terms of **turn-taking** or the acceptability of interrupting. In Mediterranean countries, for example, it's common to hear overlapping utterances; in Northern European countries, there's a greater likelihood that conversational turns end before someone else speaks. North American linguist Deborah Tannen (1984) points to regional differences in turn-taking between New Yorkers and Californians during a dinner conversation. The former speak fast with no pauses:

The result is that the East Coast speakers continually take the floor, the West Coast participants waiting in vain for a pause they deem long enough for them to start talking. Whereas the 'fast' speakers think that the others have nothing to say, the 'slow' ones feel that they are not given a chance to talk (Günther, 2007, p. 132).

The New Yorkers' turn-taking rules reflect their way of showing involvement in the conversation, while this is interpreted by the Californians as rudeness and a reluctance to let others speak.

Speech communities can also vary in how **direct** speakers are in expressing views. In some cultures, speakers may hide their real intent or personal opinion, by, for example, giving an ambiguous or misleading response to a request or to a yes-no question. This may occur out of feelings of respect, politeness, or wariness. This **indirect** verbal behavior is often associated with Asian cultures. The Japanese version of "yes" (*Hai はい*) does not necessarily mean "yes" in the sense of agreeing or accepting. It is used often to equivocate, to indicate to the speaker that you are listening, but not necessary expressing an affirmation. Other cultures prefer an explicit and overt verbal style. Germans, for example, are often given as an example of a direct speaking style, with a reputation of being blunt and to the point. An awareness of different conversational styles can be helpful in avoiding conversational faux-pas and hurt feelings. Caution is needed, however, in applying universally to individuals generic speech patterns. Individual speakers may have developed their own habits and preferences which differ from those of others in that particular cultural group:

We must be cautious and not assume that everyone in a particular part of the world behaves in certain ways. For example, not all Japanese favour indirect styles of communication, just as not all Germans have a very direct style of communication. Not all Chinese business executives prefer a formal style of communication in meetings, just as not all American executives adopt an informal style in their meetings. The degree of directness and formality may vary among individuals (Jackson, 2014, p. 95).

It is also the case that in conversations with others individuals may well alter communication styles to adjust to conversation partners.



Figure 3.1.2: In the US there have been conflicts between Korean store-keepers and African-American customers

The conflicts in communication styles may derive from interactions among members of ethnic groups with different communication styles. In one study of an immigrant Korean shopkeeper and an African-American customer in Los Angeles, the clash of styles is evident (Bailey, 1997). In a conversation Bailey analyzes, the African-American customer uses a "high involvement style", featuring informal and emotional language, in an effort to establish a personal connection to the Korean shopkeeper. He uses swear words and volunteers personal information about himself. The shopkeeper, however, remains detached and impersonal, resulting in an unsatisfying conversation. This is not unusual in such encounters, as Bailey comments:

The seeming avoidance of involvement on the part of immigrant Koreans is frequently seen by African Americans as the disdain and arrogance of racism. The relative stress on interpersonal involvement among African Americans in service encounters is typically perceived by immigrant Korean retailers as a sign of selfishness, interpersonal imposition, or poor breeding (Bailey, 1997, p. 353).

Such clashes are not infrequent in service encounters and in business transactions in many parts of the world. Conflicts may be related to different communication styles and expected behaviors in given situations. The extent to which one engages in **small talk** in such contexts, for example, varies significantly. Customers, such as in the example above, may engage in small talk as a way to establish a personal connection, but that may not be reciprocated.



Figure 3.1.3: Small talk plays different roles across cultures

In some contexts, such as at the workplace, small talk may involve a power negotiation. In conversations with subordinates, higher-ups in the company may decide to what extent engaging in small talk is acceptable or encouraged. Engaging in humor or telling jokes can be equally problematic across cultures. Humor depends on cultural context and knowledge, and relies considerably on the linguistic ability of a listener. As a result, jokes often do not work when transferred from one culture or language to another. Here again social or economic hierarchies may come into play, with those higher up the socio-economic ladder enjoying the privilege of making jokes, which may be inappropriate for subordinates (Dwyer, 1991).

Communication Contexts

Within the same society, there can be quite different speech patterns and verbal behaviors. In different situations and with different people, how we use language may vary considerably. How one speaks can also depend on one's gender. Gerry Philipsen's landmark study on speaking "like a man," in "Teamsterville" (his code name for a blue-collar, low income neighborhood in Chicago) illustrates that (1975). He discovered in his research that there were clearly defined patterns of communication in the community.



Figure 3.1.4: Talking like a man in Teamsterville

In his study, Philipsen describes the contexts in which high volumes of speech among men are expected, namely when congregated on street corners or at local bars. On the other hand, a high quantity of speaking is considered inappropriate in situations in which there is a hierarchical or social distance between the speakers. These include relationships with a wife, child, boss, outsider, or men of different ethnicity. In some situations, Teamsterville men's verbal code calls for no speaking at all, but rather silence, nonverbal behavior, or even violent actions (in response to personal insults, for example). The study demonstrates the different verbal styles assigned to different contexts and contrasts the speech patterns in the Chicago blue-collar neighborhood with others in the US:

In Teamsterville, talk is negatively valued in many of the very situations for which other American communities most highly prize speaking strategies. Speaking is a culturally prized resource for male role enactment by black Americans in urban ghettos; the black man who speaks as a strategy for dealing with outsiders or females is enacting the male role appropriately according to the standards of his speech community. The white collar man who can "talk things through" with his wife, child, or boss is using speech in culturally sanctioned ways. (p. 21)

This is a sampling of different speech communities just within the USA. Moving beyond the US borders, one can appreciate the immense diversity in speech behaviors worldwide, pointing to the rich opportunities for miscommunication.

Talking like a man in Teamsterville

Teamsterville's cultural (i.e., shared, tacit) understandings about the value of speaking are sharply defined and susceptible of discovery, although they are not written down in native treatises on effective communication, nor can native informants necessarily verbalize them. One manifestation of cultural outlook is the local view of the appropriateness of speaking versus other actional strategies (such as silence, violence, or non-verbal threats) in male role enactment or self-presentation. Whether and how well a man performs in a manly way is a principal criterion in Teamsterville for judging whether his behavior is appropriate and proper to the social identity, "male." Manliness is a theme of much neighborhood talk about self and others and a Teamsterville man is aware that his social performances will be judged frequently as to their manliness. To know how to perform, or present oneself, "like a man" in Teamsterville as elsewhere is to be privy to implicit understandings shared by members of the speech community, i.e., it is to have access to the culture.

Philipsen (1975), pp. 13-14.

Philipsen's study demonstrated how Teamsterville men adapted their communication style (amount of speech, emotional involvement, nonverbal behavior) to the context of the encounter (physical location, gender/age/ethnicity/social status of conversant). One is likely to be more aware of the necessity of making those kinds of adjustments if one is abroad. That may mean, of course, using a different language, but it could also mean, adjusting communicative habits. A Japanese woman who lived in Mexico for a number of years reported on changes she found to be necessary in her communication style (see sidebar). The changes described here can be challenging, both linguistically and emotionally. Part of the difficulty is that in such cases there are no written norms to go by. One learns through experience, making mistakes and reflecting on outcomes of conversations. One of the benefits of such an approach is that one comes to learn about one's own communication style, as the Japanese woman in this case became conscious of her "childish" speaking voice. That kind of awareness is crucial to the ability to make adjustments in intercultural encounters, which will make communication more effective and satisfying for both sides.

Speaking like a woman in Mexico

First thing I noticed in Mexico is the difference in the types of voice we use. In Japanese society, especially young women, use a relatively high pitch voice and tend to speak somehow 'childish'. 'Childish' behaviour of a woman, not only the type of voice but also her behaviour itself, is considered as something 'cute' or 'favourable', and very widely accepted in our society. In Mexican society, however, they use a lower and deeper tone of voice than in Japan; it is required for both men and women to speak and act as 'adult person', in every setting of life and naturally in business setting. In Mexican society, to use a childish voice, as many Japanese women do, could be a disadvantage, not something 'favourable', and doing so it is possible that you will not be treated properly. After a couple of month[s] of y living in Mexico I noticed about this fact and started to try using a different kind of voice, deeper and softer one, so that I am treated as an adult person.

Hua, 2014, p. 224



Communication Accommodation

In accommodating our communication style to our conversation partner, we tend to make adjustments automatically and naturally, in an unconscious effort to make ourselves better understood. Our efforts are likely to be most successful if we have some awareness of both our own culturally-influenced approach to communication and of the nature of the **speech community** of the person with whom we are interacting. Indeed, social scientists have studied ways in which speech communities differ, and they also have investigated common strategies for overcoming those differences. One of the approaches that is widely known is the **communication accommodation theory**, developed by Howard Giles (1973; Street & Giles, 1982). It describes the ways in which people adjust their speech, vocal patterns, and gestures to accommodate others. Giles and his colleagues found that people use a variety of changes, including rate of speech in speaking, patterns of pausing, length of utterances, and the use of gestures, facial expressions and body language. It assumes that such accommodation varies in its degree of appropriateness.

The theory postulates two main accommodation processes, **convergence** – adapting to the extent possible the other's communicative behaviors – and **divergence** – in which the differences are acknowledged and maintained. A third option, maintenance, involves not making any adjustments at all. In most instances of cross-cultural communication, convergence is recommended, i.e., listening actively for how the other person is communicating and adjusting our language use and nonverbal behavior accordingly. Speaking with a non-native speaker, for example, might involve reducing the use of slang, avoiding regionalisms or country-specific references, slowing the rate of speech, articulating clearly, and/or simplifying vocabulary. Helpful as well is the use of affirming nonverbal gestures such as nodding and smiling. Convergent behaviors are normally positively received by the interlocutor, which tends to make conversations run more smoothly and generate positive feelings on both sides. This can reduce social distance and contribute to a sense of solidarity (Jackson, 2014). The process of learning a second language aids development of the awareness and the importance of communication accommodation, as one experiences oneself the difficulty in communicating with more proficient speakers of the target language.

There are situations in which divergence is appropriate, for example, when there is a significant gap in social status or power relationship. Speaking with one's physician, for example, might be a context in which convergence is unlikely. An interview situation might also be such a case. In intercultural situations, the degree of power distance in the culture represented by one's conversation partner may play a role as well. In cultures in which social hierarchies are acknowledged and accepted, it is normal practice to engage in divergence, for example, using respectful language and nonverbal behavior with elders or socially highly-placed individuals

For the most part, people engage in convergence with good intentions, in order to facilitate communication across different communicative styles. However, it is possible to go too far in accommodating the other speaker, a process known as **overaccommodation** (Street & Giles, 1982). This might involve oversimplifying one's speech, exaggerating enunciation, or slowing excessively the rate of speech. One example is the kind of "baby talk" caregivers in nursing homes might use in talking with their elderly patients, sometimes labeled "elderspeak" (Kemper, 1994). Overaccommodation can be patronizing and demeaning and can detract from communicative effectiveness. There is also the phenomenon known as "intergroup overaccommodation", in which particular groups are treated based on general stereotypes, rather than members being treated as unique individuals (Gallois, Ogay & Giles, 2005). That might involve adjusting one's speech in environments based on assumptions that everyone living there – in a US inner-city or in a French *banlieu*, for instance – is socially and educationally inferior.

Another perspective on communication accommodation is offered by New Zealand sociolinguist Alan Bell, who emphasizes the free agency of conversation partners:

We do not always speak in consistently the same way. In fact we are shifting the way we speak constantly as we move from one situation to another. On different occasions we talk in different ways. These different ways of speaking carry different social meanings. They represent our ability to take up different social positions, and they affect how we are perceived by others (Bell, 2007, p. 95).

Bell's concept of **speech style** aligns with contemporary views on identity formation which emphasize the idea of "transportable identities," as we take on one of an array of social and linguistic subject positions according to the communication context (Van De Mierop & Clifton, 2012). At the same time, power and hierarchical relationships may limit the extent to which individuals can enact particular identity positions.

Accommodation will often be necessary for native speakers in conversation with non-native speakers. The extent of that accommodation depends on the context (type and purpose of conversation, location, respective social positions) as well as on the proficiency level of the speaker. In multilingual environments, or in a context in which non-native English speakers are conversing together in English, there may be different dynamics at work and subsequently different kinds of accommodations that occur. In such "lingua franca conversations", participants may will differ in their individual language proficiencies. Studies have shown that in these situations, there is typically a strong cooperative element (Meierkord, 2000), as participants use a variety of nonverbal means (smiling, gesturing) and **paralinguistic** devices (laughing, pausing frequently) to smooth over possible verbal miscues. The nature of such conversations stresses communicative efficiency over linguistic accuracy (Ehrenreich, 2010). These kinds of exchanges occur more frequently today, particularly among non-native speakers of English. They also occur increasingly in online environments.

Uncertainty management

When we encounter someone for the first time, we are likely to form opinions based on very little concrete information. In such situations, we tend to use what little knowledge we do have to place the person into a particular category, based on age, appearance, name, or other observable or known characteristics. Optimally, we approach the stranger with an open mind and an awareness that the stereotypes we have in our heads may not fit this particular individual. In any case, the paucity of information we have about the other person can lead to uncertainty on our part, possibly generating feelings of nervousness or anxiety, due to the unpredictability of the encounter. This is particularly the case when meeting someone from a different culture. Charles Bergen and Richard Calabrese (1975) developed an approach to communication called **uncertainty reduction theory**. Their fundamental assumption is that when strangers meet, our primary goal is to reduce uncertainty and increase predictability.



Figure 3.1.5: Anxiety is commonly associated with uncertainty

According to this theory, uncertainty reduction can be both proactive and retroactive. Proactively, we can take measures such as deciding to adjust our speech based on the expectation that the person may not be a native speaker of our language. In that case, we may elect to use a language register accessible to non-native speakers. Retroactively, we can analyze an encounter to explain unexpected behavior, based on information gained through the conversation or from external sources. If, for example, the other person avoided eye contact, that might be a result of personal shyness, but it could also be cultural, an intended signal of respect or recognition of social standing. One might also consider the fact that those from high-context cultures tend to be more cautious in what they talk about with strangers. Those individuals accustomed to high-context communication might also feel uncomfortable in not having the kind of information important to that communicative style, namely the social, educational, or economic status of the other person, as well as the family background. In contrast, if one is more used to low-context communication, it is more likely that one would have the tendency to ask a lot of questions to gain information, rather than focusing on nonverbal behavior or social identity.

Another researcher, William Gudykunst, developed this approach further through what he called **anxiety/uncertainty management** (1988). This theory incorporates the concept of mindfulness. **Mindfulness** refers to the extent to which we are conscious of our attitudes, behavior, and judgments. Rather than relying on automatic responses in terms of categorization and stereotyping, mindful behavior explicitly addresses the unique experience of an encounter and makes adjustments as appropriate. Gudykunst points out that to be mindful, people must recognize that strangers may have quite different perspectives and communicative approaches. We can't assume that our messages will necessarily be interpreted as we mean them to be. Instead, one needs to negotiate meaning with strangers, adjusting our perspective and language to what is needed for effective communication. If we maintain rigid and inflexible categorizations, our uncertainty and anxiety will increase and communication will break down.

Sources of miscommunication

Misunderstandings in conversations can derive from a wide variety of sources and situations. In cross-cultural encounters, having a fundamental knowledge of the language is a necessary but not sufficient condition for effective communication. Learning vocabulary and grammar, as well as gaining proficiency in oral and written communication provide the basic tools for communicating. But what needs to accompany these essential building blocks is knowledge and skills in the ways in which language is used in cultural contexts in real-life situations. This is true even of speakers of the same language who speak different language varieties. Language **pragmatics** highlights the social contexts in which members of a community use language for specific communicative purposes. How one appropriately makes requests, issues invitations, or extends personal complements can vary significantly. There are large number of approaches for exploring what speakers "do" with words, what actions ensue, and how listeners respond. One of the challenges in this area is that, in contrast to linguistic fields such as syntax, phonology, or semantics, there are no hard-and-fast rules in the cultural dimensions of language use. Learning pragmatics happens through observation and participation. Children are socialized into appropriate language use, which becomes in large part a matter of implicit or unconscious knowledge, an awareness of a set of unwritten rules for a given community.

One of the issues that that can arise in intercultural communication is what is known as **pragmatic transfer**. Since pragmatic language use is deeply ingrained in individual behavior, speech acts and other manifestations of culture in language are regularly transferred by speakers from their native language into a second language. If we are used to seeing particular languages and/or behaviors in a given situation, our natural expectation is to see that repeated, even in different locales. That might involve something as routine as an offer of coffee after a meal, which, as in the example in the sidebar, might not have the expected significance. In this example of the offer of coffee, the difficulty does not lie in the linguistic meaning of the words, but rather with the cultural significance of the offer in the particular context of having a meal at a friend's home. The example points to the reasons for being aware of this kind of pragmatic transfer, as it can lead to awkwardness and miscommunication.

An offer of coffee: what does it really mean?

In some cultures an offer of coffee after a meal is generally recognized as a polite way to indicate to the guests that they ought to leave soon if they do not wish to outstay their welcome. In other cultures, an offer of coffee on a similar occasion is just an act of the host's kindness (or even an invitation to the guests to stay a little bit longer than they had intended). If interactants from different cultural backgrounds are unaware of the differences in their respective mental sets, misunderstandings are likely to occur. Misunderstandings of this sort involve the carryover of culture-specific knowledge from a situation of intra-cultural communication to a situation of intercultural communication.

Žegarac & Pennington, 2000, p. 169



Pragmatic failure often derives from errors which can be traced to the input of one's native language on the use of a second language. We may not be aware of the pragmatic or emotional value that roughly equivalent expressions carry in another language. Native speakers of Russian, for example, may use the expression "of course" in English in pragmatically inappropriate ways as, as in the following exchange between a native English speaker (A) and a native Russian speaker (B):

A: Is it a good restaurant?

B: Of course [Gloss (for Russian speaker): Yes, (indeed) it is. For English listener: what a stupid question!]

Thomas, 1983, p. 102

The Russian word *konesco* (конечно) has the same dictionary definition as English "of course" and is used, as in English, to indicate agreement or acceptance. However, in particular contexts, the English phrase refers to something being obvious. The use of the phrase in the context above could be perceived as peremptory or possibly even insulting, which was certainly not the intent of the speaker.

Swearing in English

I very rarely swear in Finnish but 'oh shit' or 'fuck' can easily escape my mouth even in quite trivial occasions - they just do not feel that serious to my (or my hearers') ears, even though I know they would sound quite horrible to a native speaker (milder English swear words like 'damn' for example do not even sound like swear words to me). If I would happen to hit myself with a hammer the words coming out of my mouth would definitely be in Finnish.

Dewaele, 2004, p. 213

An instance where caution is mandated is in the use of swearwords. These have a strong emotional value, which for non-native speakers may not transfer (see sidebar). Recent research on multilingualism (Paulenko, 2005; Dewaele, 2010) has shown that in many instances, multilingual speakers may make language choices and engage in code-switching based on the emotional import that expressions carry in a particular language.

In this area, as in all matters pertaining to cultural values and behaviors, care is needed to avoid overgeneralization. While there may be identifiable patterns of social behavior related to language within a community, that does not necessarily mean that a given behavior will be replicated by each member of the community. It is helpful to think of situations in which pragmatic transfer and the other cultural-linguistic awkwardness occurs as **rich points** of intercultural encounters, namely situations in which we do not initially understand the source of confusion or conflict (Agar, 1994). Such rich points can be explored for learning about social expectations and typical behaviors, but also for understanding individual perspectives and deviations. Rather than automatically characterizing incidents as culturally stereotypical, cultural anthropologists encourage the use of **thick description** of incidents, that is, going beyond the surface manifestations to discover deeper meanings and values and fleshing out the full cultural and personal contexts of what occurred (Bennett, 1998). The example often given is the significance of a wink:

The same physical act of someone "rapidly raising and lowering their right eyelid" could be a nervous twitch, a deliberate wink to attract attention or communicate with someone, or an imitation or mockery of someone else with a nervous twitch or winking. It all depends on the context, the aims of person the performing the action, and how these were understood by others (Knowles, 2011).

A "thin description" would record only the physical act and thereby not be very informative. The idea is to look further than the stock, stereotypical interpretation and try to discover the true meaning of observed phenomena.

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3.2: Centering Audiences

Learning Objectives

- Describe how to analyze the formal audience
- Consider implied or implicated audiences
- Explain stereotypes and ethnocentrism
- Explain ways an individual can improve their listening when in an audience

We are fans of standup comedy. A well-developed standup routine can leave us engaged and on the edge of our seat; it can leave us feeling like each joke was crafted for us.

Sadly, many of us have sat through less-engaging routines where awkward silence fills the space after an ill-placed punchline.

“Wow. Wrong audience,” the comic often nervously responds.

Similar to standup, audiences are central to public speeches. They are the main focus of our advocacies, and when we know more about our audiences, we can craft messages that effectively inform or move them toward action. We can craft messages to *call them in*.

You’ll notice that this book’s title includes “call in,” and you may wonder, what does that mean? When you speak out, you’re not speaking into thin air; instead, you’re inviting the audience to listen—you’re calling them in. To **call in** means creating a message that both relates to and implicates your audience; it is to summon. Paul Watzlawick, Janet Beavin, and Don Jackson (1967) write that communication always involves a content dimension and a relationship dimension. Nowhere does that become more important than working to call our audience in. You are not using the speech to dump a large amount of content on the audience; you are making that content important, meaningful, and applicable to them. Additionally, the way the audience perceives you and your connection to them—such as whether there is mutual trust and respect—will largely determine your success with the audience. The speaker must respect the audience as well as the audience trusting the speaker for “calling in” to be a success.

As you can see, calling an audience in is a process, and a complex one at that. In this chapter, we explore audiences in public speaking. To start, we answer the question: what’s an audience, anyway?

What’s an Audience?

In this chapter, we approach the audience in three ways.

First, by “audience” we mean the **explicit audience** that’s present when a speaker directs their message. The people sitting in chairs. Because public speeches require an audience, and because public speakers are asking the audience to listen to an argument, it’s important to analyze the group receiving a message – who you are speaking to. This is your explicit audience.

In addition, there are implied or implicated audiences who may or may not be present. Like we discussed in Chapter 1, public speaking is presenting an advocacy that engages for and with your community. When you are representing a group, culture, or an individual, they become an implicit audience. You are responsible for how you communicate about that audience or other groups who may be implicated by the advocacy.

Finally, you will be an audience member. The third dimension of “audience,” then, is you! As an audience member, your primary goal is to listen and reflect on what the speaker is presenting. Listening isn’t as easy as it sounds. So, we’ll also discuss listening, barriers, and best practices.

Who you’re speaking to, who you’re speaking for or about, and when you’re receiving a message are all components of the “audience.” Below, we’ll begin discussing analyzing the first dimension of audience: the explicit, formal group that listens to your message.

Speaking to an Audience

Public speaking requires an audience. After all, when speaking, your goal is to share a message that’s relevant and provide unique insight that will benefit those present. To accomplish that goal, you need to get to know the explicit audience you’re speaking to: you need to analyze them.

You may wonder, “Okay, but how do I do that?” Information gathering is the answer.

The more information you have, the more you’re able to isolate any overlapping beliefs, values, or goals that the audience shares. Audiences are unique, diverse, and sometimes unpredictable; information gathering will allow you to select an argument that’s most relevant to what your audience needs.

By **needs**, we mean identifying important deficiencies that we are motivated to resolve.

You may already be familiar with the well-known diagram, Maslow’s Hierarchy of needs—a framework to think about human needs. It is commonly discussed in the fields of management, psychology, and health professions. A version of it is shown in Figure 2.1 (More recent versions show it with 8 levels.) In trying to understand human motivation, Maslow theorized that, as our needs represented at the base of the pyramid are fulfilled, we move up the hierarchy to fulfill other types of need (McLeod, 2014).

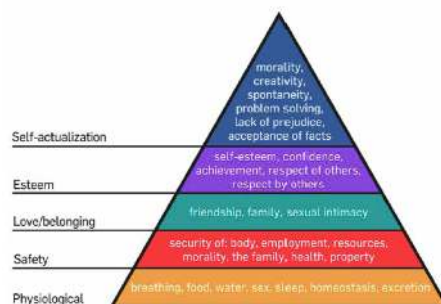


Figure 2.1

According to Maslow’s theory, our most basic physiological or survival needs must be met before we move to the second level, which is safety and security. When our needs for safety and security are met, we move up to relationship or connection needs, often called “love and belongingness.” The fourth level up is esteem needs, which could be thought of as achievement, accomplishment, or self-confidence. The highest level, self-actualization, is achieved by those who are satisfied and secure enough in the lower four that they can make sacrifices for others. Self-actualized persons are usually thought of as altruistic or charitable.

Unfortunately, humans aren’t always aware of what their needs are, so part of your task is learning about the audience and isolating needs that they may or may not be conscious of. For example, you’re reading out of an open textbook: this book was free of charge. Until you were assigned the book, you may not have been aware that open textbooks (or open educational resources) were an option. It was a need that you weren’t conscious of. A good speaker highlights the presence of a need by relating that issue to their audience.

When addressing an audience, determining what they need and where that need falls on the pyramid can influence how you make content that’s relatable – it can help you *call them in*. Diving deeper into the speaking context, audience demographics, and audience values all provide necessary information to identify needs and craft relevant arguments.

Throwback—Ethos: It’s important to consider who you’re speaking to because you’re asking a group of people to trust what you’re saying. You’re trying to establish good character (ethos). Knowing your audience and demonstrating that you know their needs can add trust and increase your ethos.

Researching the Context

Analyzing your audience needs begins by asking top level questions about the public speaking context: why will your audience be there? What's bringing them together? What's motivating them to attend? Determining why your audience will be in attendance can help uncover more about who they are.

If you aren't familiar with the *why*—why the audience is attending—conduct preliminary research. Use resources that are at your disposal to learn more and dig deep. If you're speaking at a formal convention, for example, what's the convention about? Is there a convention theme? Does the convention provide insight into past convention participants? How many people does the event accept?

Your research can help identify what's bringing the audience together. You might learn, for example, that conference attendees share a common career, participate in a common organization, or have a similar hobby. When you speak in a class, the course content (or university requirement) brings the audience together. If you're at a neighborhood meeting, the audience likely lives in that neighborhood, and you can learn about the key issues being discussed at the meeting.

As you research, try to determine what's motivating your audience to be present. Identifying motivations can help assist in identifying what your audience needs or what needs they're trying to fulfill.

Understanding Audience Demographics

A second information gathering strategy is looking at audience demographics.

Demographics – sociocultural characteristics that identify and characterize populations – are common ways of organizing and gathering data about groups of people. Have you ever taken a survey? Researchers often ask demographic information of participants to determine how answers may change between sub-groups (based on different demographics). In the United States, for example, data might track the average age or the average socioeconomic standing of an incoming college student.

Demographics can be a helpful source of information gathering. If you're aware of common audience demographics, you can gather information that might glean insights into *common* beliefs, attitudes, or responses to a topic. Using data and research, like a survey or experimental finding, can help educate you about particular demographic groups that may be in your audience. Figure 2.2 introduces common audience demographics and their corresponding descriptions.

Figure 2.2 Audience Demographics and Descriptions

Education	The kind of information and training a person has been exposed to.
Family Status	The self-identified status of an individual, including married, single, open, divorced. May include children.
Gender Identity	The self-identified presentation of a gender, including women, men, (cis or trans), and gender non-conforming.
Occupation	A job, career, or industry that one performs.
Race	The self-identification with one or more social groups, such as White, African American, Native Hawaiian. Social groups are often defined by physical characteristics.
Religion	Beliefs and practices about the transcendent, deity, and the meaning of life; can be thought of as an affiliation and a commitment.
Sexual Orientation	The self-identification of who an individual based on whom they have relationships with or attraction toward.
Socio-Economics	A person or group's economic standing in relation to others.

Other demographics include ethnicity, gender expression, spirituality, family structure, ability/disability, region or nationality, and generation or age.

Rather than stable categories, demographics are dynamic, changing, and contextual.

Religion, for example, is a porous concept that encompasses a wide range of formal and informal practices. If you gather information about your audience, and you determine that your audience is "religious," make sure that you aren't assuming a particular religious affiliation or making assumptions about what the category of religion infers.

While using demographic information can be helpful, it can also lead to stereotyping or relying on totalizing conclusions. **Stereotyping** is generalizing about a group of people and assuming that because a few persons in that group have a characteristic, all of them do. If we were sitting near campus and saw two students drive by hectically and said, "All college students are bad drivers," that would be stereotyping. Sadly, our stereotypical thoughts are often reinforced when a group behavior is observed. Every time we see a student (or who we perceive to be a student) driving hectically, we use that observation to support our stereotypical thought. Stereotypes have strongholds, so we likely don't "count" observations where students are driving safely.

We know what you're thinking: "I never stereotype." But we all do. Rather than pretend that stereotypes aren't part of our cultural narrative, use reflective and reflexive thinking (from Chapter 1) to evaluate when a stereotypical thought or idea arises. This includes being reflexive when using demographic information to inform your speech content.

Similarly, individuals are part of multiple demographic categories, not just one. Think about yourself and your identity. What are key parts? What types of demographics make you, you? You aren't just one category. Isolating one demographic to represent the whole person is totalizing. **Totalizing** is taking one characteristic of a group or person and making that the "totality" or sum total of what that person or group is. Totalizing often happens to persons with disabilities, for example; the disability is seen as the totality of that person, or all that that person is about. This can be both harmful to the relationship and ineffective as a means of communicating.

Demographics, then, are part of the information gathering process. But researching your audience's demographics doesn't mean learning one category and stopping there. Instead, think about your audience as a complex matrix, and demographics are one component of the grid. To gain a deeper insight into the matrix, search for insight about your audience's beliefs, attitudes, and values.

Beliefs, Attitudes, and Values

In Chapter 1, we discussed that communication both creates and sustains cultures. All of us are part of different cultures and, through communication, we learn about what those cultures believe and value, often adopting those beliefs for ourselves. For example, why are you in college? It's likely that you are part of a culture that values education and believes that education will lead to your betterment.

In some cases, groups with similar demographics can hold similar beliefs, attitudes, or values, but not always. Rather than map beliefs onto your demographics, use your research and information gathering to determine what kind of inner beliefs, attitudes, and values your audience may hold.

Beliefs are "statements we hold to be true" (Daryl Bem, 1970). Notice this definition does not say the beliefs are true, only that we hold them to be true and, as such, they determine how we respond to the world around us. Stereotypes are a kind of belief: we believe all the people in a certain group are "like that" or share a trait. Beliefs, according to Bem, come from our experience and from sources we trust. Therefore, beliefs are hard to change—not impossible, just difficult.

Beliefs are hard to change because of:

- **stability**—the longer we hold them, the more stable or entrenched they are;
- **centrality**—they are in the middle of our identity, self-concept, or "who we are";
- **salience**—we think about them a great deal; and
- **strength**—we have a great deal of intellectual or experiential support for the belief or we engage in activities that strengthen the beliefs.

For example, we (the authors) believe that all genders should be treated equally. This is a belief that we've established based on personal experience and cultural narratives. We believe this to be true. This belief informs how we treat people, the things we care about, and what we advocate for. This is a very strong belief, so it would be difficult for a speaker to persuade us otherwise, but would be important information for a speaker to know.

Values are goals we strive for and what we consider important and desirable. However, values are not just basic wants. A person may want a vintage sports car from the 1960s, and may value it because of the amount of money it costs, but the vintage sports car is not a value; it represents a value of either:

- nostalgia (the person's parents owned one in the 1960s and it reminds them of good times),

- display (the person wants to show it off and get “oohs” and “ahs”),
- materialism (the person believes the adage that the one who dies with the most toys wins),
- aesthetics (the person admires the look of the car and enjoys maintaining the sleek appearance),
- prestige (the person has earned enough money to enjoy and show off this kind of vehicle), or
- physical pleasure (the driver likes the feel of driving a sports car on the open road).

In the United States, for example, you might speak to an audience that values monetary security and success. This value is informed by a belief. It's likely, for example, that values around monetary success and prestige are rooted in beliefs that individual hard work can achieve success in a capitalist society. If you can identify a value, ask: what could be fueling that value? What beliefs?

Finally, **attitude** is defined as a positive or negative response to a person, idea, object, or policy. How do you respond when you hear the name of a certain singer, movie star, political leader, sports team, or law in your state? Your response will be either positive or negative, or maybe neutral if you are not familiar with the object of the attitude. Where did that attitude come from? Does that person, idea, or object differ from you in values and beliefs?

Let's extend our monetary example from above. If you speak to an audience who believes in capitalism and values monetary, individual success, it may be unwise to mention “socialism” as the audience may have a negative attitude to socialism as a concept.

Consider this second example. Pretend that you're speaking to a campus audience and, currently, the university has a very popular campus leader. The audience likely has a positive attitude toward that leader, so it would be beneficial to quote that person in the speech itself.

While discrete categories, beliefs, values, and attitudes are often intertwined, and knowing more about these categories can add to your understanding of who the audience is. Knowing who they are means identifying their needs and determining how and why your speech is relevant.

Speaking for an Audience

Gathering information about your explicit audience—the formal audience you're speaking in front of – is certainly important. The second audience to consider is the **implied or implicated audience**. In this section, we discuss *how* we talk about who we're talking about: how we're talking about the groups that are either represented and/or affected by our message.

Let's use a state congressional hearing as an example. Imagine a group of congress people meeting to advocate for a bill's passage that decreases environmental protections for a city in that state. The bill's author stands and advocates passionately for the bill's passage, noting that reducing the environmental protections would allow more business and jobs in the area. The speaker works to craft an argument that's compelling for the explicit audience – the audience of other congress people who are present.

However, there are other implied audiences – the communities that would be most impacted by environmental pollution; residents who live in the area; business owners themselves. These audiences are important because they are both represented in the advocacy and would be impacted by the results of the speech. They may not, though, be part of the explicit audience.

To determine your implied audience, ask: Who are you speaking about/advocating for? Are you sharing information about a culture, group, or individual? If so, who? Are you sharing information that will impact a culture, group, or individual? If so, who?

It may seem odd to consider audiences that are implied or not present. After all, isn't the explicit audience who you're trying to inform, persuade, or entertain? Yes, your explicit audience is important, but as we discussed in Chapter 1, communication is constitutive. When you communicate or advocate for an idea, you are participating in world-making. The way that you talk or represent groups, cultures, or individuals has lasting impacts, even outside your explicit speech event. It can impact your implied audience. So, the “talk” about an implied audience matters.

Asking ourselves to be accountable to implied audiences also encourages us to use ethical communication, pay attention to power, and reduce stereotypes.

For example, if a speaker advocated to intervene in a country through military means, they might argue that “The United States needs to intervene because, right now, the other country is exhibiting barbaric tendencies.”

First, ask: Who is the implied audience in this example? What audiences would be implicated (but are likely not present)? A clear implied audience includes the non-U.S. population or cultural group, i.e. “the other country.”

Second, ask, how has this group been represented? What kind of talk is being used to describe these implied audiences? You'll notice that “barbaric” was used to describe individuals in this culture. In this instance, “barbaric” seems to imply that the United States intervention is justified; barbaric seems bad and, alternatively, the United States does not exhibit those “barbaric tendencies” so, the U.S. may be best suited to intervene.

However, this explanation is using **ethnocentrism**—or the belief that one's own culture is superior—as part of their argument. This type of talk should be avoided because it often represents other cultures in unethical, stereotypical, or unjust ways. If the speech's argument requires an ethnocentric perspective, the argument isn't based on good reasons (we'll discuss this more in Chapter 5).

So far, we've discussed your implied and impacted audience as groups that are discussed, represented, or implicated by your speech. A final implied audience includes any groups, cultures, or an individual's *ideas* that you're using.

Have you ever had a friend who re-tells your joke but doesn't give you credit? Not cool! The same is true for speech advocacies. Any time you use or adapt an idea from a group or individual, you must give that implied audience credit. Failing to do so is known as **plagiarism**, or representing someone's ideas as your own (more on this in Chapter 4). Once you've finished writing an advocacy, make sure to double-check that anyone and everyone's information has been properly cited.

Identifying your implied audience can take time, but don't worry. We'll continue building critical thinking skills throughout the book to practice ethical and just public speaking with your explicit and implied audience in mind.

Question: Can't the implied audience be in the explicit audience? Sure! But not everyone who's implicated will likely be present.

Listening in the Audience

The third component of “audience” includes you! You will be an audience member many, many times, and you should take that job seriously. Your job in the audience is to listen and ethically reflect on what the speaker is saying. In this section, we explore listening as a key audience concept.

Listening is not the same thing as hearing. **Hearing** is a physical process in which sound waves hit your ear drums and send a message to your brain. You may hear cars honking or dogs barking when you are walking down the street because your brain is processing the sounds, but that doesn't mean that you are listening to them. **Listening** implies an active process where you are specifically making an effort to understand, process, and retain information.

In an audience, listening can be a difficult process. Unlike reading, which allows you to re-read a passage, you often have one chance to listen to an argument in a speech. Many studies have been conducted to find out how long we remember oral messages, and often the level of memory from oral communication is not very high (Bostrom & Bryant, 1980). The solution? Try to enact different listening techniques and reduce your barriers to listening.

Types of Listening

In this section, we will focus on types of listening. Ideally, we recommend working toward **comprehensive or active listening**, which is listening focused on understanding and remembering important information from a public speaking message. There are other “types” of listening, based on the context and purpose.

The first is **empathetic listening**, or understanding the feelings and motivations of another person, usually with a goal of helping. For example, if a friend says that she is thinking about dropping out of college at the end of the semester, you would want to listen for the reasons and feelings behind her choice, recognizing that you might need to ask sensitive questions and not just start telling her what to do or talk about your own feelings.

The second type of listening is **appreciative**, which takes place while listening to music, poetry, or literature, or watching a play or movie. For example, knowing that the melodies of classical music have a certain A-B pattern informs us how to listen to Mozart. To be good at this kind of listening, it helps to study the art form to learn the patterns and devices.

The third type is **critical listening**. In critical listening the audience member is evaluating the validity of the arguments and information and deciding whether the speaker is persuasive and whether the message should be accepted. This often occurs when listening to persuasive arguments.

What can a speaker do to encourage listening for an audience?

Planned redundancy refers to purposeful ways of repeating and restating parts of the speech to help the audience listen and retain the content. You might not be able to cover or dump a great deal of information in a speech (and you probably shouldn't), but you can make the information meaningful through planned redundancy and repeating or underscoring key components of your argument.

A speaker can also help the audience's listening abilities by using presentation aids (discussed in Chapter 10), stories and examples (discussed in Chapter 5), audience interaction or movement at key points in the speech (discussed in Chapter 9), and specific attention-getting techniques (discussed in Chapter 6).

In short, listening is hard work, but you can meet your audience half way by using certain strategies and material to make listening easier for them. At the same time, an audience member has a responsibility to pay attention and listen well.

In the next section, we will look at how you can improve your listening ability in public speaking situations.

Barriers to Effective Listening

Since hearing is a physiological response to auditory stimuli, you hear things whether you want to or not. Just ask anyone who has tried to go to sleep with the neighbor's dog barking all night. However, listening—really listening—is intentional and hard work. And there are three common barriers to be conscious of.

Noise—physical and mental—is the first barrier to listening. We have constant mental distractions in our lives, something that you might not even be aware of if you have always lived in the world of Internet, cell phones, iPods, tablets, and 24/7 news channels. We are dependent on and constantly wired to the Internet. Focus is difficult. Not only do electronic distractions hurt our listening, but life concerns can distract us as well. An ill family member, a huge exam next period, your car in the shop, deciding on next semester's classes—the list is endless.

Physical noisiness and distractions also contribute to difficulty listening. Perhaps someone next to you is on their cell phone, and you hear the constant click of their keyboard. Perhaps they are whispering to each other and impeding your ability to hear the speaker clearly. The physical environment can also exert noise. Maybe it's raining outside or someone is vacuuming through the door.

Confirmation bias is a second barrier to listening. This term means "a tendency to search for or interpret information in a way that confirms one's preconceptions" (Nickerson, 1998). Although the concept has been around a long time, we are more aware of confirmation bias today. It leads us to listen to news outlets and Internet sources that confirm what we believe already rather than being challenged to new ways of thinking by reading or listening to other sources of information. It can cause us to discount, reject, or reinterpret information to fit our preconceptions.

Finally, **information processing** is the third barrier. Our minds can usually process much faster than a speaker can speak clearly. We may be able to listen, when really trying, at 200 words per minute, but few speakers can articulate that many words clearly; an average rate for normal speech is around 100-120 (Foulke, 1968). That leaves a great deal of time when the mind needs to pull itself back into focus. During those gaps, we might find it more enjoyable to think of lunch, the new person we are dating, or our vacation at the beach.

These are all the possible obstacles to listening, but there might also be reasons that are particular to you, the listener. We often go into listening situations with no purpose; we are just there physically but have no plans for listening. We go in unprepared. We are tired and mentally and physically unready to listen well. We are hungry or fatigued. We do not sit in a comfortable position to listen. We do not bring proper tools to listen, specifically to take notes. So, what do we do?

Intentional Listening

As audience members, barriers prohibit our ability to absorb information that could benefit us.

Your own barrier might be not coming prepared, being quick to prejudge, or allowing gadgets to distract you. Obviously, recognizing the cause of your poor listening is the first step to becoming a better listener. Here are some steps, in summary:

- **Practice the skill.** Believe that good listening and improving your own listening are important. You would not want to be called upon in a meeting at work when you were daydreaming or being distracted by a cell phone. Consider listening to speeches in a prepared manner and practice listening as a skill.
- **Practice reflexive listening.** Since it is so easy to react to a speaker's ideas with confirmation bias, go into listening knowing that you might disagree and that the automatic "turn off" tendency is a possibility. In other words, tell yourself to keep an open mind.
- **Be prepared to listen.** This means putting away mobile devices, having a pen and paper, and situating yourself physically to listen (not slouching or slumping). Have a purpose in listening. There is actual research to indicate that we listen better and learn/retain more when we take notes with a pen and paper than when we type them on a computer or tablet (Mueller & Oppenheimer, 2014). Situate yourself by making decisions that will aid in your listening.
- **When taking notes, keep yourself mentally engaged by writing questions that arise.** This behavior will fill in the gaps, create an interactive experience with the speaker, and reduce the likelihood that your mind will wander. However, taking notes does not mean "transcribing" the speech or lecture. Whether in class or in a different listening situation, do not (try to) write everything the speaker says down. Instead, start with looking for the over-all purpose and structure, then for pertinent examples of each main point. Repetition by a speaker usually indicates you should write something down.

Conclusion

Audiences are central to a speaker's success. All 3 audience dimensions are key to consider, whether you're speaking or listening. Use this chapter throughout the public speaking process to create a relevant argument that's engaging to your audience. Work to call them in: to summon them to actively listen to your advocacy.

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3.3: Sapir-Whorf Hypothesis

There has been extensive research on what is known for linguists as the Sapir-Whorf hypothesis. Linguists and other social scientists use this hypothesis to analyze the complex relations between language and culture. In short, **Sapir-Whorf hypothesis** explains that *language shapes or influences the culture in which it is spoken*.⁷⁰ In other words, the languages we speak shape our social and cultural realities. So if we are speaking English, English (and all of the linguistic sexism found in it) would shape our cultural realities. Going by this hypothesis, one might argue labeling people as “female” or “male” shapes the idea of who the default individual would be. In that sense English can indeed be perceived as sexist, as it conveys intuitive notions that might shape the speaker’s and listener’s point of view. Take, for instance, the examples below:

(S)HE
(WO)MAN
(FE)MALE
(HU)MAN

In addition to language creating “defaults” in our standards for normalcy (and thereby creating deviations from those standards) we also create (or recreate) degradations of the female noun. For example, *hound* keeping its canine meaning, but *bitch* gaining another meaning entirely. *Mistress* and *master* used to be equal in meaning; now *master* evokes power, excellence, and ownership, whereas *mistress* is someone with whom you can cheat on your spouse. Incidentally, you cannot use *master* in the same way. Consider this old riddle that goes something like this: A father and son go out for a camping trip. On the way home from the camping trip the father and son get into a terrible car accident where the father is killed immediately upon impact. The son promptly gets rushed to the emergency room where the doctor inside prepares to save the boy’s life. Until, the doctor walks over to the critically injured boy and says, ‘I can’t operate on this boy. He’s my son.’ This is the end of the riddle. The question then becomes; who is the doctor? If you are like many people you’ll be puzzled at first thinking, “Uh, but you said the father died. How could he be in the emergency room if he is dead?” To which, of course, he cannot be (though, I’ve heard variations on the ghost dad / zombie dad theme numerous times!). That leaves only one option: the boy’s mother is the doctor. “Ahhhhhh, duh!” Yes, duh. But why was this *obvious* answer not immediately apparent? The answer has to do with the theme of this section: language has ways of seeing and understanding the world built into it that both reflect and reconstruct our social structures through our use of them. Since the word ‘doctor’ connotes a position of power, it is often understood to be held by a man. Though we now know full well women can and are doctors, the cultural and linguistic vestige from the past, the legacy of the power in Western culture, predisposes us to thinking the doctor must be a man, blinding us from the obvious fact that most people have two parents (and often a mother and a father)!

So who do we blame? English, right? Grab the pitchforks! Not quite. We cannot blame language; linguistic sexism is abstract and draws on human experiences to give it shape and meaning. And yet there is something in our heads that associates feminine with ‘pretty’ and masculine with ‘strong’. While language isn’t to blame, language does reflect and reinforce the culture of its users. Us!

Is language sexist? Only as much as the user is. Is sexism linguistic? Not *only* linguistic, but yes, the evidence in grammar is enough to draw conclusions pointing to sexism. How can we fight linguistic sexism and sexist language? Language is a reflection of us and does not exist without us, and our realities are shaped by language. So it’s almost like looking in a mirror and becoming frustrated when the image won’t change without us changing it. We would have to reconstruct sexism *in thought* before we could eliminate sexism *in speech*. Then, *eliminating it in speech would reinforce eliminating it in thought*. (However, going back to the examples provide earlier on using inclusive language can help the process of reconstruction our thoughts on sexism and gender standards.)

⁷⁰ Deutscher, G. (2011). *Through the language glass. Why the world looks different in other languages*, Arrow Books, London

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3.4: The Influence of the Structure of Language

Language influences not only how we interpret our world, but also our thinking process. Philosopher Ludwig Wittgenstein explored the relationship between language and how we interpret our world. Here are some of his thoughts:

*“The limits of my language means the limits of my world.”*¹

“Like everything metaphysical the harmony between thought and reality is to be found in the grammar of the language.”

*“A new word is like a fresh seed sown on the ground of the discussion.”*²

*“Language is a part of our organism and no less complicated than it.”*³



Wittgenstein also suggests, **the structure of our thinking is related to the structure of our language**. The term, “linguistic determinism” is used to suggest that there is a causal influence of one’s linguistic pattern on our cognitive or thinking process. In other words, our language guides our thinking. There is a continuing philosophical debate on the question, “Can we think about something that is not included in our language?” Recent philosophy suggests that it is language which molds our thoughts.

Language shapes our thinking in two ways.

- **The vocabulary of our language**
- **The grammar, or structure, of our language**

Our vocabulary gives us more avenues of thought. The more words you have about a subject, the more ways you have to think about that subject. If I just had one word that represented the person I am married to, like wife, then I couldn’t think of her in terms of “partner,” “companion,” “lover,” “master shopper,” and so on. The fewer words we have to describe a person or situation, the less ways we have to think about it. This was the basic concept for George Orwell’s book *1984*.



In 1984 the main character, Winston Smith, works in the government's "Ministry of Truth." His Job is to rewrite news stories to be consistent with the way in which the government wants you to think. George Orwell uses his concept of Newspeak, an earlier essay, that argues that to control what people think, control their language and only those thoughts consistent with that language will occur.⁴

*"Language is the formative organ of thought. Intellectual activity, entirely mental, entirely internal, and to some extent passing without a trace, become through sound, externalized in speech and perceptible to the senses. Thought and language are therefore one and inseparable from each other."*⁵

The Whorf-Sapir hypothesis maintains that the words of a particular language help to determine the way that people interpret events that occur. The hypothesis theorizes that thoughts and behavior are determined, or are at least partially influenced, by language. This misunderstanding can become even more pronounced when those communicating are from two or more cultures or subgroups.

As Sapir has written, not only is it a misunderstanding of words that can cause confusion and differences of opinion, but the structure of the language, or grammar of the language, influences how we think and see our world. Sapir and Whorf agree that it is our culture that determines our language, which in turn determines the way that we categorize our thoughts about the world and our experiences in it. Whorf says that your language affects how you think, which in turn affects how you deal with incoming information, and ultimately how you use it. Thus, the words we select to describe people's internal or external attributes shape the way we feel about these people.

There is a clear difference in the attitude we are expressing given the words we select to refer to someone's ethnicity, gender, sexual preference, religion, culture, or personal traits. Essentially, our word choices allow us to indirectly express our "real" feelings about the people, events and things in our environment. Much the same can be said for any group or subculture that has its own language.

Sapir and Whorf write,

*"No two languages are ever sufficiently similar to be considered as representing the same social reality. Language is itself the shaper of ideas, the program and guide for the individual's mental activity, analysis of impressions. The fact of the matter is that the 'real world' is to a large extent unconsciously built up on the language habits of the group."*⁶

Language is one of the most powerful agents of enculturation, and therefore we must choose our words very carefully. In William Haviland's Cultural Anthropology, he writes,

*"... language is not simply an encoding process for voicing our ideas and needs but is rather a shaping process that, by providing habitual grooves of expression which predispose people to see the world in a certain way, guides their thinking and behavior."*⁷

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CHAPTER OVERVIEW

4: What is an Argument?

- [4.1: Defining An Argument](#)
- [4.2: Identifying Arguments](#)
- [4.3: Toulmin Approach to Argument](#)
- [4.4: No Absolute Certainties](#)
- [4.5: Arguments vs. Explanations](#)
- [4.6: Creating A Counter Argument](#)
- [4.7: Video - Understanding Arguments](#)

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4.1: Defining An Argument

An argument is a communication process that attempts to resolve an actual disagreement, confusion, or ignorance about something. Arguments occur all the time and are a staple ingredient of many communication environments. The end goal of an argument should be to reach a conclusion which is sufficiently persuasive to convince someone of a position on a claim.

Some arguments are relatively trivial and easy to resolve. For example, if I argue that I am older than you and if you disagree, then we may argue about the fact. Here, all we may have to do is look at our drivers licenses to resolve the disagreement. Similarly, if I argue that the final exam for a class is on Monday and you argue that I am wrong, because it is on Wednesday, then we can resolve that argument by referring to a mutually acceptable authority on the subject, like the published final exam schedule.

Usually arguments such as these are relatively trivial. Their resolution is easy and quick because there is an authority to establish the facts, and there is general acceptance of that authority as the arbitrator of the dispute. Once that authority rules on the dispute, then the argument is over.

Arguments become more complex when we are not immediately certain about how to resolve them. These arguments usually involve some type of value judgment, where the final outcome is not necessarily factually based. For example, one sports team is better than another, one type of food is tastier than another, should I purchase one type of car or another. For that reason, we have a variety of structured arguments such as; judicial arguments, legislative debates, industrial disputes, divorce mediation, and so on, that have agreed upon processes and rules. When using these structured arguments, we agree to abide by the processes we have set up to resolve the argument, even if the result is not always what we had hoped.

One challenge is that even with the best intentions, miscommunication is likely to happen. Remember, **perfect communication is impossible**. The more significant differences between communicators, the greater the potential miscommunication. Miscommunication may lead to conflict, or aggravate conflict that already exists. This is one of the reasons we strive for constructive arguments.

To engage in effective arguments, we need to have an understanding of how to argue constructively. There is a major difference between constructive argumentation and merely bickering or quarreling with another person or organization. In the public world of work, politics, education, and the media, the primary requirement of an effective argument is that it must be rational, that is, follow the rules of reason.

In today's world, there is an abundance of irrationality. Just take a quick look at Facebook posts and responses to others. We need to be much more skilled in the argumentative process to be able to argue constructively and achieve a conclusion.

The Goals of Argumentative Communication

Jim's wife Suzy is suspicious. She has noticed on the credit card bills charges from a jewelry store and a department store that Jim has told her nothing about. She also notices that he is getting secretive phone calls and that is not like him. And he goes out, telling her he is going to the gym, but he is gone too long for just a workout. Suzy is wondering what is going on, is he is having an affair? She, of course, asks her hairdresser about it and they both share their thoughts.

A couple of days later Jim is getting his hair cut by the same person who cuts Suzy's hair and is asked what he is doing. Jim tells her that he is preparing for a surprise visit from their daughter. He is buying presents for Suzy at his daughter's request. The phone calls were from her, his long workout also included making arrangements for the trip.

Was Suzy's conclusion that Jim is having an affair a reasonable one? That is, is the conclusion consistent with the evidence used to make it? In this case, the answer is yes. All of the evidence can be considered traditional support for someone having an affair. Is Jim's explanation that he is buying his wife presents on behalf of his daughter a reasonable one? That is, is the explanation consistent with the evidence used to make it? In this case, the answer is also yes.

But, who is telling the Truth, Jim or Suzy? To answer this, we need to ask what is **Truth**? And a second important question, "Do we even use the concept of Truth in improving our skill at argumentation? To answer this we turn to Epistemology, the theory of knowledge or branch of philosophy that studies Truth and how knowledge is gained, how much we can know, and what justification there is for what is known.

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4.2: Identifying Arguments

Identifying Arguments

Summary: Identifying arguments involves recognizing statements where someone attempts to establish truth based on another statement. This section discusses premise and conclusion indicators, which aid in distinguishing arguments from non-arguments. By understanding these indicators and applying substitution tests, students can accurately identify arguments.

Learning Objectives:

- Recognize statements constituting arguments.
- Understand premise and conclusion indicators.
- Apply the substitution test to determine argument presence.

Identifying Arguments: An argument is present when someone seeks to establish a statement as true based on another statement. This can be determined by recognizing premise and conclusion indicators within sentences.

Premise and Conclusion Indicators:

- Premise Indicators: Words like "since," "because," and "for" introduce statements providing reasons or support.
- Conclusion Indicators: Words like "so," "therefore," and "hence" mark statements someone aims to establish as true.

Substitution Test: To verify if a word functions as a premise or conclusion indicator, substitute it with another from the list. If the resulting sentence makes sense, it likely indicates an argument.

Exercise: Identify arguments and their conclusions:

1. The woman in the hat is not a witch since witches have long noses and she doesn't have a long nose. (Conclusion: The woman in the hat is not a witch.)
2. I have been wrangling cattle since before you were old enough to tie your own shoes. (Not an argument)
3. Albert is angry with me so he probably won't be willing to help me wash the dishes. (Conclusion: Albert probably won't help wash the dishes.)
4. First I washed the dishes and then I dried them. (Not an argument)
5. If the road wasn't icy, the car wouldn't have slid off the turn. (Not an argument)
6. Albert isn't a fireman and he isn't a fisherman either. (Not an argument)
7. Are you seeing that rhinoceros over there? It is huge! (Not an argument)
8. The fact that obesity has become a problem in the U.S. is shown by the fact that obesity rates have risen significantly over the past four decades. (Conclusion: Obesity is a problem in the U.S.)
9. Bob showed me a graph with the rising obesity rates and I was very surprised to see how much they've risen. (Not an argument)
10. Albert isn't a fireman because Albert is a Greyhound, which is a kind of dog, and dogs can't be firemen. (Conclusion: Albert isn't a fireman.)
11. Charlie and Violet are dogs and since dogs don't sweat, it is obvious that Charlie and Violet don't sweat. (Conclusion: Charlie and Violet don't sweat.)
12. The reason I forgot to lock the door is that I was distracted by the clown riding a unicycle down our street while singing Lynyrd Skynyrd's "Simple Man." (Not an argument)
13. What Bob told you is not the real reason that he missed his plane to Denver. (Not an argument)
14. Samsung stole some of Apple's patents for their smartphones, so Apple stole some of Samsung's patents back in retaliation. (Conclusion: Apple stole Samsung's patents.)
15. No one who has ever gotten frostbite while climbing K2 has survived to tell about it, therefore no one ever will. (Conclusion: No one will survive frostbite while climbing K2.)

Table 1 contains a list of some common premise and conclusion indicators:

Premises indicators	Conclusion indicators
since	therefore
because	so
for	hence

as	thus
given that	implies that
seeing that	consequently
for the reason that	it follows that
is shown by the fact that	We may conclude that



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4.3: Toulmin Approach to Argument

In order to determine the most effective strategy to respond to a case, the con-side of an argument needs to analyze the argument to discover the strengths and weaknesses of the pro-side. The Toulmin Model gives us an effective tool to successfully clash with the pro-side.

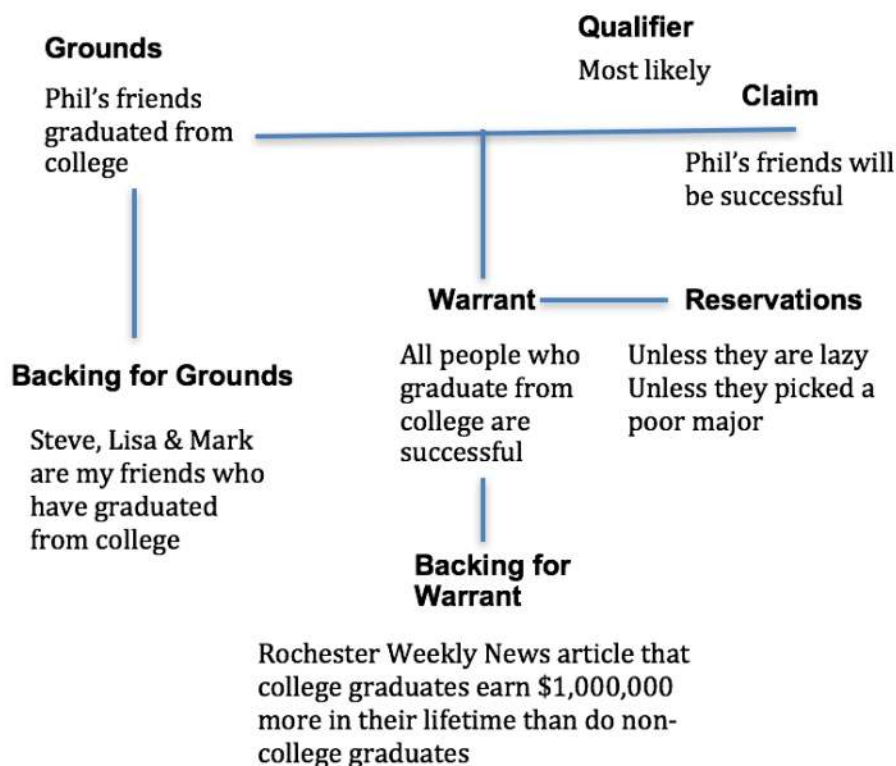
Stephen Toulmin was one of the modern-day leaders of rhetorical theory. He looked at the classical structure of arguments, and found a problem. The conclusions of the classical approaches to arguing needed to be absolute. That is, the conclusions of a correctly structured argument were either absolutely, 100% valid (true) or absolutely 0% invalid (untrue). There were no grey areas.

In his work on logic and argument, *The Uses of Argument* (Toulmin, 2008), Toulmin defines six parts that make up an argument:

- Claim
- Grounds
- Warrant
- Backing
- Reservations (rebuttals)
- Qualifier

In this approach he breaks down an argument into its component parts to demonstrate the degree of confidence you should have in the argument. Analyzing the argument allows the con-side to determine the strengths and weaknesses of the argument, so a counter argument can be effectively delivered.

Here is a simple argument that is diagrammed using the Toulmin approach.



3.6.1: "Sample Toulmin Model" (CC BY 4.0; J. Marteney)

- **Claim:** This is the main point or thesis of the argument. This is what the pro-side is attempting to convince you of or trying to prove. If the claim is not directly stated, just ask, "What is the pro-side trying to prove?" In the sample argument, the conclusion, the claim you are attempting to prove is that "Phil's friends will lead successful lives."
- **Grounds:** Here is the starting point of your argument that leads to your Claim. This is what you have observed, read or what you believe to exist. In this sample argument, the grounds are that "Phil has several friends who have graduated from college."
- **Warrants:** This is the overall logical underpinning of the argument. A general rule that can apply to more than one Grounds. The Warrant can be a universal law of nature, legal principle or statute, rule of thumb, mathematical formula, or just a logical

idea that appeals to the person making the argument. Warrants usually begin with words like; all, every, any, anytime, whenever, or are if-then, either-or, statements. The Warrant is a general rule that has no exceptions. Those come later

- Warrants are important because they provide the underlying reasons linking the claim and the grounds. You can infer the warrants by asking, "What's causing the advocate to say the things he/she does?" or "Where's the advocate coming from?" In our example argument, the warrant is that "All people who graduate from college are successful." No exceptions.
- **Backing:** Backing is the specific data, which is used to justify and support the grounds and warrant. In Toulmin's original work, he only includes Backing for the Warrant. I am adding Backing to also look at the quality of the original Grounds of the argument. Critical thinkers realize that there must be backing for their statements or they are merely assertions. When clashing with an argument, we need to look at the quality of evidence that supports the initial grounds.
 - In our diagrammed argument, the Backing for the Grounds are the names of the specific friends who graduated from college. The Backing for the warrant comes from an LA Times article that college graduates earn \$1,000,000 more in their working lifetime than non-college graduates do. I like to separate the Backing from the Grounds and Backing for the Warrant as they are two different areas that can affect the strength of the argument. Toulmin makes no such distinction.
- **Reservations and Rebuttals:** They are the "unless" to the Warrant. Reservations do not change the wording of the warrant. Reservations do not change the "universality" of the Warrant. But Reservations are exceptions to the warrant. These exceptions weaken the validity of the conclusion because the Grounds may just be one of these exceptions, thus meaning that the Claim is invalid. In our example, your uncle has a Reservation to the Warrant. He states that people who get a college degree will succeed, unless they are lazy. The "unless they are lazy" is the Reservation to the Warrant.
 - Note that a Reservation does not refer to a rejection of the Warrant. In this example "Unless they did not graduate" would not be a Reservation because it implies that the Warrant did not happen. Instead a Reservation is a statement that suggests that even though the Warrant took place, the Claim may not occur.
- **Qualifiers:** Suggest the degree of validity of the argument. If there is no Qualifier, then the argument is 100% valid. But if a Qualifier exists then the conclusion is less than absolute. With a qualifier, the argument is about probability and possibility, not about certainty. You cannot use superlatives like all, every, absolutely or never, none, and no one. Instead you need to qualify (tone down) your claim with expressions like; most likely, many, probably, some or rarely, few, possibly, etc.
 - In our sample argument, it is argued that Phil's friends will "most likely" be successful. The "most likely" is the Qualifier.

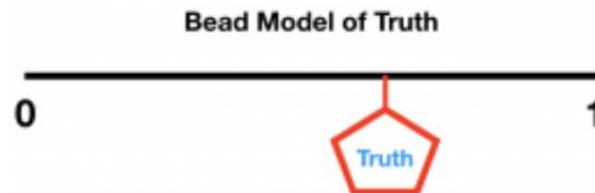
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4.4: No Absolute Certainties

In argumentation, we don't deal with absolute certainty of a claim. The skeptic and scientist both have the attitude that there are no absolute certainties. In other words, there are doubts on each claim that is argued. One scientist, **R. A. Lyttleton**, has described this process as the "Bead Model of Truth." It is important to note here that Lyttleton does not use the word "Truth" as the absolute "Truth" but instead uses the word "Truth" to represent the validity of a claim.¹

To understand his model Dr. Lyttleton imagines a bead on a horizontal wire. The bead can move left or right on that wire. On the far-left side of the wire is the number which corresponds to total disbelief. On the far-right hand side of the wire is the number 1 which is related to a position of total belief or where you would believe the claim with absolute certainty.



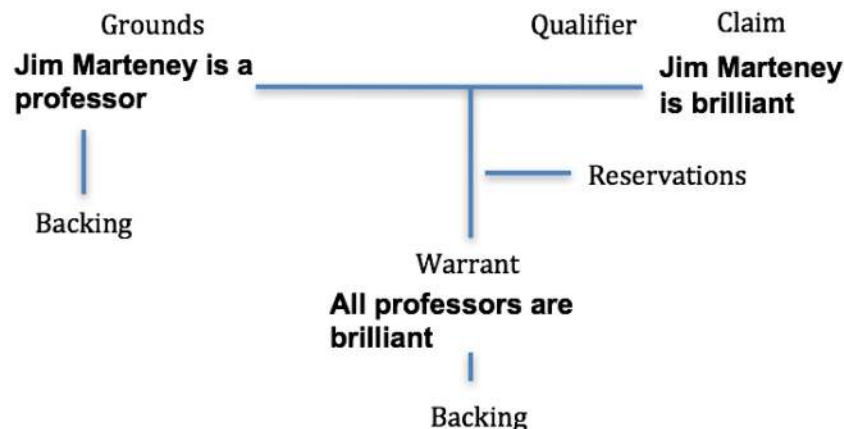
3.8.1: "Bead Model of Truth" (CC BY 4.0; J. Marteney)

Dr. Lyttleton would argue that the bead should never reach the far left or right end. As additional evidence is presented the belief is true the closer the bead moves to the number 1. The more unlikely the belief is to be accepted the closer the bead moves to 0.

According to **Toulmin**,

"Any claim is presented with certain strengths or weakness, conditions, and/or limitations. We possess a familiar set of colloquial adverbs and adverbial phrases that are customarily used to mark these qualifications. Such adverbs are: presumably, in all probability, so far as the evidence goes, all things being equal, for all that we can tell, very likely, very possibly, maybe, apparently, plausibly, almost certainly, so it seems, etc. All of these phrases can be directly inserted into the claim being advanced, and as a result, would modify the claim indicating what sort of reliance the supporting evidence entitles us to place on the claim."²

Let's go back to the "**Jim Marteney is brilliant**" syllogism. Below is how Dr. Toulmin would analyze the argument. Now you can ask questions about the parts of the argument that are blank, the backing, reservations and qualifier.



3.8.2: "Second Sample Toulmin Model" (CC BY 4.0; J. Marteney)

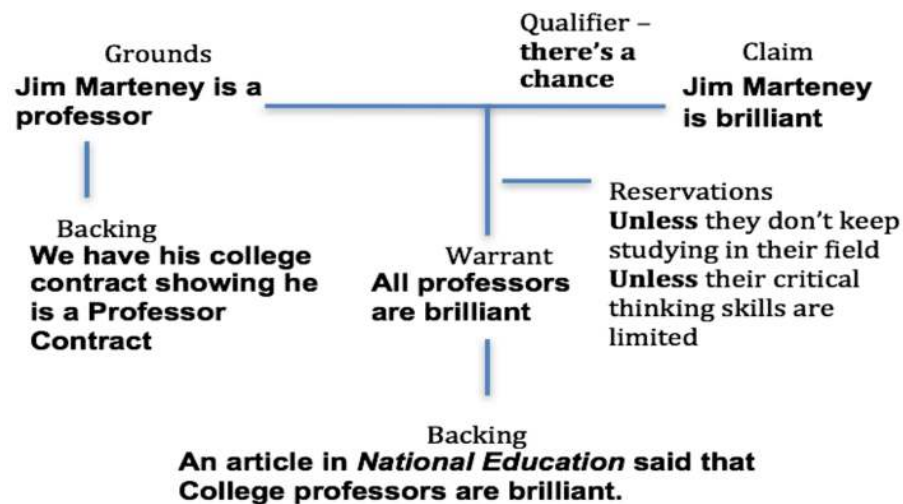
The argument as presented is 100% valid because there are no Reservations leading to a Qualifier. There is also no Backing presented for the Grounds and Warrant, so at this point they are just assertions.

- Now you begin your analysis by asking questions, or as we will be calling them, Issues. What is the Backing for the idea that all professors are brilliant? Poor backing would create doubt with the Warrant and its ability to be an absolute, general rule.
- Are there any professors who are not brilliant? If so, that could be part of the Reservation? This is where you show your skepticism.

The answers to these questions could damage the argument. If there are Reservations there is a Qualifier. The more reservations, the weaker the Qualifier becomes the Claim becomes less valid. If there are no exceptions the Qualifier is 100% and you would be

100% certain that the Claim is correct. But with a couple of Reservations your Qualifier could be reduced to maybe 80% sure. Now, does that reach your threshold? There is still a degree of validity, but it may not be enough for you to accept the claim.

Examining the quality of the backing of the Grounds and Warrant might lead us to question the accuracy of those statements. With questionable backing the accuracy of the argument is challenged. The weaker the accuracy the less valid is the Claim. This is what a completed Toulmin might look like.



3.8.3: "Third sample Toulmin Model" (CC BY 4.0; J. Marteney)

With this completed Toulmin analysis of the argument we can immediately see two weaknesses in the argument.

- The publication, *National Education* which supports the Warrant that “All professors are brilliant,” might be prejudiced in favor of professors. This weakens the accuracy of the warrant.
- Since there are two Reservations to the Warrant, the Claim cannot be 100% valid. There then has to be a Qualifier that suggests a lower level of validity.

Notice that the Qualifier is now, "There's a chance." This would lead me to reject the Claim that Jim Marteney is brilliant.

This is what defense attorneys attempt to do in a courtroom. They don't have to prove that their client is innocent. They have to attack the prosecution case to reduce the validity of the Claim that their client is guilty. They want the Qualifier to reflect a low number by questioning the backing and adding more and more examples to the Reservations. If in a criminal case they can reduce the validity to below reasonable doubt, the jury should find their client “not guilty.” Notice they don't say the accused is “innocent.” They can only say that the prosecution did not have a valid enough case for them to find the accused guilty.

Stephen Toulmin developed this model for analyzing the kind of argument you read and hear every day--in newspapers and on television, at work, in classrooms, and in conversation. The Toulmin Model is not meant to judge the success or failure of an attempt to prove an argument; instead it helps break an argument down to its most basic pieces. The Toulmin Model helps to show how tightly constructed arguments are, and how each part of an argument relates to the overall validity or reasonableness of that argument.

Reference

1. Hale, Jamie. "Limitations of Science." *PsychCentral*, <https://psychcentral.com/blog/the-limitations-of-science/>. Accessed 30 October 2019.
2. Toulmin, Stephen E. *The Uses of Argument*. New York: Cambridge University Press, 2008

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4.5: Arguments vs. Explanations

Arguments vs. Explanations

Summary: Distinguishing between arguments and explanations is essential in critical thinking. This section clarifies the difference between the two, emphasizing their distinct purposes and structures. By understanding when to use each, students can effectively support claims or provide insights into why something is true.

Learning Objectives:

- Differentiate between arguments and explanations.
- Identify the purpose and structure of each.
- Apply critical thinking skills to assess whether a statement is an argument or an explanation.

Arguments:

- Purpose: To establish the truth of a claim.
- Structure: Premises provide reasons for accepting the conclusion.
- Example: "Obesity rates are rising in the U.S. because multiple studies by the CDC and NIH have consistently shown a rise in obesity over the last four decades."

Explanations:

- Purpose: To explain why a claim is true.
- Structure: Premises explain why the conclusion is true, assuming its truth.
- Example: "The rate of obesity is on the rise in the U.S. because Americans have increasingly consumed foods high in sugar and low in fiber, leading to more fat storage."

Exercise: Identify whether the following statements are arguments or explanations, and identify the main conclusion:

1. Wanda rode the bus today because her car was in the shop. (Explanation: Wanda rode the bus.)
2. Since Wanda doesn't have enough money in her bank account, she has not yet picked up her car from the shop. (Explanation: Wanda hasn't picked up her car.)
3. Either Bob or Henry rode the bus to work today. But it wasn't Henry because I saw him riding his bike to work. Therefore, it was Bob. (Argument: Bob rode the bus.)
4. It can't be snowing right now since it only snows when it is 32 degrees or below and right now it is 40 degrees. (Argument: It's not snowing.)
5. The reason some people with schizophrenia hear voices in their head is that the cognitive mechanism that monitors their own self-talk is malfunctioning and they attribute their own self-talk to some external source. (Explanation: People with schizophrenia hear voices.)
6. Fracking should be allowed because, although it does involve some environmental risk, it reduces our dependence on foreign oil and there is much greater harm to the environment due to foreign oil drilling than there is due to fracking. (Argument: Fracking should be allowed.)
7. Wanda could not have ridden the bus today because today is a citywide holiday and the bus service is not operating. (Explanation: Wanda couldn't have ridden the bus.)
8. The Tigers lost their star pitcher due to injury over the weekend, therefore the Tigers will not win their game against the Pirates. (Argument: The Tigers will not win.)
9. No one living in Pompeii could have escaped before the lava from Mt. Vesuvius hit. The reason is simple: the lava was flowing too fast and there was nowhere to go to escape it in time. (Explanation: No one could have escaped Pompeii.)
10. The reason people's allergies worsen when they move to Cincinnati is that the pollen count in Cincinnati is higher than almost anywhere else in the surrounding area. (Explanation: People's allergies worsen in Cincinnati.)



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4.6: Creating A Counter Argument

Once we have determined the strengths and weaknesses in the argument by effectively using the Toulmin Model, we can create our counter argument and begin our clash.

In the Toulmin analysis that concluded that Phil's friend will be successful, two possible counter arguments reveal themselves. One argument can focus on the backing for the Warrant, while another looks at the Reservations.

The Backing for the Warrant "that all who graduate from college will be successful" is from the Rochester Weekly. The con-side might question the quality of that source. How did they determine that conclusion? If the con-side can demonstrate a problem with the Warrant, the entire argument is invalid.

A second con-side argument might be with the reservations. The more significant the reservation that exists, the more of a chance that the instances described in the grounds might apply to those reservations. Maybe Phil's friends are lazy or picked a poor major. There might be additional reservations like they live in an economically depressed area with few employment chances. The more Reservations to an argument, the less valid is the Claim.

Note

An argument is not merely denying the claim. Just denying the claim is what we might call "squabbling" or "bickering." It is not an argument. For clash to be effective you need to explain **why the claim should be denied**.

Note 2

The con-side does not have to create a counter argument. If they can find problems with the pro-side's case, they can weaken the validity of the argument to the point where it rests below the Threshold needed to win approval. And thus, the con-side wins the argument.

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4.7: Video - Understanding Arguments

📌 Episode 1.2: Understanding Arguments



Episode 1.2: Understanding Arguments
Center for Innovation in Legal Education

Can I please have a raise? I need more stuff!

Watch on YouTube

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CHAPTER OVERVIEW

5: Clarity, Consistency, and Structure

5.1: Clarity

5.2: Defining a Claim

5.3: Characteristics of a Claim

5.4: Consistency and Validity

5.5: Truth vs. Validity

5.6: Soundness

5.7: Structure

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5.1: Clarity

Each day we may be faced with situation where you tell yourself need to argue.

- You've just been stopped and given what you feel is an undeserved traffic citation for speeding.
- You open up your afternoon mail and discover a letter from the IRS calling you in for an audit on last year's tax return.
- You notice that your VISA bill contains a charge you did not make and you want it removed.
- You sense that your boyfriend or girlfriend has been neglecting you and you feel the necessity to talk about it.
- You open up your grade report and get an unexpected low grade in a course.

Instead of just ranting at each of these situations you need an appropriate Claim to be phrased and argued. Only then can you know what you need to argue and what your personal responsibility is in that argument.

All of us have been in a situation where halfway into the argument we don't know what we were arguing about in the first place; or we've started an argument over one specific point, and wound up arguing about two, three, or four different things. Losing focus is easy if the parties involved in the argument are not clear as to the exact topic of the argument, or if each is advocating a different topic.

This chapter will give you some perspectives on the way to bring organization and structure to the argumentative environment by creating and utilizing a proper claim.

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5.2: Defining a Claim

The foundation for all argument is the **Claim**. A Claim is any single statement of controversy advanced for the purpose of argument. Both sides of an argument, the pro- side and the con-side in a debate, should argue the same Claim. The Claim is a statement much like the topic of an argument, but it does much more.

Claims represent both the starting point and the ending point of an argument. That is, a Claim is advanced by an advocate to promote an argument. It is that same claim that will end up being accepted or rejected at the end of the argument. A Claim is the main point, the thesis, and the controlling idea. You can find the Claim by asking the question, "What is the advocate trying to prove?"

There is a difference between an argument and a discussion.

- The focus of a discussion is a question
- The focus of an argument is a statement.

Using a question, a discussion looks at a variety of topics, viewpoints, and ideas to come to a conclusion and answer the question. There are many sides and points of view that are brought into a discussion. All the participants can offer a different view or opinion. As an example you might have a discussion on, "What is the best movie of all time?" "Where should we go for dinner?" or "What should we do about the war in the Middle East?"

An argument looks at a single topic or subject to decide if it should be accepted or rejected. There are only two sides to an argument. You are either for the topic, or as we will see, the Claim of the argument, or against the topic of the argument. All participants will argue for one side or the other. There is no middle ground.

- The pro-side will argue for the claim and thus a change in what is currently happening
- The con-side will speak against the claim and support the current, existing situation referred to as the "status quo."

The focus of an argument then is a statement. As an example, you might argue, "*The Godfather is the greatest movie of all time.*" The pro-side will argue for the acceptance of the Claim, while the con side will argue against the Claim in an attempt to have it rejected.

Claims represent the topic of an argument. You cannot have a constructive conflict without a Claim. In order to avoid destructive conflict, like bickering or quarreling, the Claim must be properly phrased and understood by all participants involved in the argument. There are seven key characteristics of Claims.

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5.3: Characteristics of a Claim

Claims are phrased as statements and not questions. The goal of a claim is to promote a pro versus con debate-style environment. Claims often emerge as a result of a discussion, where many points of view are presented. But in the debate the claim is a statement.

Claims are phrased against the status quo in order to create the potential for controversy. Status quo refers to current beliefs, policies, rules, behaviors, or institutions. Status quo can be three things: an individual's stasis, where they are most comfortable; some institution's current beliefs, values or policies; or the starting point for an argument.

A properly phrased claim is one which challenges the status quo. There is usually very little controversy in advocating a claim that promotes or reinforces that which already exists. If a child wants her curfew changed, it wouldn't make for much controversy if she went to her parent and said, "My curfew should be left at midnight." The parent would nod in approval and there would be no debate. Now, if she went to her parent and said, "My curfew should be 3 a.m. instead of midnight," her parent would most likely take exception and respond as that is now an argument against what currently exists.

If the current status quo cannot be clearly defined, the advocate is free to phrase the claim as he or she would like, with the claim becoming the starting point for the argument. For example, I want to advocate a claim with regard to the government making more funds available for Zika research, but I'm unsure as to whether they are currently doing this, I would phrase the claim so that it represents the starting point for the debate. I make the claim that, "The United States should provide additional funding for Zika research." Now I have covered myself in case they have made money available by using the words "additional funding."

Claims should be phrased in an unbiased manner so that both sides have an equal opportunity to advocate, support, and defend their positions. There is an obvious difference between debating the claim, "*The United States should fight International terrorism,*" and the claim, "The freedom-loving, democratic, human-rights supporting government of the United States should fight satanic international terrorism." The focus in the first one is clear, and allows both sides to present their positions and defend their stands. The focus in the second claim is unclear. What are we debating? Are we debating whether the United States is a "freedom-loving, democratic, human- rights supporting government?" Are we debating whether "terrorism is satanic?" Keep your emotions out of the claim. Make the claim as objective as possible. You can always use your emotions in your actual argument.

If you are trying to open up a dialogue to engage in constructive debate on a topic, an unbiased claim, free from loaded, ambiguous and high intensity language is essential. If you want to just promote your point of view, you can be as biased as you want in putting the claim together. The language of the claim should be consistent with the goal of the arguer.

Properly phrased claims should be as specific as possible. The best claims are those that indicate, to the degree necessary, who, what, when, and where. The more specific the wording of the claim, the more focused any disagreement becomes. By being as specific as you can in wording the claim, you can limit the scope of the argumentation for both the pro and the con. What about the why? You do not need to include why, because you will explain why when you develop your specific arguments to support your stand on the claim.

Effective claims promote a pro/con argumentative environment. Unlike a discussion where many different opinions and views can be expressed, a debate on a claim offers only two points of view: the pro-side, which is the side promoting acceptance of the claim; and the con-side, which is the side contrary to claim acceptance. These are the only two positions that can be argued in either a formal or informal argument. Compromise is generally not an alternative in a debate. In a debate, the choices are either to accept or reject the claim being argued. After the debate a discussion could begin that would lead to the development of a compromise, which would be a new claim.

The claim should be phrased so that the burdens (obligations and responsibilities of each arguer) are clear to both sides involved in the debate. The major obligations are the burden of proof which belongs to the pro-side, burden of presumption which belongs to the con-side, and two burdens which are shared by both the pro and the con, the burden of rebuttal, and the obligation to present a prima facie case, also known as a reasonable argument. Thus, each side in an academic argument has three burdens to fulfill. More on this later in the chapter.

Both sides debate the same claim. The dispute concerns whether the claim advanced for adherence should be accepted (the pro-side), or whether the claim should be rejected (the con-side). The side opposing the claim does not create a new one to counter the claim presented by the pro-side, because this would set up an argument with two competing pro sides, each with a burden of proof. There would be no status quo to defend. In order for the process of argumentation to take place, there would then have to be two con-sides. To avoid this, both sides argue the exact same claim. The pro-side argues in favor of accepting the claim, while the con-

side argues that the claim should be rejected. If the debate claim was, “Capital punishment should be banned” the pro-side would state, “I will be arguing for the claim that, ‘Capital punishment should be banned,’” while the con side would state, “I will be arguing against the claim that ‘Capital punishment should be banned.’” In both cases, the claim stays the same. This clarifies the burdens that each person has in the debate.

Arguing about two or more claims at the same time creates confusion and makes reaching some resolution on the claim difficult. For example, if two people are arguing about the topic of abortion, and one is arguing that, “Abortion should be banned,” the person opposed to the claim debates this claim by taking the con position and arguing for its rejection. The con side to the claim does not create their own counter-claim such as, “A woman has the right to control her own body.” Instead this statement might be used as a reason to reject the claim.

Debating one claim at a time also prevents what is called “kitchen sink” fighting where everything can be thrown into the argument. We should “argue” over one claim at a time. In that way, we maintain a clear argumentative focus.

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5.4: Consistency and Validity

Validity

Validity

Understanding the concept of validity is crucial for evaluating arguments critically. Validity refers to the logical relationship between the premises and the conclusion of an argument. An argument is valid if, assuming the premises are true, the conclusion must also be true. Here's a breakdown of how validity works, with examples and tests for determining it.

1. Valid Argument:

- Example:
 1. Violet is a dog.
 2. Therefore, Violet is a mammal.
- Here, if the premise (Violet is a dog) is true, the conclusion (Violet is a mammal) must also be true, because all dogs are mammals.

2. Validity Independent of Actual Truth:

- Example:
 1. Everyone born in France can speak French.
 2. Barack Obama was born in France.
 3. Therefore, Barack Obama can speak French.
- Despite the premises being false, the argument is valid because if the premises were true, the conclusion would necessarily follow.

3. Invalid Argument:

- Example:
 1. George was President of the United States.
 2. Therefore, George was elected President of the United States.
- This argument is invalid because it's possible for the premise to be true while the conclusion is false. Gerald Ford was President without being elected, providing a counterexample.

4. Informal Test of Validity:

To determine validity, ask whether you can imagine a world where the premises are true and the conclusion is false. If you can, the argument is invalid.

- Example:
 1. Joan jumped out of an airplane without a parachute.
 2. Therefore, Joan fell to her death.
- This is invalid because it's possible Joan jumped from a plane on the ground, making the premise true but the conclusion false.
- Revised Example:
 1. Joan jumped out of an airplane traveling 300 mph at 10,000 ft without a parachute.
 2. Therefore, Joan fell to her death.
- Even this is invalid because there are conceivable scenarios (like landing in a net or being caught by someone with a parachute) where Joan could survive.

5. Application of Validity:

- Example:
 1. A person can be President of the United States only if they were born in the United States.
 2. Obama is President of the United States.
 3. Kenya is not in the United States.
 4. Therefore, Obama was not born in Kenya.

- This is valid because if the premises are true, the conclusion must be true.
- Counter Example:
 1. A person can be President of the United States only if they were born in Kenya.
 2. Obama is President of the United States.
 3. Therefore, Obama was born in Kenya.
- Despite the false premises, the argument is valid because the conclusion logically follows from the premises.

Exercise 5: Validity Test

Determine the validity of the following arguments and provide counterexamples if invalid.

1. Katie is a human being. Therefore, Katie is smarter than a chimpanzee.
2. Bob is a fireman. Therefore, Bob has put out fires.
3. Gerald is a mathematics professor. Therefore, Gerald knows how to teach mathematics.
4. Monica is a French teacher. Therefore, Monica knows how to teach French.
5. Bob is taller than Susan. Susan is taller than Frankie. Therefore, Bob is taller than Frankie.
6. Craig loves Linda. Linda loves Monique. Therefore, Craig loves Monique.
7. Orel Hershizer is a Christian. Therefore, Orel Hershizer communicates with God.
8. All Muslims pray to Allah. Muhammad is a Muslim. Therefore, Muhammad prays to Allah.
9. Some protozoa are predators. No protozoa are animals. Therefore, some predators are not animals.
10. Charlie only barks when he hears a burglar outside. Charlie is barking. Therefore, there must be a burglar outside.

Use the informal test of validity to evaluate each argument, ensuring a clear understanding of whether the premises logically necessitate the conclusion.

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5.5: Truth vs. Validity



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So, what does Epistemology tell us about the concept of Truth? In Epistemological terms, Truth is absolute, the same for everyone, never relative. Truth is the complete accuracy of propositions, statements, sentences, assertions and beliefs.

Truth is a word best avoided entirely in argumentation, except when placed in quotes or with careful qualification. Its colloquial use has so many shades of meaning from, 'it seems to be correct,' to the absolute Truths claimed by religion.

Truth becomes confused with opinion, that is, a statement is True only because the person believes it is True. The idea of allowing such a view is that it rules out the views of anyone else. Truth becomes intensely personal.

To look for the Truth in any argumentative situation is to look for the one and only correct answer. The process of argument usually ends up in frustration, when conflicting Truths are at the center of the argument. This is because the parties involved in the argument both believe that their position is the one and only Truth and that any other position advocated must be a false or untrue one. Thus, the only way an argument over conflicting truths can be resolved is for one of the argumentative parties to give up their untruth and accept the other party's Truth. In this context, all argument must be viewed as a win/lose proposition. The arguer who feels he or she knows the Truth can never be open to new ideas and is therefore dogmatic. They will never intellectually grow.

Consider that once accepted so-called "Truths" have changed: at one time the earth was believed to be flat, at one time it was believed that the Earth was the center of the universe, at one time everyone thought that asbestos was safe and did not cause cancer, and at one time heroin was thought to be a non-addictive alternative for the painkiller morphine. The list of these changed "Truths" is endless and ongoing. Why? Because **personal certainty does not equate to Truth**. Personal certainty is based on information that might be inaccurate or incomplete.

When we say that an argument is **valid** we are referring to its internal consistency. Validity is the strength of our conclusions, inferences or propositions based on the logic of the argument. Critical thinkers need to think in terms of arguing over the validity of opposing viewpoints, as opposed, to arguing over which of the opposing viewpoints is the truthful one.

Only when you make a commitment to validity can you free yourself to accept more than one position as being logical and reasonable. **Effective argument can only take place when people are willing to accept the possibility that their current position on the subject may be wrong.** If a person believes that his or her position is the one and only Truth, no constructive argumentation can take place. At best, some destructive form of communication takes place like, bickering, quarreling or fighting. At worst, violence erupts.

The critical thinker needs to realize that while his or her position is valid, other valid positions may also exist. This understanding allows critical thinkers to engage in the process of argumentation with others, in order to test the validity or reasonableness of their respective arguments. Critical thinkers need to remember that there is no necessary or inherent connection between **Truth** and **validity**.

As Professor of Argumentation James Sawyer writes,

"All of us reach decisions and take actions that are based upon strong probability: strong information or evidence to establish the likelihood that something happened, is happening, or will happen. So many variables exist that to be certain of anything is a very rare situation."

For example, in trying to explain weather changes, experts looking at the data came up with several valid, reasonable, conclusions: the early effects of global warming, warm Pacific Ocean currents known as El Nino, cold Pacific Ocean currents known as La Nina, increased effects from the weakening of the ozone layer, or just normal weather variability. All of these conclusions are

supportable with factual data. They are all valid, and any one of them may be the "True" explanation, or none of them may be the "True" reason.

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5.6: Soundness

Soundness

Summary: Soundness is a property of arguments that goes beyond validity by requiring all premises to be true. While sound arguments are valid and guarantee true conclusions, determining the truth of premises often lies outside the scope of logic.

Understanding Soundness:

- A sound argument is both valid and has all true premises.
- Soundness ensures that the conclusion of an argument is always true.
- All sound arguments are valid, but not all valid arguments are sound.

Determining Truth of Premises:

- Establishing the truth of premises involves various methods such as research, consulting experts, or studying relevant subjects.
- These methods lie outside the realm of logic and belong to specific disciplines like biology, history, etc.
- Logic focuses on the structure of arguments rather than the empirical truth of premises.

Focus of Logic Textbooks:

- Logic textbooks, including this one, primarily concentrate on argument structure, validity, and logical reasoning.
- While soundness is crucial for good arguments, it falls under the domain of other disciplines to ascertain the truth of premises.

Implications for Argumentation:

- Writers and speakers should strive for soundness in their arguments by ensuring all premises are true.
- Understanding soundness helps in evaluating the strength and reliability of arguments.
- Logic textbooks prioritize teaching principles that are universally applicable across various fields of knowledge.

Conclusion:

- While soundness is an important aspect of effective argumentation, its determination involves methods beyond the scope of logic.
- Logic textbooks focus on teaching principles that aid in constructing and evaluating arguments rather than verifying the empirical truth of premises.

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5.7: Structure

Deductive vs. Inductive Arguments

Summary: Deductive arguments aim to establish their conclusions with absolute certainty, while inductive arguments aim to support their conclusions with a high level of probability. Deductive arguments are evaluated based on validity, while inductive arguments lack a universally agreed-upon standard of evaluation.

Deductive Arguments:

- Deductive arguments guarantee the truth of their conclusions if their premises are true.
- Validity is the criterion for evaluating deductive arguments; a valid deductive argument ensures that its conclusion follows necessarily from its premises.
- Adding further premises to a valid deductive argument cannot overturn its validity.

Inductive Arguments:

- Inductive arguments provide support for their conclusions but do not ensure their truth with certainty.
- Inductive arguments use probability to establish their conclusions, often indicated by terms like "probably."
- Inductive arguments are defeasible, meaning additional information can weaken the support for their conclusions.

Strength of Inductive Arguments:

- Inductive arguments can be classified as strong or weak based on the level of support they provide for their conclusions.
- Strong inductive arguments offer a strong, albeit defeasible, reason for accepting the conclusion.
- Weak inductive arguments provide less compelling support for their conclusions.

Evaluation of Inductive Arguments:

- Unlike deductive arguments, there is no universally accepted standard for evaluating inductive arguments.
- Logic textbooks focus more on deductive reasoning due to the existence of agreed-upon methods for evaluating validity.
- Evaluation of inductive arguments remains an area of ongoing research in philosophy.

Future Considerations:

- Chapter 3 will revisit inductive arguments and explore methods for evaluating them.
- While deductive arguments dominate discussions in logic textbooks, understanding inductive reasoning is essential for various real-world contexts.

Conclusion:

- Deductive arguments seek certainty in establishing conclusions, relying on the principle of validity.
- Inductive arguments offer probabilistic support for conclusions, with their strength varying based on the evidence provided by premises.
- The evaluation of inductive arguments remains a complex and evolving area of study in philosophy.

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CHAPTER OVERVIEW

6: Assumptions

[6.1: The Skill of Knowing What Questions to Ask](#)

[6.2: Assumptions and Inferences](#)

[6.3: Challenging Our Assumptions](#)

[6.4: Issues](#)

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6.1: The Skill of Knowing What Questions to Ask

The other day my wife announces, “*I need a new car.*” We had finished paying off her car a couple of years ago and she was looking around for a new car to replace the one she had been driving for the last several years. She offers her claim, “*Suzy should have a new car.*” I’m thinking, that we could drive her car for another year or so and it would save us money. My wife does not see it my way.

Before we can make a decision on this claim, we need to analyze this argument by asking and answering the important questions associated with this claim. In other words, we need to discover the **Issues**. Answers are easy. We have the entire contents of the Internet to help us find the answer. The challenge is knowing what questions to ask. I am guessing you have never had any formal training on knowing how to discover the key questions to ask of any claim. You are not alone.

Pinnacle Foods decided to launch Duncan Hines ready-cakes into Japan. They realized that Japan was a great, untapped market. They did great market research on the Japanese per capita income, and grocery spending. They even researched consumer tastes to determine just the right level of sweetness in their baked goods. Pinnacle Foods realized that there was virtually no competition in Japan for ready-made cakes. Thousands of boxes of cake mix were shipped and they readied themselves for all the profit they would make. But very few sold.

What went wrong?



5.1.1: "Duncan Hines Blue Velvet Cake Mix" (CC BY 2.0; Mike Mozart via flickr)

Pinnacle Foods failed to ask one important question, “Does the typical Japanese family have a ‘conventional’ Western oven needed to bake the cake?” They did not. The typical Japanese family had rice cookers, not ovens. Thousands of cake mixes went unsold. The answer was easy to find; asking the correct question was much more challenging.

Coming to a decision on any claim and building your case for or against the claim begins with asking and answering key questions. This can only be done by carefully analyzing the claim under discussion. To do this, critical thinkers need to first challenge their assumptions and then proceed with an organized method of analysis, in order to discover the important questions, or as we call them here, Issues. Issues become the foundation for taking a position on the claim, and formulating Contentions to argue that position.

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6.2: Assumptions and Inferences

As we start analyzing a claim we need to realize that we all begin this process with certain preconceived ideas and beliefs that can guide or misguide our thinking. Duncan Hines assumed that Japanese families had ovens, like those families in this country. Stated another way, we all have certain biases and assumptions that influence our thinking. When analyzing a claim, we need to understand the difference between an assumption and an inference we naturally make about the claim being argued.

Inference refers to something we believe to be accurate based on something else we believe to be true. If you email someone and they do not email you back, you may infer that they are mad or upset with you. Inferences can be correct interpretations of our environment or incorrect interpretations of our environment.

Assumption refers to something we already assume or presuppose. As described by Richard Paul and Linda Edler.

“Usually it is something we previously learned and do not question. It is part of our system of beliefs. We assume our beliefs to be true and use them to interpret the world about us. If we believe that it is dangerous to walk late at night in big cities and we are staying in Chicago, we will infer that it is dangerous to go for a walk late at night. We take for granted our belief that it is dangerous to walk late at night in big cities.” (Paul)

Based on our assumptions, we make inferences that guide our decisions and actions. To make sure these assumptions and inferences are accurate, we need to question them.

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6.3: Challenging Our Assumptions

Before you begin to analyze a Claim take time to list and challenge any assumptions you may have on that claim. This useful approach to analyzing a Claim is known as a “Key Assumption Check” and is a very important starting point at the beginning of any decision you might want to make. And just before you make a final decision, recheck those assumptions.

Way, way back in the 60’s when applying for a job, having long hair for a man was a handicap. Many employers had the assumption that a person with long hair was some sort of “hippie” and they therefore inferred that this person was a bit lazy and not that serious about a job. The result was they were rejected. Now this may seem like ancient history, but even now if a woman shows up for a job interview with her head covered with a hijab a series of assumptions about her will be made by the employer. From these he or she may infer a variety of behaviors of that job applicant. The key is we need to recognize and challenge these assumptions to help us make the best decisions possible. How many great potential employees have not gotten a job due to inaccurate assumptions being made?

When my son was in grade school he wasn’t doing his math homework and instead would watch cartoons on television. I made the assumption that he was being lazy and was about to punish him. Instead, I challenged that assumption by asking him questions. In the end, I found out he was avoiding doing his math homework because he had been absent when his teacher explained how to do them and he was afraid to ask his teacher for help. By challenging my assumptions, I was able to make a much more informed decision on what to do.

Some of your assumptions are easily recognizable, while others may be more hidden from you. We may have a variety of subconscious biases that influence our decisions without even being aware of them. Their hidden nature makes them difficult to discover.

Imagine you hear a report of a mass murder that involved explosives. What is your first reaction? Do you assume a terrorist action and infer specific types of ethnic characteristics? Imagine you hear a news story that involves a member of the National

Rifle Association? Or a member of the Democratic or Republican Party? What assumptions do you make? Do you recognize those assumptions or are they hidden?

In any case, at the beginning of any analysis you need to take the time to challenge your assumptions by asking questions or as we call them, *Issues*.



Always Challenge
Your Assumptions

5.3.1: "Challenge Assumptons" (CC BY 4.0; J. Marteney)

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6.4: Issues

Arguments with Missing Premises

Summary: Many arguments contain unstated premises, which can weaken or strengthen their validity or persuasiveness. Supplying missing premises is essential for reconstructing arguments in standard form and evaluating their strength or validity.



Supplying Missing Premises:

- Arguments often omit premises necessary for validity or plausibility.
- Supplying missing premises involves identifying what is needed to make the argument logically or rhetorically stronger.
- The principle of charity suggests supplying the most plausible missing premises to strengthen the argument.
- Missing premises can be normative or descriptive statements, requiring careful consideration for validity.

Validity and Plausibility:

- Supplying missing premises aims to enhance both the validity and plausibility of arguments.
- Validity ensures logical strength, while plausibility enhances persuasiveness.
- Missing premises can be normative or descriptive, requiring different considerations for validity and persuasiveness.

Challenges in Identifying Missing Premises:

- Identifying missing premises is not always straightforward and may require careful analysis.
- Some arguments may require normative premises, which are often implicit and require thoughtful reconstruction.
- Supplying missing premises involves balancing logical strength with persuasive effectiveness.

Assuring, Guarding, and Discounting:

- Rhetorical strategies like assuring, guarding, and discounting are common in argumentation.
- Assuring involves indicating further reasons or authorities to support a claim.
- Guarding weakens claims to make them more defensible.
- Discounting acknowledges objections while dismissing them to strengthen the overall argument.

Conclusion:

- Supplying missing premises is crucial for strengthening arguments logically and rhetorically.
- Careful consideration of missing premises enhances the validity and persuasiveness of arguments.
- Rhetorical techniques like assuring, guarding, and discounting play important roles in argumentation, influencing how arguments are perceived and evaluated.

Table 2 below gives a partial list of words and phrases that commonly function as discounting terms.

although	even if	but	nevertheless
though	while	however	nonetheless
even though	whereas	yet	still

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CHAPTER OVERVIEW

7: Exploring Evidence

- 7.1: Finding and Evaluating Research Sources
- 7.2: Strategies For Conducting Research
- 7.3: The Building Blocks of an Argument
- 7.4: Defining Evidence
- 7.5: Checking on the Domain Indicators
- 7.6: Using Evidence
- 7.7: Testing of Fake News Sources
- 7.8: The Focus of this Chapter
- 7.9: Video - Evaluating Sources
- 7.10: Video - Evaluating Evidence

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7.1: Finding and Evaluating Research Sources

Learning Objectives

By the end of this chapter, you should be able to:

- Distinguish between popular sources and scholarly sources
- Identify different types of sources that can be used for technical projects
- Evaluate research sources with a critical lens by considering their authority, content, and purpose

Key Terms and Concepts

- scholarly sources
- popular sources
- authority, content, and purpose

Finding and Evaluating Research Sources

While going through Bitzer and Aristotle's rhetorical theory, you will need to start looking up some sources you can use for your report. Perhaps you already know of some sources that you can pull from. If you don't have any sources in mind, or don't know how to even start looking for them, that's okay too. We'll talk more about strategies for conducting research in the [next chapter](#). Right now, we want to make sure you know how to properly evaluate the sources you do find when you start your research.

Popular vs Scholarly Sources

In this "information age," when so much information is available at our fingertips on the Internet, it is crucial to be able to critically search through the reams of information in order to select credible sources that can provide reliable data to support your ideas and convince your audience. In the era of "fake news," deliberate misinformation, and "alternative facts," developing the skill to evaluate the credibility of sources is critical.

Sources can be broken up into two categories: popular and scholarly. How would you define the difference between the two? Can you come up with some examples of both? Ideally, when you think of both categories, you should think of items such as those in the figure below.



Figure #1 Examples of Popular vs Scholarly Sources. ^[1]

Why are **scholarly sources** more desirable than **popular sources**? Is it ever a good idea to use one source type over the other in the report writing process? Let's look at this a little more deeply. Watch the video below to help distinguish between the two.



Watch the video below to help distinguish between the two:

📌 How Library Stuff Works: Scholarly vs Popular Sources



How Library Stuff Works: Scholarly vs Popular Sources

Master Libraries

Popular Sources

Journals

Freelance

Watch on  YouTube

Video produced by McMaster Libraries (Video is CC BY)

Scholarly articles published in academic journals are usually required sources in professional communication; they are also an especially integral part of engineering projects and technical reports. Since you are researching in a professional field and preparing for the workplace, there are many credible kinds of sources you will draw on in a professional context. How many can you list? Table #1 below lists several types of sources you may find useful in researching your projects.

Table #1: Typical Research Sources for Technical Projects

Source Type	Description
Academic Journals, Conference Papers, Dissertations, etc.	Scholarly (peer-reviewed) academic sources publish primary research done by professional researchers and scholars in specialized fields, as well as reviews of that research by other specialists in the same field. For example, the <i>Journal of Computer and System Sciences</i> publishes original research papers in computer science and related subjects in system science; <i>International Journal of Robotics and Animation</i> is one of the most highly ranked journals in the field.
Reference Works	Specialized encyclopaedias, handbooks and dictionaries can provide useful terminology and background information. For example, the <i>Kirk-Othmer Encyclopedia of Chemical Technology</i> is a widely recognized authoritative source. Do not cite <i>Wikipedia</i> or <i>dictionary.com</i> in a technical report.
Books, Chapters in Books	Books written by specialists in a given field and contain a References section can be very helpful in providing in-depth context for your ideas. For example, <i>Designing Engineers</i> by Susan McCahan et al. has an excellent chapter on effective teamwork
Trade Magazines and Popular Science Magazines	Reputable trade magazines contain articles relating to current issues and innovations, and therefore they can be very useful in determining the “state of the art” or what is “cutting edge” at the moment, or finding out what current issues or controversies are affecting the industry. Examples include <i>Computerworld</i>, <i>Wired</i>, and <i>Popular Mechanics</i>.
Newspapers (Journalism)	Newspaper articles and media releases can offer a sense of what journalists and people in industry think the general public should know about a given topic. Journalists report on current events and recent innovations; more in-depth “investigative journalism” explores a current issue in greater detail. Newspapers also contain editorial sections that provide personal opinions on these events and issues. Choose well-known, reputable newspapers such as <i>The New York Times</i>.
Industry Websites (.com)	Commercial websites are generally intended to “sell,” so you have to select information carefully, but these websites can give you insights into a company’s “mission statement,” organization, strategic plan, current or planned projects, archived information, White Papers, technical reports, product details, costs estimates, etc.
Organization Websites (.org)	A vast array of .org sites can be very helpful in supplying data and information. These are often public service sites and are designed to share information with the public.
Government Publications and Public Sector Web Sites (.gov/.edu/.ca)	Government departments often publish reports and other documents that can be very helpful in determining public policy, regulations, and guidelines that should be followed. Statistics Canada,^[2] for example, publishes a wide range of data. University web sites also offer a wide array of non-academic information, such as strategic plans, facilities information, etc.
Patents	You may have to distinguish your innovative idea from previously patented ideas; you can look these up and get detailed information on patented or patent-pending ideas.
Public Presentations	Public Consultation meetings and representatives from industry and government speak to various audiences about current issues and proposed projects. These can be live presentations or video presentations available on YouTube or TED talks.

Table 7.1.1: (CC BY-NC-SA 4.0)

[Link to accessible text-only version of table data.](#)

Download: [Typical Research Sources for Technical Projects](#)

Critically Evaluating Sources

Clearly, there are a lot of places where you can pull sources from. However—and this is a *big* however—it is essential that you critically evaluate your sources for **authority**, **content**, and **purpose**.

Anyone can put anything on the internet, and people with strong web and document design skills can make this information look very professional and credible, even if it isn't. Since a majority of research is currently done online, and many sources are available electronically, developing your critical evaluation skills is crucial to finding valid, credible evidence to support and develop your ideas. In fact, this has become such a challenging issue that there are sites like [List of Predatory Journals](#) that regularly update its online list of journals that subvert the peer review process and simply publish for profit.

When evaluating research sources and presenting your own research, be careful to critically evaluate the **authority**, **content**, and **purpose** of the material, using the questions in **Table #2**.

Table #2: Evaluating the Authority, Content and Purpose of the Information

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

Table 7.1.1: (CC BY-NC-SA 4.0)

[Link to accessible text-only version of figure data.](#)

Download: [Evaluating the Authority, Content, and Purpose of the Information](#)

Going through all those questions may seem like a tedious, unnecessary process, but it is essential that you consider these questions as you acquire sources for your reports. Not doing so can negatively impact your credibility as a professional.

Consider it this way: let's say you are presenting a report to a potential client. If they find out you used sources that lack authority, are not relevant or recent, or do not really serve their purpose, how will they view you? How will that affect their view of the

company you work for?

Ultimately, **critical thinking** lies at the heart of evaluating sources. You want to be rigorous in your selection of evidence, because once you use it in your paper, it will either bolster your own credibility or undermine it.

Key Takeaways

- Not all sources are created equal when it comes to research. There are two main categories: **popular sources** and **scholarly sources**. Of the two, scholarly sources are more credible because they have to go through a peer-review process in order to be published.
- However, you still want to make sure you evaluate the sources you find for **authority**, **content**, and **purpose** regardless of where you found it.

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7.2: Strategies For Conducting Research

Learning Objectives

By the end of this chapter, you should be able to:

- Distinguish between primary research and secondary research and explain why it is important to include both in a persuasive document.
- Explain different methods and locations for conducting research online.

Key Terms and Concepts

- Primary research
- Secondary research

You have arrived at the final part of the planning phase of your report: conducting the research. You've already done a lot to get here. So far, you have:

1. Generated a focused topic and research question that you will address in your report.
2. Used the rhetorical theory found in Bitzer's rhetorical situation and Aristotle's modes of appeal to starting planning your message.
3. Learned how to distinguish between popular and scholarly sources and how to evaluate both.

Now it's time to start doing the actual research!

In this chapter we will explain the two types of research—**primary research** and **secondary research**—that you should be doing for your report, and give you tips for conducting research online.

What is Research?

Research begins with questions. You've already started this process by going through [Bitzer](#) and [Aristotle](#). Odds are, as you did so, more questions came up that you were not sure how to answer, and that's okay! Doing the actual research will help you answer those questions. However, as you start acquiring sources, it's important that you are mindful of the two types of research that can be conducted for a report.

Primary v. Secondary Research

There are two basic kinds of research: **primary research** and **secondary research**.

Primary research is often first-person accounts and can be useful when you are researching a local issue that may not have been addressed previously and/or has little published research available. You may also use **primary research** to supplement, confirm, or challenge national or regional trends with local information.

Primary research can include:

- Interviews
- Surveys
- Questionnaires
- Observations and analysis
- Ethnography (the study and description of people, cultures, and customs)

Secondary research is what many students are most familiar with. This type of research generally requires searching libraries and other research institutions' holdings. **Secondary research** requires that you read other people's published studies and research in order to learn more about your topic, determine what others have written and said, and then develop a conclusion about your ideas on the topic in light of what others have done and said.

Some examples of sources that might be used in **secondary research** include:

- Academic, scientific, and technical journal articles

- Governmental reports
- Raw data and statistics
- Trade and professional organization data

It is rare to see a persuasive argument that doesn't include both **primary** and **secondary research**. Let's look at an example. Say you are interested in using STEM knowledge to improve the quality of life for the homeless population in Saskatoon, Saskatchewan. The most successful project would use both **secondary** and **primary research**. The next two sections will demonstrate what this might look like.

Secondary Research in Action

First, the **secondary research** will help establish best or common practices, trends, statistics, and current research about homelessness broadly in Canada and Saskatchewan, and then more narrowly into Saskatoon.

Your brainstorming would likely lead to questions regarding the following:

- The major issues facing homelessness and combating homelessness in the Canada.
- The homeless population and demographics for Saskatoon and Saskatchewan.
- Services currently available for the homeless in Saskatoon
- Services available in other cities and the province.

The above information would likely be available through **secondary research** sources. Useful information would likely be available through city and state government agencies such as [Health Canada](#) or the [Employment and Social Development Canada](#); local and national homeless advocacy groups such as the [Canadian Alliance to End Homelessness](#), [Saskatchewan Human Rights Commission](#), [Carmichael Outreach](#), [The Lighthouse Supported Living](#), and the [Homeless Hub](#). You would also need to search relevant research databases—which of are discussed below in the [Where Do I Look?](#) section—in subject areas such as engineering, sociology and social work, and government documents.

Primary Research in Action

Primary research, such as interviews or surveys, can provide a more in-depth and local bent to the numbers and details provided in secondary sources. Some examples of groups to interview or survey include local homeless advocates; shelter and outreach employees and volunteers; people currently or previously experiencing homelessness; and researchers or university-affiliated groups that conduct, compile, and apply research on homelessness.

Will all this research generate a lot of content for your report? Most definitely.

Do you need to include it all? Absolutely not.

What matters is that you strive to include both types of research in your reports. This is because the strongest research—and most persuasive arguments—blend **primary** and **secondary research**.

Where Do I Look?

Now that you can distinguish between **secondary research** from **primary research**, where do you find them?

In the 21st century, we generally turn to the internet when we have a question. For technical, scientific, and academic research, we can still turn to the internet, but where we visit changes. We will discuss a few different places where you can perform research, including Google, Google Scholar, and your [university library website](#).

Google and Google Scholar

The default research site for most students tends to be [Google](#). Google can be a great starting place for a variety of research. You can use Google to find news articles and other popular sources, such as magazine articles and blog posts. You can use Google to discover keywords, alternative terms, and relevant professional, for-profit, and non-profit businesses and organizations.

The most important thing to remember about using Google, though, is that search results are organized by popularity, not by accuracy. Further, because Google customizes search results based on a user's search history, searches performed by different people or on different browsers may provide slightly different results.

For many technical, scientific, and scholarly topics, Google will not provide access to the appropriate and necessary types of sources and information. [Google Scholar](#), however, searches only academic and scientific journals, books, patents, and

governmental and legal documents. This means the results will be more technical and scholarly and therefore more appropriate for much of the research you will be expected to perform as a student.

However, while Google Scholar will show academic and technical results, that does not mean that you will have access to the full-text documents. Many of the sources that appear on Google Scholar are from databases, publishers, or libraries, which means that they are often behind paywalls or are password-protected. **Do not pay for these documents!** There is a good chance you will be able to access them through the University library. [for help on linking your university's library to the Google Scholar database, [click here.](#)]

University Libraries

The [University of Saskatchewan Library](#) has access to databases, peer-reviewed journals, and books that are generally the best choice for accurate and more technical information. A Google search might yield millions and millions of results, and a Google Scholar search may yield tens or hundreds of thousands of results, but a library search will generally turn up only a couple of thousands, hundreds, or even dozens of results.

You may think, “Isn’t fewer results a bad thing? Doesn’t that mean limiting the possibilities for the project?” The quick answer is yes, fewer results mean fewer options for your project, but no, this does not mean using the library limits the possibilities for a project.

Overall, library resources are more tightly controlled and vetted. Anyone can create a blog or website and post information, regardless of the accuracy or usefulness of the information. Library resources, in contrast, have generally gone through rigorous processes and revisions before publication. For example, academic and scientific journals have a review system in place—whether a peer-review process or an editorial board. Both feature panels of people with expertise in the areas under consideration. Publishers for books also feature editorial boards who determine the usefulness and accuracy of information.

Of course, this does not mean that every peer-reviewed journal article or book is 100% accurate and useful all of the time. Biases still exist, and many commonly accepted facts change over time with more research and analysis. Overall, the process for these types of publications requires that multiple people read and comment on the work, providing some checks and balances that are not present for general internet sources.

Common Types of Library Sources

- **Databases:** Databases are specialized search services that provide access to sources such as academic and scientific journals, newspapers, and magazines. An example of a database would be *Academic Search Complete*.
- **Journals:** Journals are specialized publications focused on an often narrow topic or field. For example, *Computers & Composition* is a peer-reviewed journal focused on the intersection of computers, technology, and composition (i.e., writing) classrooms. Another example is the *Journal of Bioengineering & Biomedical Science*.
- **Books:** Also called monographs, books generally cover topics in more depth than can be done in a journal article. Sometimes books will contain contributions from multiple authors, with each chapter authored separately.
- **Various media:** Depending on the library, you may have access to a range of media, including documentaries, videos, audio recordings, and more. Some libraries offer streaming media that you can watch directly on the library website without having to download any files.

How Do I Perform a Search?

Research is not a linear process. It requires a back and forth between sources, your ideas and analysis, and the rhetorical situation for your research.

The research process is a bit like an eye exam. The doctor makes a best guess for the most appropriate lens strength, and then adjusts the lenses from there. Sometimes the first option is the best and most appropriate; sometimes it takes a few tries with several different options before finding the best one for you and your situation.

Once you decide on a focused topic and research question, you will need to determine keywords that you can use to search different resources.

It is important to have a wide range of keywords because not all terms will result in the same information. Developing a list of keywords can be aided by a quick Google search. A Google search may reveal more official language or terms, broader or narrower terms and concepts, or related terms and concepts. You can also search for the term + synonym to find other words you might use.

Keep in mind, a synonym search will not work for all terms. For technical and scientific topics, though, Google may not be a lot of help for finding other terms.

You can use a couple of different tricks to narrow your search. Using quotation marks around two or more words means the search results will contain those words only in that specific order. For example, based on the exercise above, a search for “homelessness in Saskatoon” would only provide results where these words appear in this exact order, with no words between them. A search for homelessness in Saskatoon without the quotation marks will search for those words, but also any sources that have the words homelessness and Saskatoon anywhere in the text.

If you still are not sure where to start, or if you hit a wall, the librarians at the University of Saskatchewan are here to help! You can go to any of the libraries on campus to ask for help, or you can use the [Ask Us](#) feature on their website to talk to them directly from your computer.

Determining a topic and finding relevant resources are only the beginning steps in the research process. Once you locate sources, you actually have to read them and determine how useful and relevant they are for your particular research context. If you would like some tips on how to do that, please check out [this page](#) on Understanding and Documenting information in the appendix.

The End of the Planning Phase

Congratulations! You have made it through the planning phase of your the report writing process! You have already done a lot! By now you should have a focused topic and research question, used rhetorical theory to assess your audience and determine how design your message, and you have found some sources to use. Now it’s time to take all of that information and put it into a paper! We will be covering different strategies for that in the following couple of chapters.

Key Takeaways

- The most persuasive research often includes both **primary research** and **secondary research**.
- **Primary research** typically includes first-person accounts in the form of interviews, surveys, and questionnaires.
- **Secondary research** can be found in sources such as technical journals, government reports, and raw data.
- When searching for research, Google and Google Scholar are a good place to start, but the best place to look is at the [University of Saskatchewan Library website](#). If you ever get stuck finding sources for your report, reach out to the librarians on campus, or use the [Ask Us](#) feature and the library website.

Attributions

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7.3: The Building Blocks of an Argument

"Everyone is entitled to his own opinion, but not to his own facts"

--Daniel Patrick Moynihan



6.1.1: "Napoleon Bonaparte" by Unkown is licensed under [CC BY-SA 4.0](#)

After the death of the famous French leader, Napoleon Bonaparte, an autopsy was performed and the doctors announced that he had died of a perforated stomach ulcer that had turned cancerous. Some of his supporters did not believe this. They were convinced he was murdered. Their beliefs were fueled by the fact that Napoleon himself had written that he was being poisoned. What evidence existed to support his accusations?

Fortunately, from his wishes in his will, many relatives were given strands of his hair that could be tested. One hundred years after his death Napoleon's hair was tested and the results indicated that Napoleon had a degree of arsenic in his body. This raw data seemed to suggest that he was poisoned. But 20 years later a second interpretation of the data suggested that he was killed by his wallpaper.

In the 1800's a type of wallpaper that used a color called Scheele Green, was made with lead. That lead gave off arsenic compounds that could be absorbed by the human body and eventually affecting the health of that person. Napoleon's room had this wallpaper.

But a third interpretation indicated that the wallpaper did not contain enough arsenic to kill Napoleon, but it did contain enough to exacerbate a stomach ulcer which eventually killed him. So, although the wallpaper wasn't the ultimate killer, it did seem to contribute to Napoleon's death. The conclusion indicated that Napoleon Bonaparte was not intentionally poisoned.

This story illustrates two important aspects of evidence,

- The quality of evidence
- The accurate interpretation of evidence

Both of which we will explore in this chapter.

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7.4: Defining Evidence

What is evidence? According to Reike and Sillars, "Evidence refers to specific instances, statistics, and testimony, when they support a claim in such a way as to cause the decision maker(s) to grant adherence to that claim." ¹



6.2.1: "Evidence" by Nick Youngson is licensed under CC BY-SA 3.0

Evidence is information that answers the question "How do you know?" of a contention you have made. Please take that question very literally. It is often hard to tell the difference at first between telling someone what you know and telling them how you know it. To become an effective arguer in almost any context, you need to be able to ask this question repeatedly and test the answers you hear to determine the strength of the evidence.

Only experts can use phrases like "I think" or "I feel" or "I believe" as they have the qualifications needed that allow you to accept their observations. As for everyone else, we need to use evidence to support our arguments. As a critical thinker, you should rely much more on what a person can prove instead of what a person "feels."

Evidence is a term commonly used to describe the supporting material used when persuading others. Evidence gives an objective support to your arguments, and makes your arguments more than a mere collection of personal opinions or prejudices. No longer are you saying, "I believe" or "I think" or "In my opinion." Now you can support your assertions with evidence. Because you are asking your audience to take a risk when you attempt to persuade them, audiences will demand support for your assertions. Evidence needs to be carefully chosen to serve the needs of the claim and to reach the target audience.

An argument is designed to persuade a resistant audience to accept a claim via the presentation of evidence for the contentions being argued. Evidence establishes the amount of accuracy your arguments have. Evidence is one element of proof (the second is reasoning), that is used as a means of moving your audience toward the threshold necessary for them to grant adherence to your arguments.

Quality argumentation depends in part on the quantity and diversity of evidence. The arguer should expect audiences to not be persuaded by limited evidence or by a lack of variety/scope, evidence drawn from only one source as opposed to diverse sources. On the other hand, too much evidence, particularly when not carefully crafted, may leave the audience overwhelmed and without focus. Evidence in support of the different contentions in the argument needs to make the argument reasonable enough to be accepted by the target audience.

Challenge of Too Much Evidence

I attended a lecture years ago where the guest speaker told us that we have access to more information in one edition of the New York Times than a man in the middle ages had in his entire life time. The challenge is not finding information, the challenge is sorting through information to find quality evidence to use in our arguments and decision-making. In his book, "Data Smog, Surviving the Information Glut", David Shenk expresses his concern in the first chapter:

"Information has also become a lot cheaper--to produce, to manipulate, to disseminate. All of this has made us information-rich, empowering Americans with the blessings of applied knowledge. It has also, though, unleashed the potential of information-gluttony...How much of the information in our midst is useful, and how much of it gets in the way? ...

As we have accrued more and more of it, information has emerged not only as a currency, but also as a pollutant."

- In 1971 the average American was targeted by at least 560 daily advertising messages. Twenty years later, that number had risen six- fold, to 3,000 messages per day.

- In the office, an average of 60 percent of each person's time is now spent processing documents.
- Paper consumption per capita in the United States tripled from 1940 to 1980 (from 200 to 600 pounds), and tripled again from 1980 to 1990 (to 1,800 pounds).
- In the 1980s, third-class mail (used to send publications) grew thirteen times faster than population growth.
- Two-thirds of business managers surveyed report tension with colleagues, loss of job satisfaction and strained personal relationships as a result of information overload.
- More than 1,000 telemarketing companies employ four million Americans, and generate \$650 billion in annual sales.

Let us call this unexpected, unwelcome part of our atmosphere "data smog," an expression for the noxious muck and druck of the information age. Data smog gets in the way; it crowds out quiet moments, and obstructs much-needed contemplation. It spoils conversation, literature, and even entertainment. It thwarts skepticism, rendering us less sophisticated as consumers and citizens. It stresses us out." ²

We need ways of sorting through this information and the first method is understanding the different types of evidence that we encounter.

Sources of Evidence

The first aspect of evidence we need to explore is the actual source of evidence or where we find evidence. There are two primary sources of evidence; primary and secondary.

Primary Sources

A primary source provides direct or firsthand evidence about an event, object, person, or work of art. Primary sources include historical and legal documents, eyewitness accounts, results of experiments, statistical data, pieces of creative writing, audio and video recordings, speeches, and art objects. Interviews, surveys, fieldwork, and Internet communications via email, blogs, tweets, and newsgroups are also primary sources. In the natural and social sciences, primary sources are often empirical studies—research where an experiment was performed or a direct observation was made. The results of empirical studies are typically found in scholarly articles or papers delivered at conferences. ³

Included in primary sources:

- Original, first-hand accounts of events, activity or time period
- Factual accounts instead of interpretations of accounts or experiments
- Results of an experiment
- Reports of scientific discoveries
- Results of scientifically based polls

Secondary Sources

Secondary sources describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources. Secondary source materials can be articles in newspapers or popular magazines, book or movie reviews, or articles found in scholarly journals that discuss or evaluate someone else's original research. ⁴

Included in secondary sources:

- Analyzation and interpretation of the accounts of primary sources
- Secondhand account of an activity or historical event
- Analyzation and interpretation of scientific or social research results

The key difference between the two sources is how far the author of the evidence is removed from the original event. You want to ask, "*Is the author giving you a firsthand account, or a secondhand account?*"

Types of Evidence

There are **five** types of evidence critical thinkers can use to support their arguments: **precedent evidence**, **statistical evidence**, **testimonial evidence**, **hearsay evidence**, and **common knowledge evidence**.

Precedent evidence is an act or event which establishes expectations for future conduct. There are two forms of precedent evidence: legal and personal.

Legal precedent is one of the most powerful and most difficult types of evidence to challenge. Courts establish legal precedent. Once a court makes a ruling, that ruling becomes the legal principle upon which other courts base their actions. Legislatures can also establish precedent through the laws they pass and the laws they choose not to pass. Once a principle of law has been established by a legislative body, it is very difficult to reverse.

Personal precedents are the habits and traditions you maintain. They occur as a result of watching the personal actions of others in order to understand the expectations for future behaviors. Younger children in a family watch how the older children are treated in order to see what precedents are being established. Newly employed on a job watch to see what older workers do in terms of breaks and lunchtime in order that their actions may be consistent. The first months of a marriage is essentially a time to establish precedent. Who does the cooking, who takes out the garbage, who cleans, which side of the bed does each person get, are precedents established early in a marriage. Once these precedents are displayed, an expectation of the other's behavior is established. Such precedent is very difficult to alter.

To use either type of precedent as evidence, the arguer refers to how the past event relates to the current situation. In a legal situation, the argument is that the ruling in the current case should be the same as it was in the past, because they represent similar situations. In a personal situation, if you were allowed to stay out all night by your parents "just once," you can use that "just once" as precedent evidence when asking that your curfew be abolished.

Statistical evidence consists primarily of polls, surveys, and experimental results from the laboratory. This type of evidence is the numerical reporting of specific instances. Statistical evidence provides a means for communicating a large number of specific instances without citing each one. Statistics can be manipulated and misused to make the point of the particular advocate.

Don't accept statistics just because they are numbers. People often fall into the trap of believing whatever a number says, because numbers seem accurate. Statistics are the product of a process subject to human prejudice, bias, and error. Questions on a survey can be biased, the people surveyed can be selectively chosen, comparisons may be made of non-comparable items, and reports of findings can be slanted. Take a look at all the polls that predict an election outcome. You will find variances and differences in the results.

Statistics have to be interpreted. In a debate over the use of lie detector tests to determine guilt or innocence in court, the pro-side cited a study which found that 98% of lie detector tests were accurate. The pro-side interpreted this to mean that lie detector tests were an effective means for determining guilt or innocence. However, the con-side interpreted the statistic to mean that two out of every 100 defendants in this country would be found guilty and punished for a crime they did not commit.



6.2.2: "Scully" by Floatjon is licensed under CC BY-SA 3.0

The great baseball announcer Vin Scully once described the misuse of statistics by a journalist by saying that *"He uses statistics like a drunk uses a lamppost, not for illumination but for support"*

Statistics are often no more reliable than other forms of evidence, although people often think they are. Advocates need to carefully analyze how they use statistics when attempting to persuade others. Likewise, the audience needs to question statistics that don't make sense to them.

Testimonial evidence is used for the purpose of assigning motives, assessing responsibilities, and verifying actions for past, present and future events. Testimony is an opinion of reality as stated by another person. There are three forms of **testimonial evidence**: **eyewitness**, **expert-witness**, and **historiography**.

Eyewitness testimony is a personal declaration as to the accuracy of an event. That is, the person actually saw an event take place and is willing to bear witness to that event. Studies have confirmed that eyewitness testimony, even with all of its problems, is a

powerful form of evidence. There seems to be almost something "magical" about a person swearing to "tell the whole truth and nothing but the truth."

Expert-witness evidence calls upon someone qualified to make a personal declaration about the nature of the fact in question. Courts of law make use of experts in such fields as forensics, ballistics, and psychology. The critical thinker uses the credibility of another person to support an argument through statements about the facts or opinions of the situation.

What or who qualifies as an expert witness? Does being a former military officer make them an expert in military tactics? Often an advocate will merely pick someone who they know the audience will accept. But as an audience we should demand that advocates justify the expertise of their witness. As we acquire more knowledge, our standards of what constitutes an expert should rise. We need to make a distinction between sources that are simply credible like well-known athletes and entertainers that urge you to buy a particular product, and those who really have the qualities that allow them to make a judgment about a subject in the argumentative environment.

Although expert witness testimony is an important source of evidence, such experts can disagree. In a recent House Energy and Commerce subcommittee, two experts gave opposite testimony, on the same day, on a bill calling for a label on all aspirin containers warning of the drug's often fatal link to Reye's Syndrome. The head of the American Academy of Pediatrics gave testimony supporting the link, but Dr. Joseph White, President of The Aspirin Foundation of America, said there was insufficient evidence linking aspirin to Reye's syndrome.

Historiography is the third form of testimonial evidence. In their book, *ARGUMENTATION AND ADVOCACY*, Windes and Hastings write, "*Historiographers are concerned in large part with the discovery, use, and verification of evidence. The historian traces influences, assigns motives, evaluates roles, allocates responsibilities, and juxtaposes events in an attempt to reconstruct the past. That reconstruction is no wiser, no more accurate or dependable than the dependability of the evidence the historian uses for his reconstruction.*"⁵

Keep in mind that there are many different ways of determining how history happens. Remember, historians may disagree over why almost any event happened. In the search for how things happen, we get ideas about how to understand our present world's events and what to do about them, if anything.

Primary sources are essential to the study of history. They are the basis for what we know about the distant past and the recent past. Historians must depend on other evidence from the era to determine who said what, who did what, and why.

How successful is the historian in recreating "objective reality?" As noted historian Arthur Schlesinger, Jr. says,

"The sad fact is that, in many cases, the basic evidence for the historian's reconstruction of the really hard cases does not exist, and the evidence that does exist is often incomplete, misleading, or erroneous. Yet, it is the character of the evidence which establishes the framework within which he writes. He cannot imagine scenes for which he has no citation, invent dialogue for which he has no text, assume relationships for which he has no warrant."

Historical reconstruction must be done by a qualified individual to be classified as historical evidence. Critical thinkers will find it useful to consider the following three criteria for evaluating historical evidence.

Around 1,000 books are published internationally every day and the total of all printed knowledge doubles every 5 years.

More information is estimated to have been produced in the last 30 years than in the previous 5,000.

----The Reuters Guide to Good Information Strategy 2000

Was the author an eyewitness to what is being described, or is the author considered an authority on the subject? Eyewitness accounts can be the most objective and valuable but they may also be tainted with bias. If the author professes to be an authority, he/she should present his/her qualifications.

Does the author have a hidden agenda? The author may purposely or unwittingly tell only part of the story. The excerpt may seem to be a straight-forward account of the situation, yet the author has selected certain facts, details, and language, which advance professional, personal or political goals or beliefs. They may be factual, but the hidden agenda of these books was to make money for the author, or get even with those in the administration they didn't like.

Does the author have a bias? The author's views may be based on personal prejudice rather than a reasoned conclusion based on facts. Critical thinkers need to notice when the author uses exaggerated language, fails to acknowledge, or dismisses his or her opponents' arguments. Historians may have biases based on their political allegiance. Conservative historians would view events

differently than a liberal historian. It is important to know the **political persuasion** of the historian in order to determine the extent of bias he or she might have on the specific topic they are writing about.



"6.2.3: "Daniel Boorstin" by Unkown is in the [Public Domain, CC0](#)

Sometimes we think we might know our history, but Historian Daniel Boorstin puts a perspective on the ultimate validity and accuracy of historical testimony when he writes, *"Education is learning what you didn't even know you didn't know."* Modern techniques of preserving data should make the task of recreating the past easier and adding to our education.

Hearsay evidence (also called rumor or gossip evidence) can be defined as an assertion or set of assertions widely repeated from person to person, though its accuracy is unconfirmed by firsthand observation. "Rumor is not always wrong," wrote Tacitus, the Roman historian. A given rumor may be spontaneous or premeditated in origin. It may consist of opinion represented as fact, a nugget of accuracy garbled or misrepresented to the point of falsehood, exaggerations, or outright, intentional lies. Yet, hearsay may well be the "best available evidence" in certain situations where the original source of the information cannot be produced.

Rumor, gossip or hearsay evidence carries proportionately higher risks of distortion and error than other types of evidence. However, outside the courtroom, it can be as effective as any other form of evidence in proving your point. Large companies often rely on this type of evidence, because they lack the capability to deliver other types of evidence.

A recent rumor was started that actor Morgan Freeman had died. A page on "Facebook" was created and soon gained more than 60,000 followers, after it was announced that the actor had passed away. Many left their condolences and messages of tribute. Only one problem, Morgan Freeman was very much alive, actually that is not so much a problem, especially to Morgan Freeman. The Internet is a very effective tool when it comes to spreading rumors.

Common knowledge evidence is also a way to support one's arguments. This type of evidence is most useful in providing support for arguments which lack any real controversy. Many claims are supported by evidence that comes as no particular surprise to anyone.

Basing an argument on common knowledge is the easiest method of securing belief in an idea, because an audience will accept it without further challenge. As Communication Professors Patterson and Zarefsky explain:

*"Many argumentative claims we make are based on knowledge generally accepted by most people as true. For example, if you claimed that millions of Americans watch television each day, the claim would probably be accepted without evidence. Nor would you need to cite opinions or survey results to get most people to accept the statement that millions of people smoke cigarettes."*⁶(Patterson, 1983)

Credibility of Evidence or How Good Is It?

In order to tell us how you know something, you need to tell us where the information came from. If you personally observed the case you are telling us about, you need to tell us that you observed it, and when and where. If you read about it, you need to tell us where you read about it. If you are accepting the testimony of an expert, you need to tell us who the expert is and why she is an expert in this field. The specific identity, name or position and qualifications of your sources are part of the answer to the question "How do you know?" You need to give your audience that information.

Keep in mind that it is the person, the individual human being, who wrote an article or expressed an idea who brings authority to the claim. Sometimes that authority may be reinforced by the publication in which the claim appeared, sometimes not. But when you quote or paraphrase a source you are quoting or paraphrasing the author, not the magazine or journal. The credibility of the evidence you use can be enhanced by:

Specific Reference to Source: Does the advocate indicate the particular individual or group making the statements used for evidence? Does the advocate tell you enough about the source that you could easily find it yourself?

Qualifications of the Source: Does the advocate give you reason to believe that the source is competent and well-informed in the area in question?

Bias of the Source: Even if an expert, is the source likely to be biased on the topic? Could we easily predict the source's position merely from knowledge of his job, her political party, or organizations he or she works for?

Factual Support: Does the source offer factual support for the position taken or simply state personal opinions as fact?

Evaluating Internet Sources of Evidence

We currently obtain a significant amount of the evidence we use in an argument from the Internet. Some people are still under the influence that if they read it on the Internet, it must be accurate. But we all know that some Internet sources are better than others. We need to be able to evaluate websites to obtain the best information possible. Here are two approaches to evaluating websites

Who, What, When, Where, and Why

This first test is based on the traditional 5 "W's." These questions, like critical thinking, go back to Greek and Roman times. The notable Roman, Cicero, who was in office in 63 BC, is credited with asking these questions

Journalists are taught to answer these five questions when writing an article for publication. To provide an accurate interpretation of events to their viewers or readers, they ask these five questions and we can ask the same questions to begin discovering the level of quality of an online source.

Who wrote the post? What are their qualifications?

What is actually being said in the website. How accurate is the content?

When was the website's latest post?

Where is the source of the post? Does the URL suggest it is from an academic source or an individual?

Why is the website published? Is the website there to inform or entertain?

There is a second method of evaluating websites that is more popular and includes a more in depth analysis. This method is known as the CRAAP test.

The C.R.A.A.P. Test

C.R.A.A.P. is an acronym standing for Currency, Relevance, Authority, Accuracy, and Purpose. Developed by the Meriam Library at the California State University at Chico, each of these five areas is used to evaluate websites.

Currency How recent is this website. If you are conducting research on some historical subject a web site that has no recent additions could be useful. If, however you are researching some current news story, or technology, or scientific topic, you will want a site that has been recently updated.

Questions to Ask:

- When was the content of the website published or posted?
- Has the information been revised or updated recently?
- Have more recent articles on your subject been published?
- Does your topic require the most current information possible, or will older posts and sources be acceptable?
- Are the web links included in the website functional?
- **Relevance** This test of a website asks you how important is the information to the specific topic you are researching. You will want to determine if you are the intended audience and if the information provided fits your research needs.

Questions to Ask:

- Does the content relate to your research topic or the question you are answering?

- Who is the intended audience?
- Is the information at an appropriate level for the purpose of your work? In other words, is it college level or targeted to a younger or less educated audience?
- Have you compared this site to a variety of other resources?
- Would you be comfortable citing this source in your research project?

Authority Here we determine if the source of the website has the credentials to write on the subject which makes you feel comfortable in using the content. If you are looking for an accurate interpretation of news events, you will want to know if the author of the website is a qualified journalist or a random individual reposting content.

Questions to Ask:

- Who is the author/ publisher/ source/ sponsor of the website?
- What are the author's credentials or organizational affiliations?
- Does the author have the qualifications to write on this particular topic?
- Can you find information about the author from reference sources or the Internet?
- Is the author quoted or referred to on other respected sources or websites?
- Is there contact information, such as a publisher or email address?
- Does the URL reveal anything about the author or source?

Accuracy In this test we attempt to determine the reliability and accuracy of the content of the website. You need to determine if you can trust the information presented in the website or is it just slanted, personal beliefs.

Questions to Ask:

- Where does the information in the website come from?
- Is the information supported by Evidence, or is it just opinion?
- Has the information presented been reviewed by qualified sources?
- Can you verify any of the content in another source or personal knowledge?
- Are there statements in the website you know to be false?
- Does the language or tone used in the website appear unbiased or free of emotion or loaded language?
- Are there spelling, grammar or typographical errors in the content of the website?

Purpose Finally we examine the purpose of the website. We need to determine if the website was created to inform, entertain or even sell a product or service. If we want accurate, high quality evidence, we would want to avoid a site that is trying to sell us something. Although a company selling solar power may have some factual information about solar energy on their site, the site is geared to sell you their product. The information they provide is not there to educate you with all aspects of solar power.

Questions to Ask:

- What is the purpose of the content of this website? Is the purpose to inform, teach, sell, entertain or persuade?
- Do the authors/sponsors of the website make their intentions or purpose clear?
- Is the content in the website considered facts, opinion, or even propaganda?
- Does the point of view appear objective and impartial?
- Does the author omit important facts or data that might disprove the claim being made in the post?
- Are alternative points of view presented?
- Does the content of the website contain political, ideological, cultural, religious, institutional or personal biases?

Questions used here are inspired from questions from the Meriam Library at California State University Chico, the University of Maryland University College Library and Creighton University Library



6.2.4: "Question Mark on Face" is in the [Public Domain](#), [CC0](#)

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7.5: Checking on the Domain Indicators

Every website address ends with a domain indicator. This graphic illustrates four of them. Understanding each domain indicator can help us better understand the quality of the website.

Domain Indicators	
.com Commercial Content Can be created by anyone with a website	.org Organization Wide range of credibility
.edu Educational Institution Since 2001, must be a U.S. Institute of higher education	.gov Government Entity Restricted to US government sites, Federal, State, and Local

What follows is a list of domain indicators from most reliable to least reliable sites. The sites at the top of the list are considered more trustworthy than those towards the bottom of the list.

.gov This is the site that is restricted for use of federal, state and local governments only. And yes, here I am saying that the government is to be trusted. These sites are reviewed for accuracy by individuals and agencies.

.edu Since 2001, these sites have been restricted for use of U.S. educational institutions of higher education. The content on this site will not only be written by people associated by that institution, but will be subject to review by that institution.

.org Although we think of this as a domain indicator for an organization, anyone can obtain this domain indicator. And even if it is an organization, you need to check the credibility of that organization.

.com Any individual can obtain this domain indicator and publish a site. There are no review boards to evaluate the content that is in this site.

.net As with .com, any individual can obtain this domain indicator.

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7.6: Using Evidence

In his book, *ARGUMENTATION AND DEBATE*, Austin J. Freeley discusses the uses of evidence. He says that the various types of evidence can be used in two ways:

To establish Conclusive Proof for your position. Conclusive proof is using evidence that is strong and convincing enough to override any objections to it. This evidence is so strong that the law will not permit it to be contradicted.

Often the argumentative environment will define what type of evidence is needed to establish your arguments to the defined threshold of that environment. For example, fingerprints at the crime scene may be the conclusive proof needed to find a person guilty of that crime. For a scientist to prove a hypothesis they need an experiment to reach a 95% certainty threshold. That is, they need to be 95% certain of the results. If the experiment by the scientist reaches this level, this would be conclusive proof.

To establish Circumstantial Proof for your position. This is where the various types of evidence are used to form a link strong enough to prove your point. Using the different types of evidence as support gives the argument the strength needed to establish the accuracy of your argument. The evidence is put together in such a manner so as to create an evidence chain. One bit of evidence is connected to another, and so on. Each piece of evidence, in and of itself, is not enough to reach the threshold of your audience for accepting your argument, but taken altogether, the accuracy of the claim can be established.¹

Many Americans hold the incorrect view that circumstantial evidence cannot be used to convict someone in a court of law. In fact, more convictions are based on circumstantial proof than on conclusive proof.

How Much Evidence is Necessary?

All good arguments must be supported by a strong foundation of evidence. An argument filled with no supporting evidence is merely an assertion. It is instead a collection of interpretations or beliefs, and the audience will have no reason to believe the interpretations or beliefs if they are not well supported with evidence.

How much evidence do you need to support each contention that you make in support of your stand on a claim? Good question. To some extent, the amount of evidence needed depends on the degree of controversy of the claim you are trying to support and your credibility as an advocate. Thus, how much evidence an advocate needs to present is ultimately determined by the demands of his or her target audience. Since evidence must ultimately be persuasive to an audience, arguers must adjust their usage of evidence for maximum appeal. An advocate must deal with one of the following audience types:

A **friendly audience** is one that already supports an advocate's position on a claim. Audience members are already predisposed to granting adherence to the position, so very little additional evidence is needed as support.

A **neutral audience** is one that has made no commitment to granting adherence to the advocated point of view. Audience members are "fence sitting," waiting to see what type of support can be provided in order to move them over to one side or the other. The quality of the evidence used is important to this type of audience.

A **hostile audience** is one that is opposed to the advocate's point of view. Audience members are already predisposed to reject the advocated point of view. In this case, a great deal of high-quality evidence is needed in order to move audience members off their existing position.

Tests of Evidence

You have evidence that you plan to use in your arguments. The key question for you, because it will be a key question for your audience, is whether the evidence is accurate, whether you can trust it. Unless you are reporting your own personal experience directly to us, your evidence comes from somebody else.

If you use the word of some other person or group to answer the question "How do you know?" it just moves the question back a step: How do they know? Even if you understand them, and they were correct as they saw it, they may have been just plain wrong. If you really care about the accuracy or correctness of what you are reporting, then you have to have some way of checking the reliability of your sources. In reviewing evidence, you can use a few tests that are widely used to evaluate evidence.

Recency: Is the evidence too old to be of current relevance to the issue? Would the source have had knowledge of recent developments or discoveries that might have bearing on the issue?

Sufficiency: Is there enough evidence to justify all of the claims being made from it?

Logical Relevance: Does the claim made in the evidence provide a premise which logically justifies the conclusion offered? Can you reasonably draw the conclusion being urged based on what the evidence says?

Internal Consistency: Does this source make claims that are contradicted by other claims from the same source?

External Consistency: Are the claims made by this source consistent with general knowledge and other evidence? If not, does the writer account for this discrepancy? If printed, can it be found? If not in print format, can you provide citation as to time, place and date?

Reference

1. Freeley, Austin J. *Argumentation and Debate*. Wadsworth Publishing Co., 1993

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7.7: Testing of Fake News Sources

There has always been fake news, but with the advent of social media, posted news does not have to go through any editorial board to be published. Anyone with a computer and an Internet connection can publish what they refer to as the “news,” and that “news” is easily passed along and eventually believed by many.

Facebook contributes to this as their algorithm records what you like or interact with and shows you more content that is related to your interest. If you like a meme showing how foolish a particular candidate supposedly is, then more, similar memes will appear on your Facebook site.

Because of the viral nature of these fake news reports, both Google and Facebook are attempting to reduce their impact by decreasing the amount of revenue these fake news sources can generate.

There are different types of misleading and false news as described below by AJ Willingham, CNN news:

Fake news These are the easiest to debunk and often come from known sham sites that are designed to look like real news outlets. They may include misleading photographs and headlines that, at first read, sound like they could be real.

Misleading news These are the hardest to debunk, because they often contain a kernel of truth: A fact, event or quote that has been taken out of context. Look for sensational headlines that aren't supported by the information in the article.

Highly partisan news A type of misleading news, this may be an interpretation of a real news event where the facts are manipulated to fit an agenda.

Clickbait The shocking or teasing headlines of these stories trick you into clicking for more information -- which may or may not live up to what was promised.

Satire This one is tough, because satire doesn't pretend to be real and serves a purpose as commentary or entertainment. But if people are not familiar with a satire site, they can share the news as if it is legitimate.¹

As Willingham described **click-bait**, The purpose of these sites is to get viewers because the owner then makes money with all the accompanying advertisements. The more people who view the site, the more money the owner makes.

And don't forget the problem with other countries posting on the web in order to spread propaganda and create dissension. We need to be on guard as other countries interfere with our internal affairs.

We need to be more skeptical. You may have seen a meme during the 2016 election that had a picture of a young Donald Trump with his alleged quote:

"If I were to run, I'd run as a Republican. They're the dumbest group of voters in the country. They believe anything on Fox News. I could lie and they'd still eat it up. bet my numbers would be terrific."

People who disliked Trump would re-post this in hopes of getting Republican voters to also dislike him and not vote for him. This quote was allegedly from a People Magazine interview in 1998. But looking through the People Magazine archives this quote is nowhere to be found. This statement was totally made up. Were you fooled by it?

The good news is that there are several, relatively simple steps we can take. The following are questions from both FactCheck.org and CNN you can ask to make sure you are not being manipulated by **Fake News**.

Does the story, article or meme originate from a strange looking web address? Check and see if the url has a **.co** or **.su**, or is hosted by a free web site like Weebly or Wordpress. It was reported on abcnews.com.co that President Obama had signed an order banning assault weapon sales. Now look at that url again and you will see the **.co** at the very end. This was a **“Fake New** story.

Does the article match the Headline? Often people will just read the headline and repost the article. By reading the article you might see a very different story. I once read a headline stating that Congress was going to impeach President Obama. But the article just said that one member of congress was thinking about filing the articles of impeachment.

Is the article recent or is it an old one that has been re-purposed. CNN once reported that “A blog called Viral Liberty recently reported that Ford had moved production of some of their trucks from Mexico to Ohio because of Donald Trump’s election win.” Actually, this had been done a year before and had nothing to do with the election.

Do the supporting videos and photos relate to the article? You want to verify that the picture actually relates to the article or is it taken out of context. After the 2016 Presidential election, many anti-Trump protests were staged. There was a picture of a person

defecating in the street with the caption referring to the classlessness of liberals.

It turns out the picture was taken years earlier in an entirely different event. But it was reposted many times.

Does the article cite primary source? Check and see the actual source of a news article. Is it just the website who says so? Do they cite any credible sources? One fake news site, Now8News, is one of those fake sites that look real. As I am writing this, one of their lead stories is that Melania Trump is divorcing Donald Trump. Just because a site looks professional, doesn't make the evidence accurate.

Can you Trace the Quotes you are reading? Often you will see a key figure making a quote that just does not sound believable. Check the quote. Put the quote in Google and see if it comes up somewhere else.

Are there any other news outlets reporting the story? Check to see if there are other, legitimate, news sources reporting the same story. Google the story and select the "News" option. You can see other sources, if there are any, for that story. And make sure they are legitimate. Remember, USAToday.com.co is not a legitimate source with that .co at the end.

Is your own personal bias getting in your way? This is a very big influential factor for the success of **Fake News**. As stated in FactCheck.org,

*"We know this is difficult. Confirmation bias leads people to put more stock in information that confirms their beliefs and discount information that doesn't. But the next time you're automatically appalled at some Facebook post concerning, say, a politician you oppose, take a moment to check it out."*²

It is human nature. The more you hate a particular politician, let's say, Hillary Clinton, the more you will want to believe negative stories about her, no matter how outrageous they may be. A critical thinker needs to fight that human urge.

Has the article been debunked by a reputable fact-checking organization? There are many fact-checking organizations around the world that will help you determine the validity and accuracy of news stories. One excellent website is the "International Fact-Checking Network." On their website is a list of international fact-checking sites including the most popular ones in the United States³:

- Factcheck.org
- PolitiFact
- Snopes
- The Washington Post Fact Checker
- FactCheck Georgia

Is the web host of the article on a list of unreliable news websites? There are a couple of places that have lists of these dubious websites. One is at Snopes and another is a growing document titled "False, Misleading, Clickbait-y, and/or Satirical "news" Sources." (Zimbardo, 2016) This is an extensive and growing document that describes hundreds of fake news sites and how to analyze them. The challenge with these sites is the determination of which ones are based on some factual information and which ones are total fiction made to sound like fact.

AJ Willingham from CNN urges us to "hone your fact-checking skills." And she cites two experts in the field.

Alexios Mantzarlis trains fact-checkers for a living. He says it's important to have a "healthy amount of skepticism" and to think, really think, before sharing a piece of news.

"If we were a little slower to share and re-tweet content purely based on the headline, we'd go a good way towards combating falsehoods," he told CNN.

Melissa Zimdars, Communication Professor at Merrimack College, points out that even those who spend a lot of time online aren't immune to fake content.

*"People think this [thinking] applies only for older people," she told CNN. "I think even early education should be teaching about communication, media and the internet. Growing up with the internet doesn't necessarily mean you are internet savvy."*⁴

Facebook has become a major source of information for many people. Recently Facebook posted a list of strategies a person can use to analyze articles to see if they might be an example of false news.

Facebook states, "We want to stop the spread of false news on Facebook. As we work to limit the spread, here are some tips on what to look out for":

Be skeptical of headlines. False news stories often have catchy headlines in all caps with exclamation points. If shocking claims in the headline sound unbelievable, they probably are.

Look closely at the URL. A phony or look-alike URL may be a warning sign of false news. Many false news sites mimic authentic news sources by making small changes to the URL. You can go to the site to compare the URL to established sources.

Investigate the source. Ensure that the story is written by a source that you trust with a reputation for accuracy. If the story comes from an unfamiliar organization, check their “**About**” section to learn more.

Watch for unusual formatting. Many false news sites have misspellings or awkward layouts. Read carefully if you see these signs.

Consider the photos. False news stories often contain manipulated images or videos. Sometimes the photo may be authentic, but taken out of context. You can search for the photo or image to verify where it came from.

Inspect the dates. False news stories may contain timelines that make no sense, or event dates that have been altered.

Check the evidence. Check the author's sources to confirm that they are accurate. Lack of evidence or reliance on unnamed experts may indicate a false news story.

Look at other reports. If no other news source is reporting the same story, it may indicate that the story is false. If the story is reported by multiple sources you trust, it's more likely to be true.

Is the story a joke? Sometimes false news stories can be hard to distinguish from humor or satire. Check whether the source is known for parody, and whether the story's details and tone suggest it may be just for fun.

Some stories are intentionally false. Think critically about the stories you read, and only share news that you know to be credible.

⁵ You can actually learn more about what Facebook is doing to reduce the spread of false news by going online and reading, “Working to Stop Misinformation and False News.” ⁶ Evidence is one part of the advocate's process for proving his or her arguments in support of their stand on a claim.

Reporting a Fake News Story In Facebook

If you see a story in News Feed that you believe is false, you can report it to Facebook.

Click ∨ next to the post you'd like to mark as false

Click Report post

Click It's a false news story

Click Mark this post as false news

News stories that are reported as false by people on Facebook may be reviewed by independent, third-party, fact-checkers. A story may be marked as disputed if these fact-checkers find the story to be false.

Because of the importance of evidence as the supportive underpinning to arguments, it is important that the use of evidence be ethically based. Advocates must be careful in gathering, recording, and using evidence in an effort to sway the hearts and minds of others. This is especially important because the free marketplace of commerce and ideas rests on the foundation of trying to persuade others fairly and honestly.

Persuasion is central to our political campaigns, social compliance, leadership, interpersonal relations, and consumer protections. The fabrication, misrepresentation, and distortion of evidence cannot be tolerated. Advocates, if not already held legally responsible, are certainly ethically responsible for the evidence they use in trying to gain audience adherence for their stand on a claim.

As Patterson and Zarefsky write in CONTEMPORARY DEBATE:

“All evidence originates from observations of perceived reality. Direct observation means experiencing a situation for ourselves, using one or more of our senses to gather the information. It is often unnecessary and, in fact, sometimes impossible to observe all the events and behavior we use as evidence for arguments. In some cases, we report what others said they observed as eyewitnesses. More often, however, we report generalizations others have drawn, because we do not have the time or the expertise to do the sampling ourselves.”⁷(Patterson, 1983)

Finding quality evidence that you can use to support your claim is a crucial step in developing a successful argument. Discovering the weakness in the evidence that others use in their arguments is a great first step in clashing with their positions.

Reference

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7.8: The Focus of this Chapter

The foundation of any argument is evidence. The higher the quality of evidence the stronger the argument. Poor quality evidence is open to counter arguments that weaken the strength of your argument. In this chapter, we looked at:

- The challenge of sifting through the enormous amount of evidence that is available to us.
 - We looked at the five types of evidence and their strengths and weaknesses.
 - It is important to analyze the source of the evidence. To do this we can use the “5 W’s” or the C.R.A.A.P test
 - If the source of the evidence is the Internet, checking on the domain names becomes important.
 - Because of the growth of “Fake News” sites, determining what is “real news” and what is “fake news” has become more and more of a challenge.
-

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7.9: Video - Evaluating Sources

📌 Evaluating a source's reasoning and evidence | Reading | Khan Academy



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7.10: Video - Evaluating Evidence

📌 Evaluating Evidence: Crash Course Navigating Digital Information #6



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CHAPTER OVERVIEW

8: Identifying Flaws

- [8.1: The Logic of Our Arguments](#)
- [8.2: Overview of Reasoning](#)
- [8.3: Types of Reasoning](#)
- [8.4: Fallacies](#)
- [8.5: The Focus of this Chapter](#)
- [8.6: Cognitive Dissonance](#)
- [8.7: Video - Five Fallacies Examples](#)
- [8.8: Video - More Fallacies Examples](#)

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8.1: The Logic of Our Arguments

You are a crime scene investigator. You are at a scene of the death of a middle-aged woman. She is lying dead at the base of an 8-story building. She appears to have jumped to her death. Or did she? You have to determine if she committed suicide or was murdered. You look for clues.

There seems to be no one else around. No one was seen with her when she went to the roof of the building. She had some financial problems that could cause her to feel pressure. Her boyfriend had just broken up with her. All these pieces of evidence seem to suggest that she committed suicide.

On the other hand, she left no suicide note. It was reported by her friends that she didn't complain about her life situation and she was generally in a good mood. And even though her boyfriend had broken up with her, she was planning on going on a "singles cruise." All of this evidence suggests that she was murdered.

Both conclusions are reasonable given the evidence. But which one is more valid or more reasonable?

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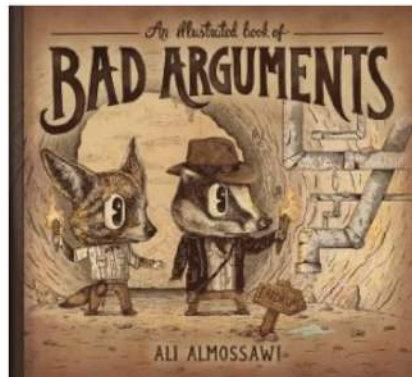
- [7.1: The Logic of Our Arguments](#) by Jim Marteney is licensed [CC BY-NC 4.0](#).

8.2: Overview of Reasoning

Reasoning is the process of creating or generating conclusions from evidence or premises. This is the logic of an argument. That is, consistency between data and conclusion. Given all of the evidence at the crime scene described at the beginning of the chapter, what can we conclude? Reasoning constructs a logical or rational connection between the evidence and the contention. The more reasonable the argument, the more valid is the conclusion.

Checking the validity of your own arguments will allow you to improve the quality of the arguments you use. When you create logically unsound arguments, you are much less likely to convince people to agree with you. If you are trying to convince an employer that you are indeed the person for a promotion, you want to make sure your arguments are as valid as possible. Not only do you give him or her a reason to accept your argument, but also you can better defend your position if it is challenged.

When you understand how arguments are supposed to be constructed and also how they shouldn't be constructed, you will find all sorts of bad arguments vying for your attention. I am guessing that you are not surprised at how many people are swayed by bad arguments.



7.2.1: "An Illustrated Book of Bad Arguments" (CC BY-NC 2.0; Ali Almosawi via bookofbadarguments.com)

Ali Almosawi has written an entertaining book that introduces logic, *Bad Arguments*. Here, in the final words in the preface of the book, he explains the limits to logic.

"In closing, the rules of logic are not laws of the natural world, nor do they constitute all of human reasoning. As Marvin Minsky asserts, ordinary commonsense reasoning is difficult to explain in terms of logical principles, as are analogies. He adds, "Logic no more explains how we think than grammar explains how we speak." Logic does not generate new truths, but rather allows one to evaluate existing chains of thought for consistency and coherence. It is precisely for that reason that it proves an effective tool for the analysis and communication of ideas and arguments".

-- A.A., San Francisco, October 2013 ¹



7.2.2: "Spock" (Public Domain; NBC Television via [Wikimedia Commons](https://commons.wikimedia.org/wiki/File:Spock.jpg))

As Spock from Star Trek would realize, *“Logic is the beginning of wisdom, not the end.*

Testing an argument to see if it is reasonable or logical is a great first step in deciding if you should accept or reject the claim of the argument. If the argument is not reasonable, then you can feel comfortable rejecting the claim. If the argument appears reasonable, then you can go to the next step and check for the accuracy of the statements contained within the argument. Don't be fooled by an argument just because it is repeated over and over. Instead, examine the validity and accuracy of that argument.

The critical thinker must remember that there is a difference between the reasoning needed to establish the validity of the argument and the level of evidence needed to substantiate the accuracy of an argument. Evaluating arguments involves analyzing both the validity of the type of reasoning used and the accuracy of the evidence presented.

When an argument includes both quality evidence and a valid reasoning foundation, the argument is considered to be sound. Professor James Sawyer writes,

“Argumentation gives priority to logical appeals while recognizing the importance of ethical and emotional appeals; persuasion gives priority to ethical and emotional appeals while recognizing the importance of logical appeals.”

This chapter will focus on three elements of reasoning; **inductive reasoning**, how we create generalizations; **deductive reasoning**, how we apply those generalizations; and **fallacies**, errors in reasoning.

“Science is simply common sense at its best, that is, rigidly accurate in observation and merciless to fallacy in logic.” – Thomas Huxley

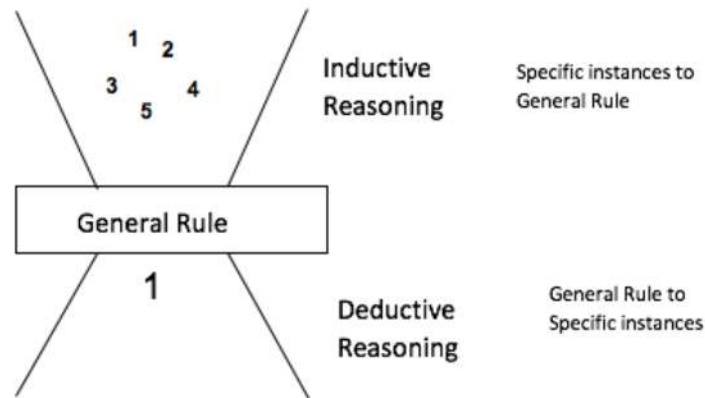
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8.3: Types of Reasoning



7.3.1: "Reasoning Diagram" (CC BY 4.0; J. Marteney)

Inductive Reasoning

Inductive reasoning is the process of reasoning from specifics to a general conclusion related to those specifics. You have a series of facts and/or observations. From all of this data you make a conclusion or as the graphic above calls it, a "General Rule." Inductive reasoning allows humans to create generalizations about people, events, and things in their environment. There are **five** methods of inductive reasoning: **example, cause, sign, comparison, and authority**.

Example Reasoning

Example reasoning involves using specific instances as a basis for making a valid conclusion. In this approach, specific instances 1, 2, and 3 lead to a generalized conclusion about the whole situation. For example: I have a Sony television, a Sony stereo, a Sony car radio, a Sony video system, and they all work well. It is clear that Sony produces superior electronic products. Or, I have taken four good professors at this college, Mr. Smith, Mrs. Ortiz, Dr. Willard, and Ms. Richard; therefore, I can conclude that the professors at this college are good.

Tests for Reasoning by Example

- 1. There must be a sufficient number of examples** to justify the generalized conclusion. How many examples are enough? The answer depends on the significance of the specific instances and the threshold of your target audience.

Some audiences may find one enough, while others may need many more. For instance, the Nielson Ratings that are used to measure the television viewing preferences of 300 million Americans are determined by roughly 3,000 homes scattered throughout the United States. Yet, the television industry, which uses them to set advertising rates, accepts the 3,000 examples as enough to validate the conclusions.
- 2. The examples must be typical of the whole.** They must be representative of the topic about which the conclusion is reached, not fringe examples. For example, you come to college and take one English class whose instructor you find disappointing. You conclude that all 300 instructors at this particular college are poor teachers from this one class from this one Department. The sample might not be representative of the whole population of instructors.
- 3. Important counter examples must be accounted for.** If the counter examples mitigate against the examples used, the generalization is threatened. What if a good friend of yours also took another English class and was pleased by the experience. He found that his instructor was an excellent teacher. His example becomes a counter one to the specific instance you used to draw your conclusion, which is now very much in doubt.
- 4. The examples must be relevant to the time period of your argument.** If you are dealing with something recent, you need recent examples. If you are trying to prove something in the 1850's, examples from that period are appropriate. If you took the English class 30 years ago, it would be difficult to draw a valid conclusion about the nature of teachers at the college today without using recent examples. Likewise, recent examples may not be reflective of the way the college was 30 years ago.

Causal Reasoning

Causal Reasoning is based on the idea that for every action there is a reaction. Stated very simply, a cause is anything that is directly responsible for producing something else, usually termed the effect. There are two forms of causal reasoning:

The goal of causal reasoning is to figure out how or why something happened. For instance, you did well on a test because you studied two days in advance. I could then predict that if you study two days in advance of the next test, you will do well. In causal reasoning, the critical thinker is trying to establish a predictive function between two directly related variables. If we can figure out how and why things occur, we can then try to predict what will happen in the future.

- Cause to effect, a known cause or causes is capable of producing some unknown effect or effects
- Effect to cause, some known effect(s) has/have been produced by some unknown cause or causes.

Tests of Causal Reasoning

1. **The cause must be capable of producing the effect described, and vice versa.** Has causality really been established or is it just coincidence? Is the cause really capable of producing the effect and vice versa? There must be a direct connection between the cause and the effect that can be demonstrated using empirical evidence. For example, many people mistake superstition for causal reasoning. Is the source of good luck the rubbing of a rabbit's foot? Is the cause of bad luck really the fact that you walked under a ladder or broke the mirror? Did wearing that shirt really cause your team to win five games in a row? The critical thinker must make a clear distinction between a valid causal occurrence and sheer coincidence.
2. **Cumulative causal reasoning increases the soundness of the conclusion.** The more times the causal pattern has happened, the greater the strength given to the causal reasoning, leading to a more valid conclusion. If this is the first time this association has ever been asserted the advocate will have to use more evidence to support the soundness of the causal reasoning advanced.
3. **Counter causal factors must also be accounted for.** The advocate must be aware of the other inherent causal factors that could disrupt the relationship between the cause and effect presented. A claim was made by a father that his son committed suicide, because he was influenced to do so by the songs of a particular rock musician. If we assume that such a causal association exists, we also need to know if there are any other factors that could disrupt the connection: Was the son using drugs; had he tried to commit suicide before; were there family problems; did he listen to other artists and other types of music; did he have peer problems; did he have relationship problems; was he having problems in school, etc.? Each one of these, individually, might be enough to destroy the direct causal relationship that is attempting to be established.

In Massachusetts, Michelle Carter is on trial for manslaughter. As a teenager, she texted her boyfriend, Roy, and encouraged him to commit suicide. And he did. Her defense attorney is arguing that Roy had mental problems, was already suicidal, and that the texts did not cause him to take his life. The prosecution is arguing that the text did cause Roy to kill himself. This is going to be a difficult case to resolve. As stated by Daniel Medwed, a Northeastern University law professor, "*Causation is going to be a vital part of this case, can the prosecution prove that she caused him to kill himself in this way? Would he have done it anyway?*"¹

Sign Reasoning

Sign reasoning involves inferring a connection between two related situations. The theory is that the presence or absence of one indicates the presence or absence of the other. In other words, the presence of an attribute is a signal that something else, the substance, exists. One doesn't cause the other to exist, but instead is a sign that it exists. Football on television is a sign that Fall has arrived. Football on television does not *cause* Fall to arrive; they just arrive at the same time. A flag is flying at half-staff. is a sign that that there has been a tragedy or a significant person has died. The flag flying at half-staff did not cause the death. It is a sign that the situation occurred.

Sign Reasoning in Poker

Quite a few players' posture betrays the nature of their cards. An unconscious change in their sitting position, such as leaning forward, likely indicates a strong hand. With a weak hand they often show less body tension, for example, having hanging shoulders.

If someone has concealed his mouth with his hand, he often holds a weak hand - he wants to hide his emotions. In a sense, he does not want his expression to betray his hand. The same is true for a player who is reluctant to glance at you: he is worried that his eyes might indicate he is afraid.

Particularly for beginners, a quick glance at his cards is a reliable tell. The tell here is an unconscious one, brief look at the player's own cards. If, for example, the flop brings 3 hearts and the player looks at his cards, it is unlikely he has the flush. This is because with an off-suit hand, a beginner usually takes no notice of the suits at first glance. Only with a suited hand will they remember the suit. Thus, you can often assume here that they have at most one heart.²

📌 Tests of Sign Reasoning

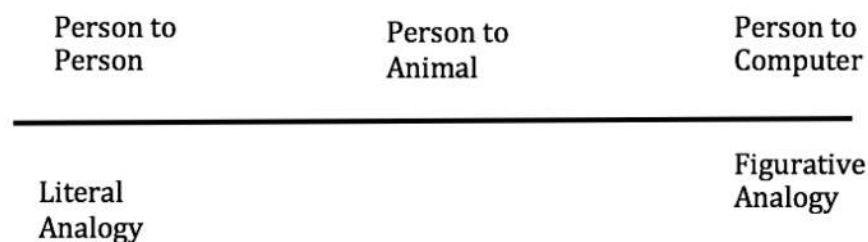
1. **Other substance/attribute relationships must be considered.** Is there another substance that might have the same attributes? Could the sending of roses to your wife be a sign of something other than love? Can the same signs indicate the presence of a valid second or third substance?
2. **Cumulative sign reasoning produces a more probable connection.** The more often this substance/attribute relationship occurs, the more likely it is to repeat itself. If this is the first time you have noticed the association, you will need a good deal of evidence to demonstrate that it really is a valid sign argument.

Comparison Reasoning

Comparison reasoning is also known as reasoning by analogy. This type of reasoning involves drawing comparisons between two similar things, and concluding that, because of the similarities involved, what is correct about one is also correct of the other. There was once an ad for alligator meat that presented this comparison; "When you try alligator meat just remember what is considered exotic food today may often become normal fare in the future. This was the case with lobster. About 75 years ago, lobster was thought of as poor man's food; many New Englanders would not even think of eating it. Today, of course, lobster is a delicacy savored by many people." This type of reasoning wants us to conclude that alligator meat is to humans today, as lobster meat was to humans 75 years ago. And since lobster is now a delicacy so will alligator meat. There are two types of comparisons: **figurative and literal**.

- **Literal comparisons** attempt to establish a link between similar classifications; cars to cars, states to states, people to people. For instance, you can compare a Ford compact car with a Toyota compact car; the lottery in one state with the lottery in another state; how your parents treat you with how your best friend is treated by her parents. In these comparisons, similar classifications are being used for the purposes of making the analogy. Literal comparisons can provide logical proof for the point being made and thus can increase the validity of the argument.
- **Figurative comparisons** attempt to link similarities between two cases from different classifications. Jim Baker of the Bush 2000 campaign, argued after the 5-4 Supreme Court decision awarding the state of Florida to Bush, "*Saying George W. Bush stole the Presidency from Al Gore is like saying someone tried to steer the Titanic after it had already hit the iceberg.*" Figurative comparisons carry no weight in terms of providing logical proof for an argument. They can, however, be very effective for the purpose of illustration and persuading an audience.

The line between a Literal and Figurative analogy is not clear. Instead of a comparison being totally figurative or totally literal, the comparison can be viewed in degrees using the following continuum.



7.3.2: "Analogy Diagram" (CC BY 4.0; J. Marteney)

There are few literal comparisons that can be made between a person and a computer. A person to an animal may have some overlapping actual similarities. While comparing one person to another person suggests a Literal Analogy. The more towards the figurative side the comparison is, the less the argument is logically valid. The more towards the literal side the comparison is, the more logically valid the argument is.

📌 Tests for comparison reasoning

1. **To be considered as proof, the analogy must be a literal one.** The further advocates move away from figurative comparisons and toward the literal comparison end of the continuum, the more validity they secure for their argument. Figurative comparisons carry no logical argumentative influence at all.
2. **The cases need to contain significant points of similarity.** The greater the number of important or major similar points between the cases, the easier it is to establish the comparison as a sound one. However, no matter how many points of similarity can be established between the two cases, major points of differences can destroy the analogy.
3. **Cumulative comparison reasoning will produce a more probable conclusion.** The greater the number of cases a person can use for the purpose of comparison, the more valid the comparison. If a student has been to more than one college or has had many instructors, he or she can evaluate the quality of the teachers by comparing them. The validity of his or her conclusion is increased as the number of teachers compared increases.

Children often try to convince a parent to let them do or try something the parent is opposed to by comparing themselves to another child. They point out they are the same age as the other child, they are in the same grade in school, the child lives in the same neighborhood as they do, thus they should be allowed to do what the other child is allowed to do. This seems to be a very effective argument by comparison until the parent says, you are not that child or we are not their parents. To the parents, these points of difference destroy the comparison the child is trying to make.

Poor Figurative Analogy May 23, 2016

(CNN) Veterans Affairs Secretary Bob McDonald downplayed Monday the time it takes for veterans to receive medical treatment by comparing the "experience" of waiting for health care to Disneyland guests waiting for a ride.

"When you go to Disney, do they measure the number of hours you wait in line? Or what's important?" McDonald told reporters at a Christian Science Monitor

breakfast in Washington. "What's important is what's your satisfaction with the experience?"

American Legion National Commander Dale Barnett excoriated McDonald: "The American Legion agrees that the VA secretary's analogy between Disneyland and VA wait times was an unfortunate comparison because people don't die while waiting to go on Space Mountain." ³



7.3.3: "Robert McDonald" (Public Domain; [US Department of Veterans Affairs](#) via [Wikimedia Commons](#))

Reasoning from Authority

Reasoning from Authority is used when a person argues that a particular claim is justified, because, it is held or advocated by a credible source. That credible source can be a person or organization. Basically, the authority possesses some credentials that qualify the source as an authority. Thus, you accept the argument because someone you feel is an authority tells you so. You can use this type of argument in two ways. First, you can ask that an argument be accepted simply because someone you consider an authority advocates it. People grant authority status to other people they think have more knowledge than they do: students to teachers, patients to doctors, and clients to lawyers. Children often argue this way when they justify a position by saying "because my mommy or daddy said so."

Second, you can support your arguments with the credibility of another person. Here you are attempting to transfer the positive ethos from the credible source to the position you are advocating. Advertisers do this when they get popular athletes and entertainers to promote their products. The advertisers are hoping that your positive view of these people will transfer to their product, thus producing higher sales for the products. You may be persuaded to see a particular movie, attend a certain play, or eat at a restaurant because, it was advocated by a well-known critic.

Tests for reasoning from authority

1. **The authority must be credible.** That is, the authority must possess the necessary qualifications for the target audience in order for the source to be used as justification for a point of view. If challenged, the advocate must be prepared to defend the expertise and ethos of his or her authority.
2. **Views of counter authorities must be taken into account.** The advocate must be aware of the other “experts” or highly credible sources who take an opposite position from the one being advocated. If he or she fails to do this, the argument breaks down into a battle over whose expert or authority should be accepted as being the most accurate.
3. **Cumulative views of authorities increase the validity of the reasoning.** Citing more than one expert or authority will increase the likelihood that your position will be viewed as the most valid one being argued.

Important conclusion: Since the process of reasoning by induction usually involves arriving at a conclusion based on a limited sampling, the conclusion to an inductive argument can never be totally certain. Why? Because no matter which type of inductive reasoning is used, nor how carefully critical thinkers adhere to the tests of each reasoning pattern, critical thinkers can never sample the totality of the population used to infer the generalization about that population.

Thus, **conclusions drawn from inductive reasoning are always only probable.** To use induction effectively, an advocate must demonstrate that the specifics are compelling, and thus justify the conclusion, but never claim that the conclusion is guaranteed in all situations.

Deductive Reasoning

Deductive reasoning is the process of reasoning from general statements, or rules, to a certain, specific, and logical conclusion. Deductive arguments begin with a general statement that has already been arrived at inductively. Unlike inductive reasoning, where the conclusion may be very valid, but is always only probable, the conclusion reached by deductive reasoning is logically certain.

A deductive argument offers two or more premises that lead to a conclusion directly related to those premises. As long as the two premises are sound, there can be no doubt that the final statement is correct. The final statement is a matter of logical certainty.

Deductive arguments are not spoken of as “true” or “false,” but as “sound” or “unsound.” A sound argument is one in which the premises guarantee the conclusion, and an unsound argument is one in which the premises do not guarantee the conclusion.

An advocate who uses deduction to frame an argument must be certain that the general statement is accepted as correct and then must demonstrate the relationship between this general statement and the specific claim, thus proving beyond a doubt the conclusion.

A deductive argument has three parts: a major premise, a minor premise, and a conclusion. This form is called a syllogism.

The major premise is a general statement. For example: **All telemarketers are obnoxious.** The subject section of the major premise (All telemarketers) is known as the antecedent; the predicate section of the major premise (are obnoxious) is known as the consequent.

The minor premise is a statement of a specific instance related to the major premise:

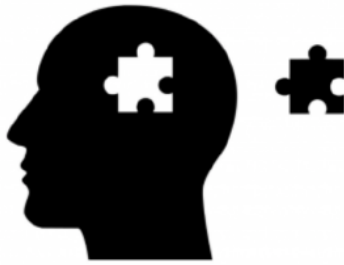
The person on the phone is a telemarketer.

The conclusion is the statement derived from the minor premises relationship to the major premise: **The person on the phone is obnoxious.**

An effective deductive argument is one in which your audience accepts the general statement and is then logically compelled by the development of the argument to accept your conclusion.

Thus, we use inductive reasoning to create generalizations or major premises, and we can use deductive reasoning to apply those generalizations to specific situations.

The final step in checking the strength of reasoning is to make sure there are no fallacies. Often, correcting for fallacies is the missing piece to creating and evaluating logical arguments



7.3.4: "Silhouette Brain Logic" (CC0 1.0; mohamed_hassan via [Needpix.com](https://www.needpix.com))

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8.4: Fallacies

A **fallacy** is an error in reasoning. A fallacy indicates there is a problem with the logic of deductive or inductive reasoning. This differs from a factual error, which is simply being wrong about the facts. To be more specific, a fallacy is an “argument” in which the premises given for the conclusion do not provide the needed degree of support.

A fallacy is a mistake in the way that the final conclusion of the argument, or any intermediate conclusions, are logically related to their supporting premises. When there is a fallacy in an argument, the argument is said to be unsound or invalid

The presence of a logical fallacy in an argument does not necessarily imply anything about the argument’s premises or its conclusion. Both may actually be correct, but the argument is still invalid because the conclusion does not follow from the premises using the inference principles of the argument.

Recognizing fallacies is often difficult, and indeed fallacious arguments often persuade their intended audience. Detecting and avoiding fallacious reasoning will at least prevent adoption of some erroneous conclusions.

Types of Fallacies

Fallacies are usually recognized in isolation, but woven into the context of an argument they may pass unnoticed, unless the critical thinker is on guard against them. Some advocates openly use fallacies in order to exploit an unknowing audience, but many times we use fallacies unintentionally. Many fallacies exist. Here is a few of the most common ones used in everyday argumentation.

False Dilemma The False Dilemma fallacy occurs when an argument offers a false range of choices and requires that you pick one of them. Usually, the False Dilemma fallacy takes this form: Either A or B is true. If A is not true, then B is true. “Either you love me or hate me.” The range is false because there may be other, unstated choices which would only serve to undermine the original argument. If you agree to pick one of those choices, you accept the premise that those choices are indeed the only ones possible. Seeing something as “black and white” is an example of a false dilemma.

Appeal to Emotion This fallacy is committed when someone manipulates peoples’ emotions in order to get them to accept a claim. More formally, this sort of “reasoning” involves the substitution of various means of producing strong emotions in place of evidence for a claim. Here the attempt is to transfer a positive emotion you have on one thing to the object or belief that is being argued.

This sort of “reasoning” is very common in politics and it serves as the basis for a large portion of modern advertising. Most political speeches are aimed at generating feelings in people, so that these feelings will get them to vote or act a certain way. How many times will you see pictures of American flags in a political commercial? The flag and other traditional images are aimed at getting the audience emotionally involved. In the case of advertising, the commercials are aimed at evoking emotions that will influence people to buy certain products. Beer commercials frequently include people at parties to get the potential consumers excited about the product. In many cases, such speeches and commercials are notoriously free of real evidence.

Non-sequitur The phrase “non-sequitur” is Latin for “it does not follow.” If an inference is made that does not logically follow from the premises of the preceding argument, then the inference is a non-sequitur. For example, “I am wearing my lucky hat today, nothing can go wrong.” Though the term “non-sequitur” can be used broadly as an informal fallacy to describe any unwarranted conclusion, it is most often used when a statement openly contradicts itself and just makes no sense.

Slippery Slope This fallacy reduces an argument to absurdity by extending it beyond its reasonable limits. This is an abuse of causal reasoning by trying to link events that normally have very little to do with each other. For example: legalizing marijuana will lead to the legalization of cocaine. If you legalize cocaine, you’ll be able to buy crack and every other drug at your local 7-11. In this argument, it is asserted that the legalization of marijuana will eventually lead to purchasing crack at local 7-11’s. Once one accepts the legalization of marijuana, then one is assumed to be on the slippery slope towards the legalization and availability of every other drug. In a Slippery Slope argument, you suggest that a series of events will occur leading to an undesirable conclusion instead of just one step as in Causal Reasoning.

Ad Hominem Translated from Latin to English, “Ad Hominem” means “against the man” or “against the person.” An ad hominem fallacy consists of saying that someone’s argument is wrong purely because of something about the person rather than about the argument itself. You will hear people on the radio and television dismiss comments by people they label as a conservative or a liberal, just because of how they label that person. Merely insulting another person or questioning the credibility of someone does not necessarily constitute an ad hominem fallacy. For this fallacy to exist it must be clear that the purpose of the characterization is to discredit the person offering the argument, in an attempt to invite others to then discount his or her arguments.

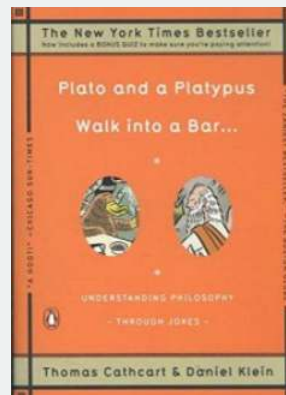
The Ad Hominem fallacy was employed by those who wanted to silence 16-year-old Climate Change activist Greta Thunberg. Those who disagreed with her argued that she should be ignored as she is just a child.

Hasty Generalization This fallacy occurs when an arguer bases a conclusion on too few examples, that are not necessarily typical of the conclusion being made. For instance, “My two boyfriends have never shown any concern for my feelings. Therefore, all men are insensitive, selfish, and emotionally uncaring.” Or, “I read about this man who got worms from eating sushi. I always knew that sushi was not good to eat.” Without more examples, these arguments can be considered fallacies.

Circular Reasoning The fallacy of circular reasoning is the assertion or repeated assertion of a conclusion, without giving reasons in its support. In other words, supporting a premise with a premise, instead of a conclusion. It may imply that the conclusion is self-evident or rephrase the conclusion to sound like a reason. Circular reasoning creates an illusion of support by simply asserting its conclusion as though it were a reason, or by reasserting the same claim in different words. For example, “Kerosene is combustible; therefore, it burns.” Or, “George Clooney is the best actor we have ever had, because he is the greatest actor of all time.”

Appeal to Ignorance In this fallacy, the arguer claims that something is valid only because it hasn’t been proven false. This fallacy errs by trying to make this argument in a context in which the burden of proof falls on the arguer to show that his or her position is actually accurate, not just that it has not yet been shown false. The argument mistakes lack of evidence for evidence to the contrary. In effect, the argument says, “No one knows it is accurate. Therefore, it is false.” For example, “There is no proof that hand gun legislation will reduce crime. Therefore, outlawing handguns would be a futile gesture.” Or, “We have no evidence that God doesn’t exist, therefore, God must exist.” Ignorance about something says nothing about its existence or non-existence.

📌 Plato and a Platypus Walk into a Bar



7.4.1: "Cover of Plato and a Platypus Walk Into a Bar" (Fair Use; Paul Buckley & Penguin Group via [Wikimedia Commons](#))

In their book authors Thomas Cathcart and Daniel Klein illustrate logical principles and fallacies using classic jokes. For example, to illustrate the fallacy of post hoc ergo propter hoc, they use the following:

“In general, we’re deceived by post hoc ergo propter hoc because we fail to notice that there’s another cause at work.

A New York boy is being led through the swamps of Louisiana by his cousin. ‘Is it true that an alligator won’t attack you if you carry a flashlight?’ asks the city boy.

His cousin replies, ‘Depends on how fast you carry the flashlight.’

The city boy saw the flashlight as a propter when it was only a prop.”¹

Bandwagon The name “bandwagon fallacy” comes from the phrase “jump on the bandwagon” or “climb on the bandwagon” a bandwagon being a wagon big enough to hold a band of musicians. In past political campaigns, candidates would ride a bandwagon through town, and people would show support for the candidate by climbing aboard the wagon. The phrase has come to refer to joining a cause because of its popularity. For example, trying to convince you that you should do something because everyone else is doing it, is a bandwagon fallacy. “Everybody is buying a Tesla car, so should you.”

Post hoc ergo propter hoc The post hoc ergo propter hoc, “after this, therefore because of this,” fallacy is based upon the mistaken notion that simply because one thing happens after another, the first event was a cause of the second event. Post hoc reasoning is the basis for many superstitions and erroneous beliefs.

For example, California earthquakes always happen after unusual weather patterns. Or, Allison always scores a goal when she wears her red and white soccer shoes. Or, I wore my Packers shirt and my Packers team won. I now wear my Packers shirt for every game. These are all, post hoc ergo propter hoc fallacies

Appeal to Pity With this fallacy, the arguer tries to get people to agree with his or her conclusion by evoking pity and sympathy either with the situation or with the situation of some third party. By appealing to people's ability to sympathize with others, a powerful emotive force can be created. Unfortunately, however serious another person's problems are, that does not automatically make their claims any more logical. My sympathy for that situation does not create a reasonable basis for believing his or her claims. For example, "I really need this job since my grandmother is sick" or "I should receive an 'A' in this class. After all, if I don't get an 'A' I won't get the scholarship that I need." These appeals evoke emotions, but are not necessarily logical.

Straw-Man Fallacy The arguer attacks an argument that is different from, and usually weaker than, the opposition's best argument. To distort or misrepresent an argument one is trying to refute is called the straw man fallacy. In a straw man fallacy, the opponents argument is distorted, misquoted, exaggerated, misrepresented or simply made up. This makes the argument easier to defeat, and can also be used to make opponents look like ignorant extremists. The refutation may appear to be a good one to someone unfamiliar with the original argument.

Logical fallacies are errors of reasoning, errors which may be recognized and corrected by critical thinkers. Fallacies may be created unintentionally, or they may be created intentionally in order to deceive other people. The vast majority of the commonly identified fallacies involve arguments, although some involve explanations, or definitions, or other products of reasoning. Sometimes the term fallacy is used even more broadly to indicate any false belief or cause of a false belief. A fallacy is an argument that sometimes fools human reasoning, but is not logically valid.

In his book, *PERSUASION: THEORY AND PRACTICE*, Kenneth Anderson writes,

*"Logical appeals are powerful forces in persuasion. However, logic alone is rarely sufficient to yield persuasion. Desires and needs of receivers affect and determine what they will accept as logical demonstration. Thus, it is possible for one person to report that he or she is convinced by the logic used while another person remains horrified at the lack of logic presented."*²

You can have high quality evidence, but lead to incorrect conclusions because your argument has poor reasoning. You always want to create the "soundest" or most logical argument possible. And you also want to examine the logic of others presentations to determine what fallacies might be evident.

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8.5: The Focus of this Chapter

Reasoning is what links your evidence to your contentions. Reasoning is the process of creating or generating conclusions from evidence or premises. This is the “logical” part of your argument. In this chapter, we looked at logic and found that:

- There are two general categories of reasoning, Deductive and Inductive.
 - Deductive reasoning argues from the general rule to a specific conclusion and follows the rules of syllogisms.
 - Inductive reasoning moves from specifics to create a general rule.
 - We examined five types of Inductive reasoning. Each type has tests that we can make to insure the reasoning is sound.
 - Unsound reasoning is known as fallacies. Recognizing fallacies in an argument allows us to reject an appeal that is illogical.
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8.6: Cognitive Dissonance

As a “normal” human being, we want to maintain our stasis and be comfortable. There are times, however, when we become aware of cognitions that disagree with our held beliefs, causing a feeling of uncertainty, or discomfort. How do we return to our feeling of comfort when we experience cognitions that are contradictory to our beliefs and disrupting our stasis?

A cognition has been understood to be both the process of understanding our environment and the end product of that process, a unit of awareness. Our environment bombards us with more stimuli than we can interpret. The few that we become aware of are known as cognitions. Leon Festinger developed his Theory of Cognitive Dissonance¹ in “A Theory of Cognitive Dissonance” to explain how a person attempts to resolve the discomfort felt when they experience contradictory cognitions.²

Leon Festinger argues that there are a total of three different, possible relationships between cognitions, which he refers to as being thoughts or ideas. Instead of calling the comfort state, stasis, he refers to it as being a state on “consonance.” Dissonance is an “unpleasant motivating state (a feeling) that encourages attitude change to achieve or restore consonance.”³

- Change a cognition
- Add a new cognition
- Change the importance of the cognition

For example, you may like an occasional drink, or two or three. You are comfortable with your drinking. But then you become aware of how alcohol can harm your body from your liver to your heart. Your stasis is now disrupted and you need to resolve this discomfort. According to Festinger, you can do one of three things to return to your comfortable stasis:

Change a cognition This can be accomplished by either altering the new cognition or your old, comfortable cognition. The person could rationalize by saying the source of the disrupting information on alcohol was biased, or unreliable. Or as a last resort, the original cognition that drinking was fine should now be changed.

Add a new cognition This can occur where you read from another source that a glass of red wine a night is actually good for your health

Change the importance of the cognition This can occur when you realize you only drink on weekends so the health effects are really not that big a deal.

Although Dissonance Theory can suggest that a person will engage in one of these three actions, the theory does not predict which one.

If you are attempting to persuade another person, you need to first disrupt their stasis by providing cognitions that create dissonance. A person cannot be persuaded to change to a new stasis until they are made uncomfortable with their current stasis. A couple has been living together for a couple of years and now she wants to get married. He is very comfortable with his stasis of just living together. If she wants to persuade him to get married, she must first make him uncomfortable with their current relationship. Then he will be open to a change in the relationship.

But even when we experience discomfort in our current situation, we will still fight to not change. Researcher Robert Abelson suggests that we resist a challenge to our stasis, by following one of four methods of reducing an inconsistency with our comfortable stasis.

“Inconsistency is not always resolved by bringing the maverick beliefs, attitudes, or values into line. At least four other strategies for reducing inconsistency have been distinguished: denial, bolstering, differentiation, and transcendence.”⁴

- **Deny** one of the dissonant cognitions. Here a person makes the determination the cognition is wrong. “She is the spokesperson for that company, so you can’t believe anything she says.”
- **Bolster** an attitude they want to believe by looking for sources that support beliefs they want to maintain. After becoming aware of a new cognition, a person can now easily find an internet source that agrees with his original belief.
- **Differentiate** one of the cognitions by separating it into different paths, where one of the paths may contain the dissonant idea, but the other path has a more consonant idea. “Sure, she may be telling lies, but she is also trying to save her children’s feelings.”
- **Transcendence** is the opposite of differentiate and occurs when the dissonant parts are put together and lead to an important whole. “Sure, he is lying on the school form and pretending to live in the proper district, but he really wants to get his daughter into a better school.”

Convincing ourselves that we should maintain our stasis in the face of new information can also be referred to as rationalization. Based on the work theory of belief-dilemma resolution by Robert Abelson⁵ Ware and Linkugel (1973)⁶ used the same four key methods to explain how we excuse ourselves and rationalize that we are not to blame for some action we have taken.

Denial: “I didn't do it.” Denial is the simplest of methods of excusing oneself and avoiding punishment. This is a method of coping with cognitive dissonance felt when our actions are in contradiction with our values. It does, however, require plausibility. You cannot deny something where there were multiple witnesses, although some do try.

Bolstering: “I'm a nice person.” I can't have done it. The word 'bolstering' means propping something up. When defending an attack, particularly when it appears to be personal, then many feel the need to bolster their character and reputation.

Differentiation: Distancing oneself. Show that you are not really connected with what went on. Distance yourself from the event. Indicate that it had nothing to do with you and that you had no knowledge of it.

Transcendence: A higher purpose when faced with an accusation, transcendence is a method of connecting the accused action with a greater meaning, thereby excusing the act as legitimate on a more important stage.... Transcendence is a method of reframing, not so much changing the facts, but changing their meaning by looking at things in new ways.⁷

As you can see from these previous theories, **we are not naturally, open minded critical thinkers**. Our natural state is to create a comfortable stasis and do our best to maintain that comfortable position. Instead of taking in new information and testing it to see if there is enough validity to it to change our minds, our natural tendency is to fight this new information, using a variety of strategies so we can maintain our comfort zone. This has led me to observe that **“People would rather be comfortably wrong than uncomfortably right.”**

Persuasive Strategies

There are, as you might guess, a variety of approaches that describes how we can change the stasis of others and be more aware of how others will try to change us. The first step is to analyze your audience.

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CHAPTER OVERVIEW

9: Critical Reading and Note-Making

[9.1: Prelude to Reading and Notetaking](#)

[9.2: The Nature and Types of Reading](#)

[9.3: Effective Reading Strategies](#)

[9.4: Taking Notes](#)

[9.5: Summary](#)

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9.1: Prelude to Reading and Notetaking



Figure 9.1.1: Each of us reads and records information in our own way.

Student Survey

These questions will help you determine how the chapter concepts relate to you right now. As we are introduced to new concepts and practices, it can be informative to reflect on how your understanding changes over time. We'll revisit these questions at the end of the chapter to see whether your feelings have changed.

On a scale of 1 (I need significant improvement) to 4 (I'm doing great), reflect on how you're doing right now on these statements:

1. I am reading on a college level.
2. I take good notes that help me study for exams.
3. I understand how to manage all the reading I need to do for college.
4. I recognize the need for different notetaking strategies for different college subjects.

You can also take the [Chapter 5 survey](#) anonymously online.

STUDENT PROFILE

"Before I came to college, I always loathed reading from the textbook, taking notes during class, and even listening to lectures. I've since learned that in most cases I should do what my teacher suggests. I have a course that requires me to read two textbook chapters each week. Taking notes on the chapters is optional, making it easy to brush off these assignments. But there are reasons that professors tell students to read and do other classwork. They believe it is valuable information for a student to learn. Note taking in class may become tedious and, in some cases, feel redundant. But you can't recall a whole class from memory. There is not much time to learn the contents of a class in one semester, and it can feel overwhelming. It's important to take notes because writing them helps you remember."

—**Christopher Naldini**, Westchester Community College

About this Chapter

In this chapter we will explore two skills you probably think you already understand—reading and notetaking. But the goal is to make sure you've honed these skills well enough to lead you to success in college. By the time you finish this chapter, you should be able to do the following:

- Discuss the way reading differs in college and how to successfully adapt to that change.
- Demonstrate the usefulness of strong notetaking for college students.

Reading and consuming information are increasingly important today because of the amount of information we encounter. Not only do we need to read critically and carefully, but we also need to read with an eye to distinguishing fact from opinion and identifying

solid sources. Reading helps us make sense of the world—from simple reminders to pick up milk to complex treatises on global concerns, we read to comprehend, and in so doing, our brains expand. An interesting study from Emory University in Atlanta, Georgia, used MRI scans to track the brain conductivity while participants were reading. The researchers assert that a biological change to your brain actually happens when you read, and it lingers. If you want to read the study, published in the journal *Brain Connectivity*, you can find it online at <https://openstax.org/1/brainconnectivity>.

In academic settings, as we deliberately work to become stronger readers and better notetakers, we are both helping our current situation and enhancing our abilities to be successful in the future. Seems like a win-win. Take advantage of all the study aids you have at hand, including human, electronic, and physical resources, to increase your performance in these crucial skill sets.

Why? You need to read. It improves your thinking, your vocabulary, and your ability to make connections between disparate parts, which are all parts of critical thinking. Educational researchers Anne Cunningham and Keith Stanovich discovered after extensive study with college students that “reading volume [how much you read] made a significant contribution to multiple measures of vocabulary, general knowledge, spelling, and verbal fluency.”

Research continues to assess and support the fact that one of the most significant learning skills necessary for success in any field is reading. You may have performed this skill for decades already, but learning to do it more effectively and practicing the skill consistently is critical to how well you do in all subjects. If reading *isn't your thing*, strive to make that your challenge. Your academic journey, your personal well-being, and your professional endeavors will all benefit from your reading. Put forth the effort and make it your thing. The long-term benefits will far outweigh the sacrifices you make now.

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9.2: The Nature and Types of Reading

Questions to consider

- What are the pros and cons of online reading?
- How can distinguishing between reading types help you academically and personally?
- How can you best prepare to read for college?

Research supports the idea that reading is good for you. Students who read at or above reading level throughout elementary and secondary school have a higher chance of starting—and more importantly, finishing—college. Educational researchers convincingly claim that reading improves everything from grades to vocabulary (Cunningham 2).

If you don't particularly enjoy reading, don't despair. We read for a variety of reasons, and you may just have to step back and take a bigger picture of your reading habits to understand why you avoid engaging in this important skill. The myriad distractions we now face as well as the intense information overload we can suffer on a daily basis in all aspects of our lives can combine to make it difficult to slow down to read, an activity that demands at least a modicum of attention in a way that most television and music do not. You may need to adjust your schedule for more reading time, especially in college, because every class you take will expect you to read more pages than you probably have in the past.

Types of Reading

We may read small items purely for immediate information, such as notes, e-mails, or directions to an unfamiliar location. You can find all sorts of information online about how to fix a faucet or tie a secure knot. You won't have to spend too much time reading these sorts of texts because you have a specific goal in mind for them, and once you have accomplished that goal, you do not need to prolong the reading experience. These encounters with texts may not be memorable or stunning, but they don't need to be. When we consider why we read longer pieces—outside of reading for pleasure—we can usually categorize the reasons into about two categories: 1) reading to introduce ourselves to new content, and 2) reading to more fully comprehend familiar content.



Figure 9.2.2: A bookstore or library can be a great place to explore. Aside from books and resources you need, you may find something that interests you or helps with your course work.

Reading to Introduce New Content

Glenn felt uncomfortable talking with his new roommates because he realized very quickly that he didn't know anything about their major—architecture. Of course he knew that it had something to do with buildings and construction sites, but the field was so different from his discipline of biology that he decided he needed to find out more so he could at least engage in friendly conversation with his roommates. Since he would likely not go into their field, he didn't need to go into full research mode. When we read to introduce new content, we can start off small and increase to better and more sophisticated sources. Much of our further study and reading depends on the sources we originally read, our purpose for finding out about this new topic, and our interest level.

Chances are, you have done this sort of exploratory reading before. You may read reviews of a new restaurant or look at what people say about a movie you aren't sure you want to spend the money to see at the theater. This reading helps you decide. In academic settings, much of what you read in your courses may be relatively new content to you. You may have heard the word *volcano* and have a general notion of what it means, but until you study geology and other sciences in depth, you may not have a full understanding of the environmental origins, ecological impacts, and societal and historic responses to volcanoes. These perspectives will come from reading and digesting various material. When you are working with new content, you may need to schedule more time for reading and comprehending the information because you may need to look up unfamiliar terminology and you may have to stop more frequently to make sure you are truly grasping what the material means. When you have few ways to connect new material to your own prior knowledge, you have to work more diligently to comprehend it.

Application

Try an experiment with a group of classmates. Without looking on the Internet, try to brainstorm a list of 10 topics about which all of you may be interested but for which you know very little or nothing at all. Try to make the topics somewhat obscure rather than ordinary—for example, the possibility of the non-planet Pluto being reclassified again as opposed to something like why we need to drink water.

After you have this random list, think of ways you could find information to read about these weird topics. Our short answer is always: Google. But think of other ways as well. How else could you read about these topics if you don't know anything about them? You may well be in a similar circumstance in some of your college classes, so you should listen carefully to your classmates on this one. Think beyond pat answers such as "I'd go to the library," and press for what that researcher would do once at the library. What types of articles or books would you try to find? One reason that you should not always ignore the idea of doing research at the physical library is because once you are there and looking for information, you have a vast number of other sources readily available to you in a highly organized location. You also can tap into the human resources represented by the research librarians who likely can redirect you if you cannot find appropriate sources.

Reading to Comprehend Familiar Content

Reading about unfamiliar content is one thing, but what if you do know something about a topic already? Do you really still need to keep reading about it? Probably. For example, what if during the brainstorming activity in the previous section, you secretly felt rather smug because you know about the demotion of the one-time planet Pluto and that there is currently quite the scientific debate going on about that whole de-planet-ation thing. Of course, you didn't say anything during the study session, mostly to spare your classmates any embarrassment, but you are pretty familiar with Pluto-gate. So now what? Can you learn anything new?

Again—probably. When did Pluto's qualifications to be considered a planet come into question? What are the qualifications for being considered a planet? Why? Who even gets to decide these things? Why was it called *Pluto* in the first place? On Amazon alone, you can find hundreds of books about the once-planet Pluto (not to be confused with the Disney dog also named Pluto). A Google search brings up over 34 million options for your reading pleasure. You'll have plenty to read, even if you do know something or quite a bit about a topic, but you'll approach reading about a familiar topic and an unfamiliar one differently.

With familiar content, you can do some initial skimming to determine what you already know in the book or article, and mark what may be new information or a different perspective. You may not have to give your full attention to the information you know, but you will spend more time on the new viewpoints so you can determine how this new data meshes with what you already know. Is this writer claiming a radical new definition for the topic or an entirely opposite way to consider the subject matter, connecting it to other topics or disciplines in ways you have never considered?

When college students encounter material in a discipline-specific context and have some familiarity with the topic, they sometimes can allow themselves to become a bit overconfident about their knowledge level. Just because a student may have read an article or two or may have seen a TV documentary on a subject such as the criminal mind, that does not make them an expert. What makes an expert is a person who thoroughly studies a subject, usually for years, and understands all the possible perspectives of a subject as well as the potential for misunderstanding due to personal biases and the availability of false information about the topic.

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9.3: Effective Reading Strategies

Questions to consider

- What methods can you incorporate into your routine to allow adequate time for reading?
- What are the benefits and approaches to active reading?
- Do your courses or major have specific reading requirements?

Allowing Adequate Time for Reading

You should determine the reading requirements and expectations for every class very early in the semester. You also need to understand why you are reading the particular text you are assigned. Do you need to read closely for minute details that determine cause and effect? Or is your instructor asking you to skim several sources so you become more familiar with the topic? Knowing this reasoning will help you decide your timing, what notes to take, and how best to undertake the reading assignment.

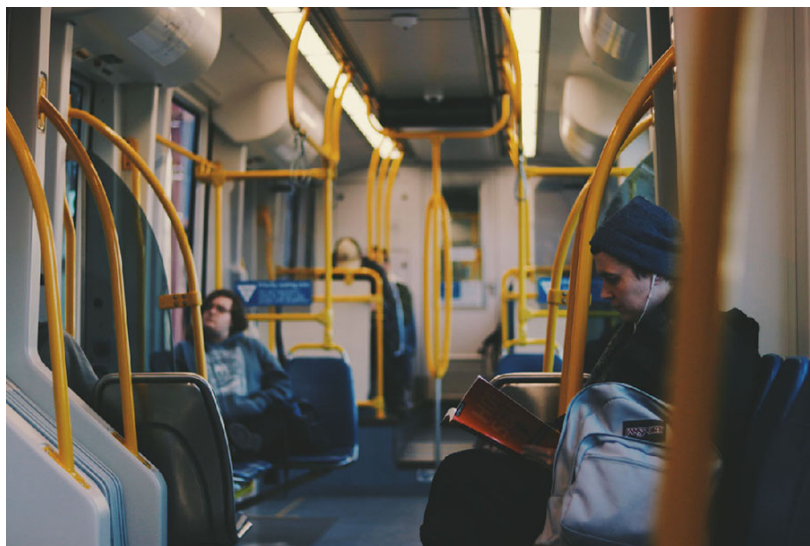


Figure 9.3.3: If you plan to make time for reading while you commute, remember that unexpected events like delays and cancellations could impact your concentration.

Depending on the makeup of your schedule, you may end up reading both primary sources—such as legal documents, historic letters, or diaries—as well as textbooks, articles, and secondary sources, such as summaries or argumentative essays that use primary sources to stake a claim. You may also need to read current journalistic texts to stay current in local or global affairs. A realistic approach to scheduling your time to allow you to read and review all the reading you have for the semester will help you accomplish what can sometimes seem like an overwhelming task.

When you allow adequate time in your hectic schedule for reading, you are investing in your own success. Reading isn't a magic pill, but it may seem like it when you consider all the benefits people reap from this ordinary practice. Famous successful people throughout history have been voracious readers. In fact, former U.S. president Harry Truman once said, "Not all readers are leaders, but all leaders are readers." Writer of the U.S. Declaration of Independence, inventor, and also former U.S. president Thomas Jefferson claimed "I cannot live without books" at a time when keeping and reading books was an expensive pastime. Knowing what it meant to be kept from the joys of reading, 19th-century abolitionist Frederick Douglass said, "Once you learn to read, you will be forever free." And finally, George R. R. Martin, the prolific author of the wildly successful *Game of Thrones* empire, declared, "A reader lives a thousand lives before he dies . . . The man who never reads lives only one."

You can make time for reading in a number of ways that include determining your usual reading pace and speed, scheduling active reading sessions, and practicing recursive reading strategies.

Determining Reading Speed and Pacing

To determine your reading speed, select a section of text—passages in a textbook or pages in a novel. Time yourself reading that material for exactly 5 minutes, and note how much reading you accomplished in those 5 minutes. Multiply the amount of reading you accomplished in 5 minutes by 12 to determine your average reading pace (5 times 12 equals the 60 minutes of an hour). Of

course, your reading pace will be different and take longer if you are taking notes while you read, but this calculation of reading pace gives you a good way to estimate your reading speed that you can adapt to other forms of reading.

Example Reading Times

Reader	Pages Read in 5 Minutes	Pages per Hour	Approximate Hours to Read 500 Pages
Marta	4	48	10 hours, 30 minutes
Jordi	3	36	13 hours
Estevan	5	60	8 hours, 20 minutes

So, for instance, if Marta was able to read 4 pages of a dense novel for her English class in 5 minutes, she should be able to read about 48 pages in one hour. Knowing this, Marta can accurately determine how much time she needs to devote to finishing the novel within a set amount of time, instead of just guessing. If the novel Marta is reading is 497 pages, then Marta would take the total page count (497) and divide that by her hourly reading rate (48 pages/hour) to determine that she needs about 10 to 11 hours overall. To finish the novel spread out over two weeks, Marta needs to read a little under an hour a day to accomplish this goal.

Calculating your reading rate in this manner does not take into account days where you're too distracted and you have to reread passages or days when you just aren't in the mood to read. And your reading rate will likely vary depending on how dense the content you're reading is (e.g., a complex textbook vs. a comic book). Your pace may slow down somewhat if you are not very interested in what the text is about. What this method *will* help you do is be realistic about your reading time as opposed to waging a guess based on nothing and then becoming worried when you have far more reading to finish than the time available.

Chapter 3, "Time Management and Prioritization," offers more detail on how best to determine your speed from one type of reading to the next so you are better able to schedule your reading.

Scheduling Set Times for Active Reading

Active reading takes longer than reading through passages without stopping. You may not need to read your latest sci-fi series actively while you're lounging on the beach, but many other reading situations demand more attention from you. Active reading is particularly important for college courses. You are a scholar actively engaging with the text by posing questions, seeking answers, and clarifying any confusing elements. Plan to spend at least twice as long to read actively than to read passages without taking notes or otherwise marking select elements of the text.

To determine the time you need for active reading, use the same calculations you use to determine your traditional reading speed and double it. Remember that you need to determine your reading pace for all the classes you have in a particular semester and multiply your speed by the number of classes you have that require different types of reading.

Example Active Reading Times

Reader	Pages Read in 5 Minutes	Pages per Hour	Approximate Hours to Read 500 Pages	Approximate Hours to Actively Read 500 Pages
Marta	4	48	10 hours, 30 minutes	21 hours
Jordi	3	36	13 hours	26 hours
Estevan	5	60	8 hours, 20 minutes	16 hours, 40 minutes

Practicing Recursive Reading Strategies

One fact about reading for college courses that may become frustrating is that, in a way, it never ends. For all the reading you do, you end up doing even more rereading. It may be the same content, but you may be reading the passage more than once to detect the emphasis the writer places on one aspect of the topic or how frequently the writer dismisses a significant counterargument. This rereading is called recursive reading.

For most of what you read at the college level, you are trying to make sense of the text for a specific purpose—not just because the topic interests or entertains you. You need your full attention to decipher everything that's going on in complex reading material—

and you even need to be considering what the writer of the piece may *not* be including and why. This is why reading for comprehension is recursive.

Specifically, this boils down to seeing reading not as a formula but as a process that is far more circular than linear. You may read a selection from beginning to end, which is an excellent starting point, but for comprehension, you'll need to go back and reread passages to determine meaning and make connections between the reading and the bigger learning environment that led you to the selection—that may be a single course or a program in your college, or it may be the larger discipline, such as all biologists or the community of scholars studying beach erosion.

People often say writing is rewriting. For college courses, reading is rereading.

Strong readers engage in numerous steps, sometimes combining more than one step simultaneously, but knowing the steps nonetheless. They include, not always in this order:

- bringing any prior knowledge about the topic to the reading session,
- asking yourself pertinent questions, both orally and in writing, about the content you are reading,
- inferring and/or implying information from what you read,
- learning unfamiliar discipline-specific terms,
- evaluating what you are reading, and eventually,
- applying what you're reading to other learning and life situations you encounter.

Let's break these steps into manageable chunks, because you are actually doing quite a lot when you read.



Figure 9.3.4: The six elements of recursive reading should be considered as a circular, not linear, process.

Asking Questions

Humans are naturally curious beings. As you read actively, you should be asking questions about the topic you are reading. Don't just say the questions in your mind; write them down. You may ask: Why is this topic important? What is the relevance of this topic currently? Was this topic important a long time ago but irrelevant now? Why did my professor assign this reading?

You need a place where you can actually write down these questions; a separate page in your notes is a good place to begin. If you are taking notes on your computer, start a new document and write down the questions. Leave some room to answer the questions when you begin and again after you read.

Inferring and Implying

When you read, you can take the information on the page and *infer*, or conclude responses to related challenges from evidence or from your own reasoning. A student will likely be able to infer what material the professor will include on an exam by taking good notes throughout the classes leading up to the test.

Writers may *imply* information without directly stating a fact for a variety of reasons. Sometimes a writer may not want to come out explicitly and state a bias, but may imply or hint at his or her preference for one political party or another. You have to read

carefully to find implications because they are indirect, but watching for them will help you comprehend the whole meaning of a passage.

Learning Vocabulary

Vocabulary specific to certain disciplines helps practitioners in that field engage and communicate with each other. Few people beyond undertakers and archeologists likely use the term *sarcophagus* in everyday communications, but for those disciplines, it is a meaningful distinction. Looking at the example, you can use context clues to figure out the meaning of the term *sarcophagus* because it is something undertakers and/or archeologists would recognize. At the very least, you can guess that it has something to do with death. As a potential professional in the field you're studying, you need to know the lingo. You may already have a system in place to learn discipline-specific vocabulary, so use what you know works for you. Two strong strategies are to look up words in a dictionary (online or hard copy) to ensure you have the exact meaning for your discipline and to keep a dedicated list of words you see often in your reading. You can list the words with a short definition so you have a quick reference guide to help you learn the vocabulary.

Evaluating

Intelligent people always question and evaluate. This doesn't mean they don't trust others; they just need verification of facts to understand a topic well. It doesn't make sense to learn incomplete or incorrect information about a subject just because you didn't take the time to evaluate all the sources at your disposal. When early explorers were afraid to sail the world for fear of falling off the edge, they weren't stupid; they just didn't have all the necessary data to evaluate the situation.

When you evaluate a text, you are seeking to understand the presented topic. Depending on how long the text is, you will perform a number of steps and repeat many of these steps to evaluate all the elements the author presents. When you evaluate a text, you need to do the following:

- Scan the title and all headings.
- Read through the entire passage fully.
- Question what main point the author is making.
- Decide who the audience is.
- Identify what evidence/support the author uses.
- Consider if the author presents a balanced perspective on the main point.
- Recognize if the author introduced any biases in the text.

When you go through a text looking for each of these elements, you need to go beyond just answering the surface question; for instance, the audience may be a specific field of scientists, but could anyone else understand the text with some explanation? Why would that be important?

Analysis Question

Think of an article you need to read for a class. Take the steps above on how to evaluate a text, and apply the steps to the article. When you accomplish the task in each step, ask yourself and take notes to answer the question: Why is this important? For example, when you read the title, does that give you any additional information that will help you comprehend the text? If the text were written for a different audience, what might the author need to change to accommodate that group? How does an author's bias distort an argument? This deep evaluation allows you to fully understand the main ideas and place the text in context with other material on the same subject, with current events, and within the discipline.

Applying

When you learn something new, it always connects to other knowledge you already have. One challenge we have is applying new information. It may be interesting to know the distance to the moon, but how do we apply it to something we need to do? If your biology instructor asked you to list several challenges of colonizing Mars and you do not know much about that planet's exploration, you may be able to use your knowledge of how far Earth is from the moon to apply it to the new task. You may have to read several other texts in addition to reading graphs and charts to find this information.

That was the challenge the early space explorers faced along with myriad unknowns before space travel was a more regular occurrence. They had to take what they already knew and could study and read about and apply it to an unknown situation. These explorers wrote down their challenges, failures, and successes, and now scientists read those texts as a part of the ever-growing

body of text about space travel. Application is a sophisticated level of thinking that helps turn theory into practice and challenges into successes.

Preparing to Read for Specific Disciplines in College

Different disciplines in college may have specific expectations, but you can depend on all subjects asking you to read to some degree. In this college reading requirement, you can succeed by learning to read actively, researching the topic and author, and recognizing how your own preconceived notions affect your reading. Reading for college isn't the same as reading for pleasure or even just reading to learn something on your own because you are casually interested.

In college courses, your instructor may ask you to read articles, chapters, books, or *primary sources* (those original documents about which we write and study, such as letters between historic figures or the Declaration of Independence). Your instructor may want you to have a general background on a topic before you dive into that subject in class, so that you know the history of a topic, can start thinking about it, and can engage in a class discussion with more than a passing knowledge of the issue.

If you are about to participate in an in-depth six-week consideration of the U.S. Constitution but have never read it or anything written about it, you will have a hard time looking at anything in detail or understanding how and why it is significant. As you can imagine, a great deal has been written about the Constitution by scholars and citizens since the late 1700s when it was first put to paper (that's how they did it then). While the actual document isn't that long (about 12–15 pages depending on how it is presented), learning the details on how it came about, who was involved, and why it was and still is a significant document would take a considerable amount of time to read and digest. So, how do you do it all? Especially when you may have an instructor who drops hints that you may also *love* to read a historic novel covering the same time period . . . in your *spare time*, not required, of course! It can be daunting, especially if you are taking more than one course that has time-consuming reading lists. With a few strategic techniques, you can manage it all, but know that you must have a plan and schedule your required reading so you *are* also able to pick up that recommended historic novel—it may give you an entirely new perspective on the issue.

Strategies for Reading in College Disciplines

No universal law exists for how much reading instructors and institutions expect college students to undertake for various disciplines. Suffice it to say, it's a LOT.

For most students, it is the volume of reading that catches them most off guard when they begin their college careers. A full course load might require 10–15 hours of reading per week, some of that covering content that will be more difficult than the reading for other courses.

You cannot possibly read word-for-word every single document you need to read for all your classes. That doesn't mean you give up or decide to only read for your favorite classes or concoct a scheme to read 17 percent for each class and see how that works for you. You need to learn to skim, annotate, and take notes. All of these techniques will help you comprehend more of what you read, which is why we read in the first place. We'll talk more later about annotating and notetaking, but for now consider what you know about skimming as opposed to active reading.

Skimming

Skimming is not just glancing over the words on a page (or screen) to see if any of it sticks. Effective skimming allows you to take in the major points of a passage without the need for a time-consuming reading session that involves your active use of notations and annotations. Often you will need to engage in that painstaking level of active reading, but skimming is the first step—not an alternative to deep reading. The fact remains that neither do you need to read everything nor could you possibly accomplish that given your limited time. So learn this valuable skill of skimming as an accompaniment to your overall study tool kit, and with practice and experience, you will fully understand how valuable it is.

When you skim, look for guides to your understanding: headings, definitions, pull quotes, tables, and context clues. Textbooks are often helpful for skimming—they may already have made some of these skimming guides in bold or a different color, and chapters often follow a predictable outline. Some even provide an overview and summary for sections or chapters. Use whatever you can get, but don't stop there. In textbooks that have some reading guides, or especially in text that does not, look for introductory words such as *First* or *The purpose of this article* . . . or summary words such as *In conclusion* . . . or *Finally*. These guides will help you read only those sentences or paragraphs that will give you the overall meaning or gist of a passage or book.

Now move to the meat of the passage. You want to take in the reading as a whole. For a book, look at the titles of each chapter if available. Read each chapter's introductory paragraph and determine why the writer chose this particular order. Depending on what

you're reading, the chapters may be only informational, but often you're looking for a specific argument. What position is the writer claiming? What support, counterarguments, and conclusions is the writer presenting?

Don't think of skimming as a way to buzz through a boring reading assignment. It is a skill you should master so you can engage, at various levels, with all the reading you need to accomplish in college. End your skimming session with a few notes—terms to look up, questions you still have, and an overall summary. And recognize that you likely will return to that book or article for a more thorough reading if the material is useful.

Active Reading Strategies

Active reading differs significantly from skimming or reading for pleasure. You can think of active reading as a sort of conversation between you and the text (maybe between you and the author, but you don't want to get the author's personality too involved in this metaphor because that may skew your engagement with the text).

When you sit down to determine what your different classes expect you to read and you create a reading schedule to ensure you complete all the reading, think about when you should read the material strategically, not just how to *get it all done*. You should read textbook chapters and other reading assignments *before* you go into a lecture about that information. Don't wait to see how the lecture goes before you read the material, or you may not understand the information in the lecture. Reading before class helps you put ideas together between your reading and the information you hear and discuss in class.

Different disciplines naturally have different types of texts, and you need to take this into account when you schedule your time for reading class material. For example, you may look at a poem for your world literature class and assume that it will not take you long to read because it is relatively short compared to the dense textbook you have for your economics class. But reading and understanding a poem can take a considerable amount of time when you realize you may need to stop numerous times to review the separate word meanings and how the words form images and connections throughout the poem.

The SQ3R Reading Strategy

You may have heard of the **SQ3R** method for active reading in your early education. This valuable technique is perfect for college reading. The title stands for **S**urvey, **Q**uestion, **R**ead, **R**ecite, **R**evise, and you can use the steps on virtually any assigned passage. Designed by Francis Pleasant Robinson in his 1961 book *Effective Study*, the active reading strategy gives readers a systematic way to work through any reading material.

Survey is similar to skimming. You look for clues to meaning by reading the titles, headings, introductions, summary, captions for graphics, and keywords. You can survey almost anything connected to the reading selection, including the copyright information, the date of the journal article, or the names and qualifications of the author(s). In this step, you decide what the general meaning is for the reading selection.

Question is your creation of questions to seek the main ideas, support, examples, and conclusions of the reading selection. Ask yourself these questions separately. Try to create valid questions about what you are about to read that have come into your mind as you engaged in the Survey step. Try turning the headings of the sections in the chapter into questions. Next, how does what you're reading relate to you, your school, your community, and the world?

Read is when you actually read the passage. Try to find the answers to questions you developed in the previous step. Decide how much you are reading in chunks, either by paragraph for more complex readings or by section or even by an entire chapter. When you finish reading the selection, stop to make notes. Answer the questions by writing a note in the margin or other white space of the text.

You may also carefully underline or highlight text in addition to your notes. Use caution here that you don't try to rush this step by haphazardly circling terms or the other extreme of underlining huge chunks of text. Don't over-mark. You aren't likely to remember what these cryptic marks mean later when you come back to use this active reading session to study. The text is the source of information—your marks and notes are just a way to organize and make sense of that information.

Recite means to speak out loud. By reciting, you are engaging other senses to remember the material—you read it (visual) and you said it (auditory). Stop reading momentarily in the step to answer your questions or clarify confusing sentences or paragraphs. You can recite a summary of what the text means to you. If you are not in a place where you can verbalize, such as a library or classroom, you can accomplish this step adequately by *saying* it in your head; however, to get the biggest bang for your buck, try to find a place where you can speak aloud. You may even want to try explaining the content to a friend.

Review is a recap. Go back over what you read and add more notes, ensuring you have captured the main points of the passage, identified the supporting evidence and examples, and understood the overall meaning. You may need to repeat some or all of the SQR3 steps during your review depending on the length and complexity of the material. Before you end your active reading session, write a short (no more than one page is optimal) summary of the text you read.

Reading Primary and Secondary Sources

Primary sources are original documents we study and from which we glean information; primary sources include letters, first editions of books, legal documents, and a variety of other texts. When scholars look at these documents to understand a period in history or a scientific challenge and then write about their findings, the scholar's article is considered a secondary source. Readers have to keep several factors in mind when reading both primary and secondary sources.

Primary sources may contain dated material we now know is inaccurate. It may contain personal beliefs and biases the original writer didn't intend to be openly published, and it may even present fanciful or creative ideas that do not support current knowledge. Readers can still gain great insight from primary sources, but readers need to understand the context from which the writer of the primary source wrote the text.

Likewise, secondary sources are inevitably another person's perspective on the primary source, so a reader of secondary sources must also be aware of potential biases or preferences the secondary source writer inserts in the writing that may persuade an incautious reader to interpret the primary source in a particular manner.

For example, if you were to read a secondary source that is examining the U.S. Declaration of Independence (the primary source), you would have a much clearer idea of how the secondary source scholar presented the information from the primary source if you also read the Declaration for yourself instead of trusting the other writer's interpretation. Most scholars are honest in writing secondary sources, but you as a reader of the source are trusting the writer to present a balanced perspective of the primary source. When possible, you should attempt to read a primary source in conjunction with the secondary source. The Internet helps immensely with this practice.

WHAT STUDENTS SAY

1. What is the most influential factor in how thoroughly you read the material for a given course?
 - a. How engaging the material is or how much I enjoy reading it.
 - b. Whether or not the course is part of my major.
 - c. Whether or not the instructor assesses knowledge from the reading (through quizzes, for example), or requires assignments based on the reading.
 - d. Whether or not knowledge or information from the reading is required to participate in lecture.
2. What best describes your reading approach for required texts/materials for your classes?
 - a. I read all of the assigned material.
 - b. I read most of the assigned material.
 - c. I skim the text and read the captions, examples, or summaries.
3. What best describes your notetaking style?
 - a. I use a systematic method such as the Cornell method or something similar.
 - b. I highlight or underline all the important information.
 - c. I create outlines and/or note-cards.
 - d. I use an app or program.
 - e. I write notes in my text (print or digital).
 - f. I don't have a style. I just write down what seems important.
 - g. I don't take many notes.

You can also take the anonymous [What Students Say](#) surveys to add your voice to this textbook. Your responses will be included in updates.

Students offered their views on these questions, and the results are displayed in the graphs below.

What is the most influential factor in how thoroughly you read the material for a given course?

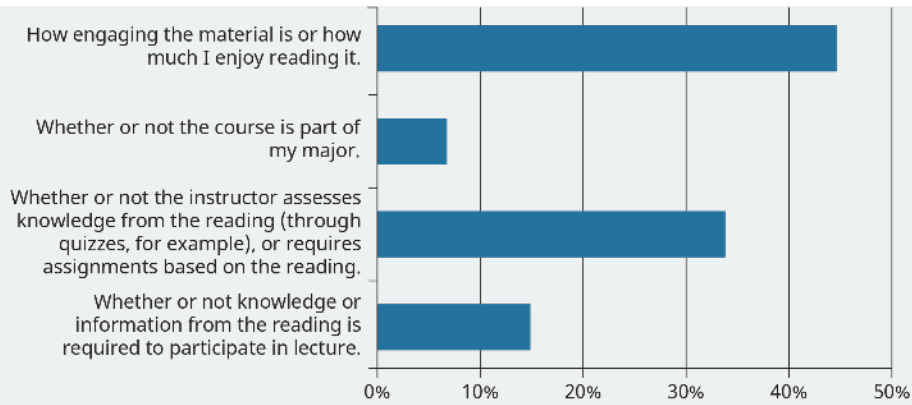


Figure 9.3.5

What best describes your reading approach for required texts/materials for your classes?

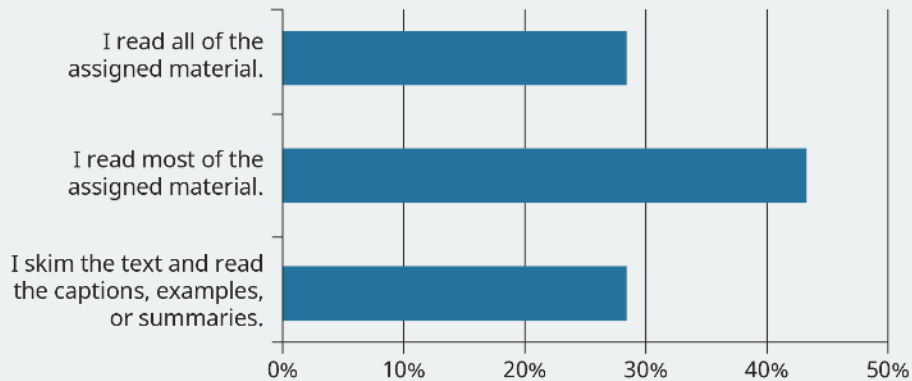


Figure 9.3.6

What best describes your notetaking style?

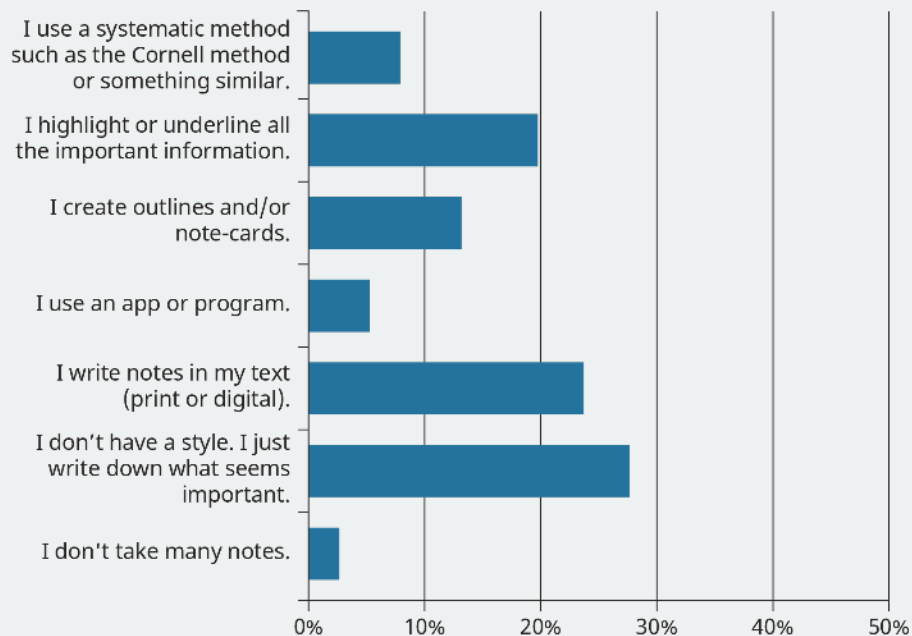


Figure 9.3.7

Researching Topic and Author

During your preview stage, sometimes called pre-reading, you can easily pick up on information from various sources that may help you understand the material you're reading more fully or place it in context with other important works in the discipline. If

your selection is a book, flip it over or turn to the back pages and look for an author's biography or note from the author. See if the book itself contains any other information about the author or the subject matter.

The main things you need to recall from your reading in college are the topics covered and how the information fits into the discipline. You can find these parts throughout the textbook chapter in the form of headings in larger and bold font, summary lists, and important quotations pulled out of the narrative. Use these features as you read to help you determine what the most important ideas are.

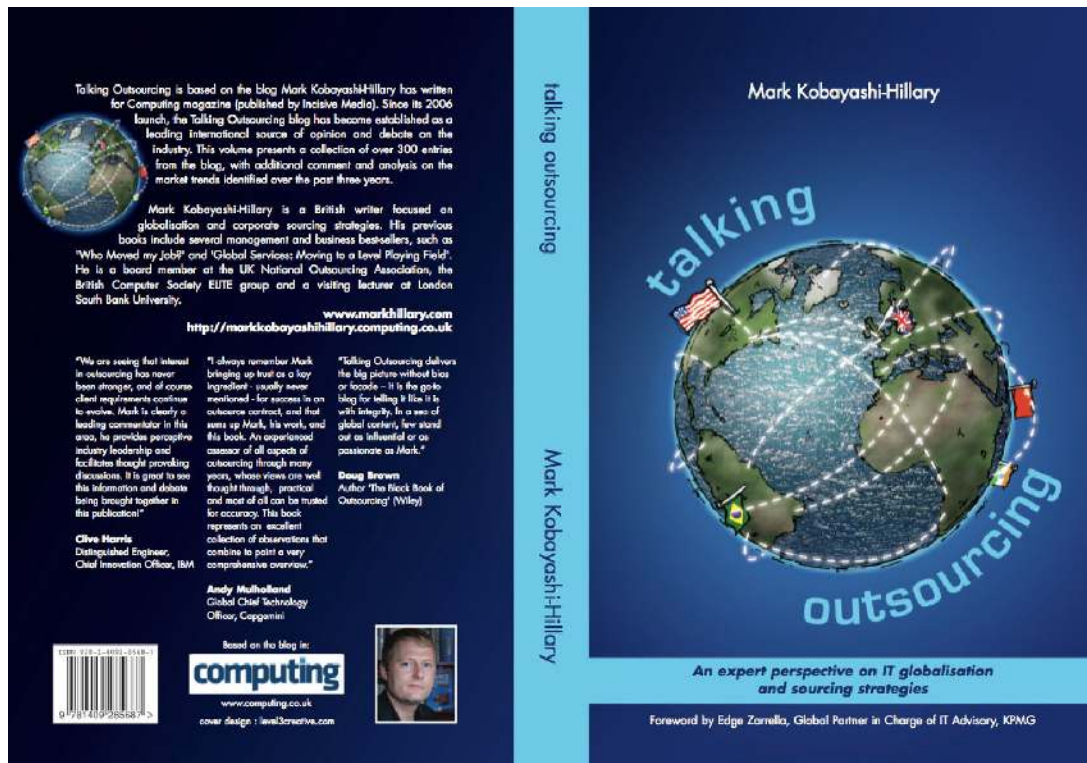


Figure 9.3.8: Learning about the book you're reading can provide good context and information. Look for an author's biography and forward on the back cover or in the first few pages. (Credit: Mark Hillary / Flickr / Attribution 2.0 Generic (CC-BY 2.0))

Remember, many books use quotations about the book or author as testimonials in a marketing approach to sell more books, so these may not be the most reliable sources of unbiased opinions, but it's a start. Sometimes you can find a list of other books the author has written near the front of a book. Do you recognize any of the other titles? Can you do an Internet search for the name of the book or author? Go beyond the search results that want you to buy the book and see if you can glean any other relevant information about the author or the reading selection. Beyond a standard Internet search, try the library article database. These are more relevant to academic disciplines and contain resources you typically will not find in a standard search engine. If you are unfamiliar with how to use the library database, ask a reference librarian on campus. They are often underused resources that can point you in the right direction.

Understanding Your Own Preset Ideas on a Topic

Laura really enjoys learning about environmental issues. She has read many books and watched numerous televised documentaries on this topic and actively seeks out additional information on the environment. While Laura's interest can help her understand a new reading encounter about the environment, Laura also has to be aware that with this interest, she also brings forward her preset ideas and biases about the topic. Sometimes these prejudices against other ideas relate to religion or nationality or even just tradition. Without evidence, thinking the way we always have is not a good enough reason; evidence can change, and at the very least it needs honest review and assessment to determine its validity. Ironically, we may not want to learn new ideas because that may mean we would have to give up old ideas we have already mastered, which can be a daunting prospect.

With every reading situation about the environment, Laura needs to remain open-minded about what she is about to read and pay careful attention if she begins to ignore certain parts of the text because of her preconceived notions. Learning new information can be very difficult if you balk at ideas that are different from what you've always thought. You may have to force yourself to listen to

a different viewpoint multiple times to make sure you are not closing your mind to a viable solution your mindset does not currently allow.

Analysis Question

Can you think of times you have struggled reading college content for a course? Which of these strategies might have helped you understand the content? Why do you think those strategies would work?

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9.4: Taking Notes

Questions to consider

- How can you prepare to take notes to maximize the effectiveness of the experience?
- What are some specific strategies you can employ for better notetaking?
- Why is annotating your notes after the notetaking session a critical step to follow?

Beyond providing a record of the information you are reading or hearing, notes help you organize the ideas and help you make meaning out of something about which you may not be familiar, so notetaking and reading are two compatible skill sets. Taking notes also helps you stay focused on the question at hand. Nanami often takes notes during presentations or class lectures so she can follow the speaker's main points and condense the material into a more readily usable format. Strong notes build on your prior knowledge of a subject, help you discuss trends or patterns present in the information, and direct you toward areas needing further research or reading.



Figure 9.4.9: Strong notes build on your prior knowledge of a subject, help you discuss trends or patterns present in the information, and direct you toward areas needing further research or reading.

It is not a good habit to transcribe every single word a speaker utters—even if you have an amazing ability to do that. Most of us don't have that court-reporter-esque skill level anyway, and if we try, we would end up missing valuable information. Learn to listen for main ideas and distinguish between these main ideas and details that typically support the ideas. Include examples that explain the main ideas, but do so using understandable abbreviations.

Think of all notes as potential study guides. In fact, if you only take notes without actively working on them after the initial notetaking session, the likelihood of the notes helping you is slim. Research on this topic concludes that without active engagement after taking notes, most students forget 60–75 percent of material over which they took the notes—within two days! That sort of defeats the purpose, don't you think? This information about memory loss was first brought to light by 19th-century German psychologist Hermann Ebbinghaus. Fortunately, you do have the power to thwart what is sometimes called the Ebbinghaus Forgetting Curve by reinforcing what you learned through review at intervals shortly after you take in the material and frequently thereafter.

If you are a musician, you'll understand this phenomenon well. When you first attempt a difficult piece of music, you may not remember the chords and notes well at all, but after frequent practice and review, you generate a certain muscle memory and cognitive recall that allows you to play the music more easily.

Notetaking may not be the most glamorous aspect of your higher-education journey, but it is a study practice you will carry throughout college and into your professional life. Setting yourself up for successful notetaking is almost as important as the actual taking of notes, and what you do after your notetaking session is equally significant. Well-written notes help you organize your thoughts, enhance your memory, and participate in class discussion, and they prepare you to respond successfully on exams. With all that riding on your notes, it would behoove you to learn how to take notes properly and continue to improve your notetaking skills.

Analysis Question

Do you currently have a preferred way to take notes? When did you start using it? Has it been effective? What other strategy might work for you?

Preparing to Take Notes

Preparing to take notes means more than just getting out your laptop or making sure you bring pen and paper to class. You'll do a much better job with your notes if you understand why we take notes, have a strong grasp on your preferred notetaking system, determine your specific priorities depending on your situation, and engage in some version of efficient shorthand.

Like handwriting and fingerprints, we all have unique and fiercely independent notetaking habits. These understandably and reasonably vary from one situation to the next, but you can only improve your skills by learning more about ways to take effective notes and trying different methods to find a good fit.

The very best notes are the ones you take in an organized manner that encourages frequent review and use as you progress through a topic or course of study. For this reason, you need to develop a way to organize all your notes for each class so they remain together and organized. As old-fashioned as it sounds, a clunky three-ring binder is an excellent organizational container for class notes. You can easily add to previous notes, insert handouts you may receive in class, and maintain a running collection of materials for each separate course. If the idea of carrying around a heavy binder has you rolling your eyes, then transfer that same structure into your computer files. If you don't organize your many documents into some semblance of order on your computer, you will waste significant time searching for improperly named or saved files.

You may be interested in relatively new research on what is the more effective notetaking strategy: handwriting versus typing directly into a computer. While individuals have strong personal opinions on this subject, most researchers agree that the format of student notes is less important than what students do with the notes they take afterwards. Both handwriting notes and using a computer for notetaking have pros and cons.

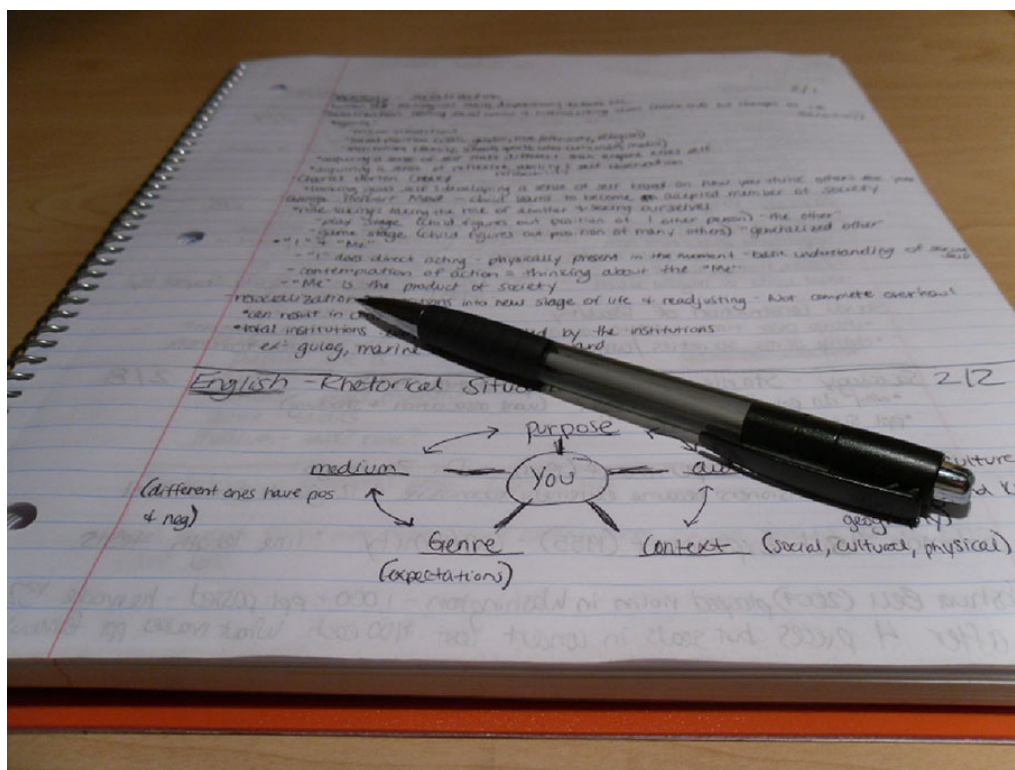


Figure 9.4.10: The best notes are the ones you take in an organized manner. Frequent review and further annotation are important to build a deep and useful understanding of the material. (Credit: English106 / Flickr / Attribution 2.0 Generic (CC-BY 2.0))

Managing Notetaking Systems (Computer, Paper/Pen, Note Cards, Textbook)

Whichever of the many notetaking systems you choose (and new ones seem to come out almost daily), the very best one is the one that you will use consistently. The skill and art of notetaking is not automatic for anyone; it takes a great deal of practice, patience, and continuous attention to detail. Add to that the fact that you may need to master multiple notetaking techniques for different classes, and you have some work to do. Unless you are specifically directed by your instructor, you are free to combine the best parts of different systems if you are most comfortable with that hybrid system.

Just to keep yourself organized, all your notes should start off with an identifier, including at the very least the date, the course name, the topic of the lecture/presentation, and any other information you think will help you when you return to use the notes for further study, test preparation, or assignment completion. Additional, optional information may be the number of notetaking sessions about this topic or reminders to cross-reference class handouts, textbook pages, or other course materials. It's also always a good idea to leave some blank space in your notes so you can insert additions and questions you may have as you review the material later.

Notetaking Strategies

You may have a standard way you take all your notes for all your classes. When you were in high school, this one-size-fits-all approach may have worked. Now that you're in college, reading and studying more advanced topics, your general method may still work some of the time, but you should have some different strategies in place if you find that your method isn't working as well with college content. You probably will need to adopt different notetaking strategies for different subjects. The strategies in this section represent various ways to take notes in such a way that you are able to study after the initial notetaking session.

Cornell Method

One of the most recognizable notetaking systems is called the *Cornell Method*, a relatively simple way to take effective notes devised by Cornell University education professor Dr. Walter Pauk in the 1940s. In this system, you take a standard piece of note paper and divide it into three sections by drawing a horizontal line across your paper about one to two inches from the bottom of the page (the summary area) and then drawing a vertical line to separate the rest of the page above this bottom area, making the left side about two inches (the recall column) and leaving the biggest area to the right of your vertical line (the notes column). You may want to make one page and then copy as many pages as you think you'll need for any particular class, but one advantage of this

Once you are satisfied with your notes and recall columns, summarize this page of notes in two or three sentences using the summary area at the bottom of the sheet. This is an excellent time to get with another classmate or a group of students who all heard the same lecture to make sure you all understood the key points. Now, before you move onto something else, cover the large notes column, and quiz yourself over the key ideas you recorded in the recall column. Repeat this step often as you go along, not just immediately before an exam, and you will help your memory make the connections between your notes, your textbook reading, your in-class work, and assignments that you need to succeed on any quizzes and exams.

Academic Essay Elements	
Topic	Topic – Establishes context – Limits scope of essay – Introduces Issue/Problem
Thesis	Thesis – Central argument or point of paper – Arrives early in paper—usually toward end of first paragraph (maybe a bit later in longer papers) – Focused, clear, and specific – Reflects writer's position on the topic/issue
Supporting Details	Supporting Detail Paragraphs – Each paragraph has a specific topic – Clarify, explain, illustrate, expand on topic – Provide EVIDENCE—quotes, data, references <i>Cite everything properly!</i>
Conclusion	Conclusion – Tie back to intro/thesis – Show how details supported the argument – Why is it important? – Point to implications/outcomes, but don't introduce entirely new ideas
Use the structure, but don't follow it too rigidly. The most important pieces are a strong thesis and good evidence to back it up. The conclusion should not just summarize—take it a little further.	

Figure 9.4.12: This sample set of notes in the Cornell Method is designed to make sense of a large amount of information. The process of organizing the notes can help you retain the information more effectively than less consistent methods.

The main advantage of the Cornell Method is that you are setting yourself up to have organized, workable notes. The neat format helps you move into study-mode without needing to re-copy less organized notes or making sense of a large mass of information you aren't sure how to process because you can't remember key ideas or what you meant. If you write notes in your classes without any sort of system and later come across something like "Napoleon—short" in the middle of a glob of notes, what can you do at this point? Is that important? Did it connect with something relevant from the lecture? How would you possibly know? You are your best advocate for setting yourself up for success in college.

Outlining

Other note organizing systems may help you in different disciplines. You can take notes in a formal outline if you prefer, using Roman numerals for each new topic, moving down a line to capital letters indented a few spaces to the right for concepts related to the previous topic, then adding details to support the concepts indented a few more spaces over and denoted by an Arabic numeral. You can continue to add to a formal outline by following these rules.

You don't absolutely have to use the formal numerals and letter, but you have to then be careful to indent so you can tell when you move from a higher level topic to the related concepts and then to the supporting information. The main benefit of an outline is how

organized it is. You have to be on your toes when you are taking notes in class to ensure you keep up the organizational format of the outline, which can be tricky if the lecture or presentation is moving quickly or covering many diverse topics.

The following formal outline example shows the basic pattern:

- I. Dogs (*main topic—usually general*)
 - A. German Shepherd (*concept related to main topic*)
 - 1. Protection (*supporting info about the concept*)
 - 2. Assertive
 - 3. Loyal
 - B. Weimaraner (*concept related to main topic*)
 - 1. Family-friendly (*supporting info about the concept*)
 - 2. Active
 - 3. Healthy
- II. Siamese

You would just continue on with this sort of numbering and indenting format to show the connections between main ideas, concepts, and supporting details. Whatever details you do not capture in your notetaking session, you can add after the lecture as you review your outline.

Chart or table

Similar to creating an outline, you can develop a chart to compare and contrast main ideas in a notetaking session. Divide your paper into four or five columns with headings that include either the main topics covered in the lecture or categories such as How?, What?, When used?, Advantages/Pros, Disadvantages/Cons, or other divisions of the information. You write your notes into the appropriate columns as that information comes to light in the presentation.

Example of a Chart to Organize Ideas and Categories				
	Structure	Types	Functions in Body	Additional Notes
Carbohydrates				
Lipids				
Proteins				
Nucleic Acid				

This format helps you pull out the salient ideas and establishes an organized set of notes to study later. (If you haven't noticed that this *reviewing later* idea is a constant across all notetaking systems, you should...take note of that.) Notes by themselves that you never reference again are little more than scribbles. That would be a bit like compiling an extensive grocery list so you stay on budget when you shop, work all week on it, and then just throw it away before you get to the store. You may be able to recall a few items, but likely won't be as efficient as you could be if you had the notes to reference. Just as you cannot read all the many books, articles, and documents you need to peruse for your college classes, you cannot remember the most important ideas of all the notes you will take as part of your courses, so you must review.

Concept Mapping and Visual Notetaking

One final notetaking method that appeals to learners who prefer a visual representation of notes is called *mapping* or sometimes *mind mapping* or *concept mapping*, although each of these names can have slightly different uses. Variations of this method abound, so you may want to look for more versions online, but the basic principles are that you are making connections between main ideas through a graphic depiction; some can get rather elaborate with colors and shapes, but a simple version may be more useful at least to begin. Main ideas can be circled or placed in a box with supporting concepts radiating off these ideas shown with a connecting line and possibly details of the support further radiating off the concepts. You can present your main ideas vertically or horizontally, but turning your paper long-ways, or in landscape mode, may prove helpful as you add more main ideas.

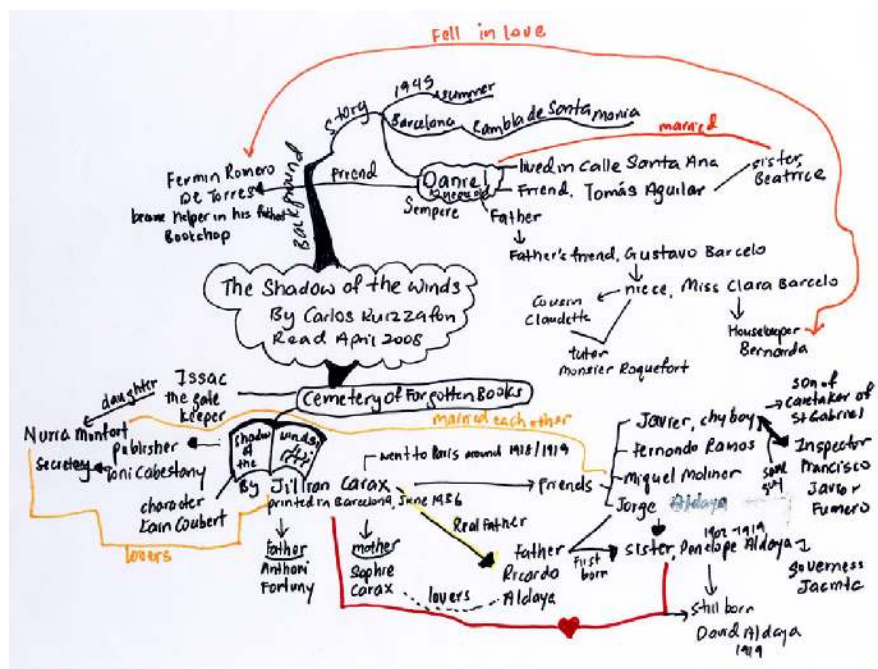


Figure 9.4.13: Concept mapping, sometimes referred to as mind mapping, can be an effective and very personalized approach to capturing information. (Credit: ArtistIvanChew / Flickr / Attribution 2.0 Generic (CC-BY 2.0))

You may be interested in trying visual notetaking or adding pictures to your notes for clarity. Sometimes when you can't come up with the exact wording to explain something or you're trying to add information for complex ideas in your notes, sketching a rough image of the idea can help you remember. According to educator Sherrill Knezel in an article entitled "The Power of Visual Notetaking," this strategy is effective because "When students use images and text in notetaking, it gives them two different ways to pull up the information, doubling their chances of recall." Don't shy away from this creative approach to notetaking just because you believe you aren't an artist; the images don't need to be perfect. You may want to watch [Rachel Smith's TEDx Talk called "Drawing in Class"](#) to learn more about visual notetaking.

You can play with different types of notetaking suggestions and find the method(s) you like best, but once you find what works for you, stick with it. You will become more efficient with the method the more you use it, and your notetaking, review, and test prep will become, if not easier, certainly more organized, which can decrease your anxiety.

Practicing Decipherable Shorthand

Most college students don't take a class in shorthand, once the domain of secretaries and executive assistants, but maybe they should. That almost-lost art in the age of computers could come in very handy during intense notetaking sessions. Elaborate shorthand systems do exist, but you would be better served in your college notetaking adventures to hone a more familiar, personalized form of shorthand to help you write more in a shorter amount of time. Seemingly insignificant shortcuts can add up to ease the stress notetaking can induce—especially if you ever encounter an "I'm not going to repeat this" kind of presenter! Become familiar with these useful abbreviations:

Shortcut symbol	Meaning
w/, w/o, w/in	with, without, within
&	and
#	number
b/c	because
X, √	incorrect, correct
Diff	different, difference
etc.	and so on

ASAP	as soon as possible
US, UK	United States, United Kingdom
info	information
Measurements: ft, in, k, m	foot, inch, thousand, million
¶	paragraph or new paragraph
Math symbols: =, +, >, <, ÷	equal, plus, greater, less, divided by
WWI, WWII	World Wars I and II
impt	important
?, !, **	denote something is very significant; don't over use

Do you have any other shortcuts or symbols that you use in your notes? Ask your parents if they remember any that you may be able to learn.

Annotating Notes After Initial Notetaking Session

Annotating notes after the initial notetaking session may be one of the most valuable study skills you can master. Whether you are highlighting, underlining, or adding additional notes, you are reinforcing the material in your mind and memory.

Admit it—who can resist highlighting markers? Gone are the days when yellow was the star of the show, and you had to be very careful not to press too firmly for fear of obliterating the words you were attempting to emphasize. Students now have a veritable rainbow of highlighting options and can color-code notes and text passages to their hearts' content. Technological advances may be important, but highlighter color choice is monumental! Maybe.

The only reason to highlight anything is to draw attention to it, so you can easily pick out that ever-so-important information later for further study or reflection. One problem many students have is not knowing when to stop. If what you need to recall from the passage is a particularly apt and succinct definition of the term important to your discipline, highlighting the entire paragraph is less effective than highlighting just the actual term. And if you don't rein in this tendency to color long passages (possibly in multiple colors) you can end up with a whole page of highlighted text. Ironically, that is no different from a page that is not highlighted at all, so you have wasted your time. Your mantra for highlighting text should be *less is more*. Always read your text selection first before you start highlighting anything. You need to know what the overall message is before you start placing emphasis in the text with highlighting.

Another way to annotate notes after initial notetaking is underlying significant words or passages. Albeit not quite as much fun as its colorful cousin highlighting, underlining provides precision to your emphasis.

Some people think of annotations as only using a colored highlighter to mark certain words or phrases for emphasis. Actually, annotations can refer to anything you do with a text to enhance it for your particular use (either a printed text, handwritten notes, or other sort of document you are using to learn concepts). The annotations may include highlighting passages or vocabulary, defining those unfamiliar terms once you look them up, writing questions in the margin of a book, underlining or circling key terms, or otherwise marking a text for future reference. You can also annotate some electronic texts.

Realistically, you may end up doing all of these types of annotations at different times. We know that repetition in studying and reviewing is critical to learning, so you may come back to the same passage and annotate it separately. These various markings can be invaluable to you as a study guide and as a way to see the evolution of your learning about a topic. If you regularly begin a reading session writing down any questions you may have about the topic of that chapter or section and also write out answers to those questions at the end of the reading selection, you will have a good start to what that chapter covered when you eventually need to study for an exam. At that point, you likely will not have time to reread the entire selection especially if it is a long reading selection, but with strong annotations in conjunction with your class notes, you won't need to do that. With experience in reading discipline-specific texts and writing essays or taking exams in that field, you will know better what sort of questions to ask in your annotations

When did Lincoln die? April 15, 1865

The Gettysburg Address

Where is Gettysburg? Pennsylvania
What happened there? Civil War battle of Gettysburg, July 1-3, 1863 - union victory, but largest # of dead in entire war

President Abraham Lincoln

November 19, 1863

$80(4 \times 20) + 7 = 87$

"Fourscore and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty and dedicated to the proposition that all men are created equal. ^{from US Constitution?} ^{No - Dec of Independence}

"Now we are engaged in a great civil war, testing whether that nation, or any nation so ^{formed} conceived and so ⁽¹⁸⁶¹⁻⁶⁵⁾ dedicated, can long ^{last} endure. We are met on a great battlefield of that war. We have come to ^{cometary} dedicate a portion of that field as a final resting-place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But, in a larger sense, we ^{make holy} cannot dedicate — we ^{make holy} cannot consecrate — we ^{make holy} cannot hallow — this ground. The brave men, living and dead, who struggled here have consecrated it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be ^{like royalty} dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here ^{death} dedicated to the great task remaining before us — that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion — that we here highly resolve that these dead shall not have died in ^{for no reason} vain — that this nation, under God, shall have a new birth of freedom and that ^{phrases from Constitution?} government of the people, by the people, for the people, shall not ^{repetition} perish from the earth."

^{irony}

^{die}

Figure 9.4.14: Annotations may include highlighting important topics, defining unfamiliar terms, writing questions in, underlining or circling key terms, or otherwise marking a text for future reference. Whichever approach you choose, try not to overdo it; neat, organized, and efficient notes are more effective than crowded or overdone notes.

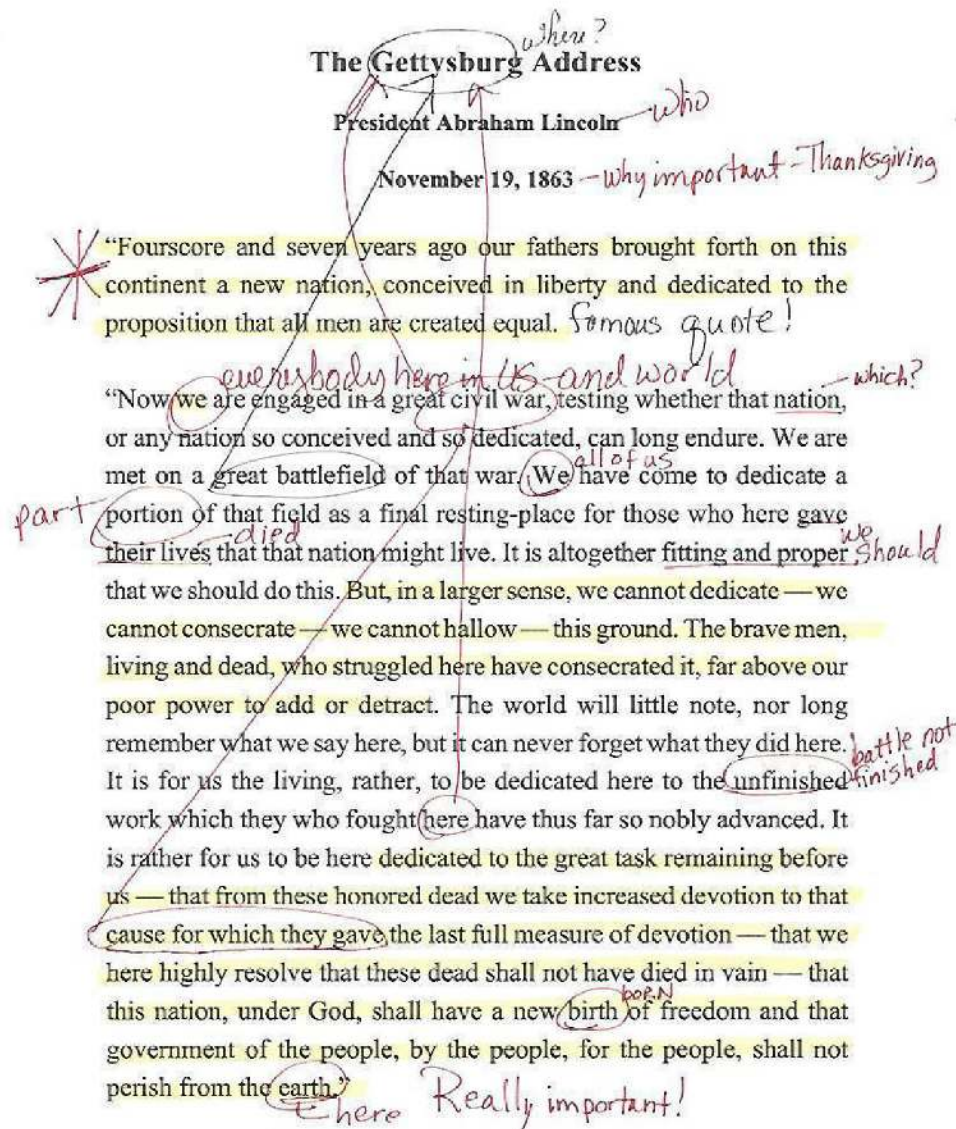


Figure 9.4.15: While these notes may be meaningful to the person who took them, they are neither organized nor consistent. For example, note that some of the more commonly used terms, like “we” and “unfinished,” are defined, but less common ones -- “consecrate” and “hallow” -- are not.

What you have to keep in the front of your mind while you are annotating, especially if you are going to conduct multiple annotation sessions, is to not overdo whatever method you use. Be judicious about what you annotate and how you do it on the page, which means you must be neat about it. Otherwise, you end up with a mess of either color or symbols combined with some cryptic notes that probably took you quite a long time to create, but won’t be worth as much to you as a study aid as they could be. This is simply a waste of time and effort.

You cannot eat up every smidgen of white space on the page writing out questions or summaries and still have a way to read the original text. If you are lucky enough to have a blank page next to the beginning of the chapter or section you are annotating, use this, but keep in mind that when you start writing notes, you aren’t exactly sure how much space you’ll need. Use a decipherable shorthand and write only what you need to convey the meaning in very small print. If you are annotating your own notes, you can make a habit of using only one side of the paper in class, so that if you need to add more notes later, you could use the other side. You can also add a blank page to your notes before beginning the next class date in your notebook so you’ll end up with extra paper for annotations when you study.

Professional resources may come with annotations that can be helpful to you as you work through the various documentation requirements you’ll encounter in college as well. Purdue University’s Online Writing Lab ([OWL](https://owl.purdue.edu/)) provides an annotated sample for

how to format a college paper according to guidelines in the Modern Language Association (MLA) manual that you can see, along with other annotations.

Adding Needed Additional Explanations to Notes

Marlon was totally organized and ready to take notes in a designated course notebook at the beginning of every philosophy class session. He always dated his page and indicated what the topic of discussion was. He had various colored highlighters ready to denote the different note purposes he had defined: vocabulary in pink, confusing concepts in green, and note sections that would need additional explanations later in yellow. He also used his own shorthand and an impressive array of symbols to indicate questions (red question mark), highly probable test material (he used a tiny bomb exploding here), additional reading suggestions, and specific topics he would ask his instructor before the next class. Doing everything so precisely, Marlon's methods seemed like a perfect example of how to take notes for success. Inevitably though, by the end of the hour-and-a-half class session, Marlon was frantically switching between writing tools, near to tears, and scouring his notes as waves of yellow teased him with uncertainty. What went wrong?

As with many of us who try diligently to do everything we know how to do for success or what we think we know because we read books and articles on success in between our course work, Marlon is suffering from trying to do too much simultaneously. It's an honest mistake we can make when we are trying to save a little time or think we can multitask and kill two birds with one stone.

Unfortunately, this particular error in judgement can add to your stress level exponentially if you don't step back and see it for what it is. Marlon attempted to take notes in class as well as annotate his notes to get them ready for his test preparation. It was too much to do at one time, but even if he could have done all those things during class, he's missing one critical point about notetaking.

As much as we may want to hurry and get it over with, notetaking in class is just the beginning. Your instructor likely gave you a pre-class assignment to read or complete before coming to that session. The intention of that preparatory lesson is for you to come in with some level of familiarity for the topic under consideration and questions of your own. Once you're in class, you may also need to participate in a group discussion, work with your classmates, or perform some other sort of lesson-directed activity that would necessarily take you away from taking notes. Does that mean you should ignore taking notes for that day? Most likely not. You may just need to indicate in your notes that you worked on a project or whatever other in-class event you experienced that date.

Very rarely in a college classroom will you engage in an activity that is not directly related to what you are studying in that course. Even if you enjoyed every minute of the class session and it was an unusual format for that course, you still need to take some notes. Maybe your first note could be to ask yourself why you think the instructor used that unique teaching strategy for the class that day. Was it effective? Was it worth using the whole class time? How will that experience enhance what you are learning in that course?

If you use an ereader or ebooks to read texts for class or read articles from the Internet on your laptop or tablet, you can still take effective notes. Depending on the features of your device, you have many choices. Almost all electronic reading platforms allow readers to highlight and underline text. Some devices allow you to add a written text in addition to marking a word or passage that you can collect at the end of your notetaking session. Look into the specific tools for your device and learn how to use the features that allow you to take notes electronically. You can also find apps on devices to help with taking notes, some of which you may automatically have installed when you buy the product. Microsoft's OneNote, Google Keep, and the Notes feature on phones are relatively easy to use, and you may already have free access to those.

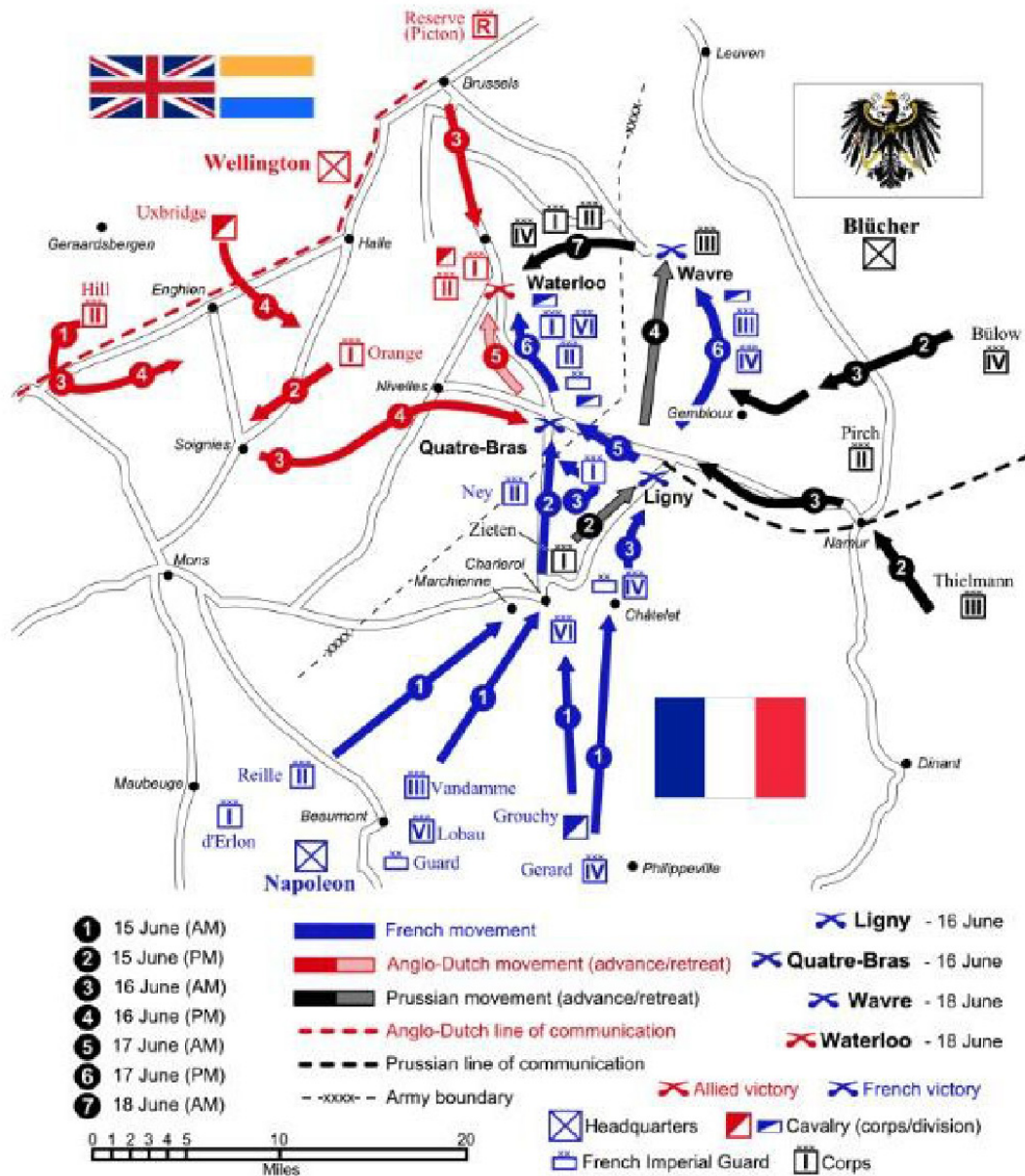
Taking Notes on Non-Text Items (i.e., Tables, Maps, Figures, etc.)

You may also encounter situations as you study and read textbooks, primary sources, and other resources for your classes that are not actually texts. You can still take notes on maps, charts, graphs, images, and tables, and your approach to these non-text features is similar to when you prepare to take notes over a passage of text. For example, if you are looking at the following map, you may immediately come up with several questions. Or it may initially appear overwhelming. Start by asking yourself these questions:

What is the main point of this map?

- Who is the intended audience?
- Where is it?
- What time period does it depict?
- What does the map's legend (the explanation of symbols) include?
- What other information do I need to make sense of this map?

Order of Napoleon's Battle of Waterloo



Source: Wikipedia Creative Commons, https://en.wikipedia.org/wiki/Order_of_battle_of_the_Waterloo_campaign

Figure 9.4.16: Graphics, charts, graphs, and other visual items are also important to annotate. Not only do they often convey important information, but they may appear on exams or in other situations where you'll need to use or demonstrate knowledge. Credit: "Lpankonin" / Wikipedia Commons / Attribution 3.0 Generic (CC BY 3.0)

You may want to make an extra copy of a graphic or table before you add annotations if you are dealing with a lot of information. Making sense of all the elements will take time, and you don't want to add to the confusion.

Returning to Your Notes

Later, as soon as possible after the class, you can go back to your notes and add in missing parts. Just as you may generate questions as you're reading new material, you may leave a class session or lecture or activities with many questions. Write those

down in a place where they won't get lost in all your other notes.

The exact timing of when you get back to the notes you take in class or while you are reading an assignment will vary depending on how many other classes you have or what other obligations you have in your daily schedule. A good starting place that is also easy to remember is to make every effort to review your notes within 24 hours of first taking them. Longer than that and you are likely to have forgotten some key features you need to include; much less time than that, and you may not think you need to review the information you so recently wrote down, and you may postpone the task too long.

Use your phone or computer to set reminders for all your note review sessions so that it becomes a habit and you keep on top of the schedule.

Your personal notes play a significant role in your test preparation. They should enhance how you understand the lessons, textbooks, lab sessions, and assignments. All the time and effort you put into first taking the notes and then annotating and organizing the notes will be for naught if you do not formulate an effective and efficient way to use them before sectional exams or comprehensive tests.

The whole cycle of reading, notetaking in class, reviewing and enhancing your notes, and preparing for exams is part of a continuum you ideally will carry into your professional life. Don't try to take short cuts; recognize each step in the cycle as a building block. Learning doesn't end, which shouldn't fill you with dread; it should help you recognize that all this work you're doing in the classroom and during your own study and review sessions is ongoing and cumulative. Practicing effective strategies now will help you be a stronger professional.

Activity

What resources can you find about reading and notetaking that will actually help you with these crucial skills? How do you go about deciding what resources are valuable for improving your reading and notetaking skills?

The selection and relative value of study guides and books about notetaking vary dramatically. Ask your instructors for recommendations and see what the library has available on this topic. The following list is not comprehensive, but will give you a starting point for books and articles on notetaking in college.

- *College Rules!: How to Study, Survive, and Succeed in College*, by Sherri Nist-Olejnuk and Jodi Patrick Holschuh. More than just notetaking, this book covers many aspects of transitioning into the rigors of college life and studying.
- *Effective Notetaking*, by Fiona McPherson. This small volume has suggestions for using your limited time wisely before, during, and after notetaking sessions.
- *How to Study in College*, by Walter Pauk. This is the book that introduced Pauk's notetaking suggestions we now call the Cornell Method. It is a bit dated (from the 1940s), but still contains some valuable information.
- *Learn to Listen, Listen to Learn 2: Academic Listening and Note-taking*, by Roni S. Lebauer. The main point of this book is to help students get the most from college lectures by watching for clues to lecture organization and adapting this information into strong notes.
- *Study Skills: Do I Really Need this Stuff?*, by Steve Piscitelli. Written in a consistently down-to-earth manner, this book will help you with the foundations of strong study skills, including time management, effective notetaking, and seeing the big picture.
- "What Reading Does for the Mind," by Anne Cunningham and Keith Stanovich, 1998, <https://www.aft.org/sites/default/files/periodicals/cunningham.pdf>
- Adler, Mortimer J. and Charles Van Doren. *How to Read a Book: The Classic Guide to Intelligent Reading*. NY: Simon & Schuster, 1940.
- Berns, Gregory S., Kristina Blaine, Michael J. Prietula, and Brandon E. Pye. *Brain Connectivity*. Dec 2013. ahead of print <http://doi.org/10.1089/brain.2013.0166>

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9.5: Summary

Reading and notetaking are major elements of college studying and learning. The expectations in college is that you read considerable amounts of text for each subject. You may encounter reading situations, such as professional journal articles and long textbook chapters, that are more difficult to understand than texts you have read previously. As you progress through your college courses, you can employ reading strategies to help you complete your college reading assignments. Likewise, you will take notes in college that need to be complete so you can study and recall the information you learn in lectures and lab sessions. With so much significant information that you need to collect, study, and recall for your college courses, you need to be deliberate in your reading and notetaking.

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CHAPTER OVERVIEW

10: Critical Writing

[10.1: The Rhetorical Nature of Reports](#)

[10.2: Video - Critical Essay Writing with Examples](#)

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10.1: The Rhetorical Nature of Reports

Learning Objectives

By the end of this chapter, you should be able to:

- Define what a report is and identify the different forms that it can take.
- Identify how certain reports can be informal, formal, or somewhere in-between.
- Explain how you have already created several reports during your academic career.

Key Terms and Concepts

- report
- written report
- oral report
- informative report
- persuasive report

Over the next several chapters, we will be walking you through the process of creating reports. Reports are crucial deliverables in many technical professions. In fact, engineers can spend anywhere from 20% to 95% of their time writing reports (Leydens, 2008). That's a lot of writing! However, it's also important to remember that not all reports are written, as they can take an oral format as well. Before we go into the actual process of how to write a report or give a presentation, however, let's look at reports more generally.

What is a Report?

What comes to mind when you think of the word **report**? If you went to school at Cosumnes River College (CRC), your first thought might be one of the many book reports you did for your English classes, where you had to summarize and review a book you read recently. However, since you have been in this class for a couple of weeks now, maybe you're thinking about **reports** in a professional/technical sense, like a business proposal or a research statement.

Before we get too ahead of ourselves, let's consider this definition for the word **report**:

Definition: Report

A transmission of any information

That's pretty basic, but what that tells you is that **reports** are happening around you all the time because, as we've learned, communication is the transmission of information. This also means that a **report** doesn't just have to be written, since we also transmit information when we speak. Let's look at a more detailed definition.

Detailed Definition: Report

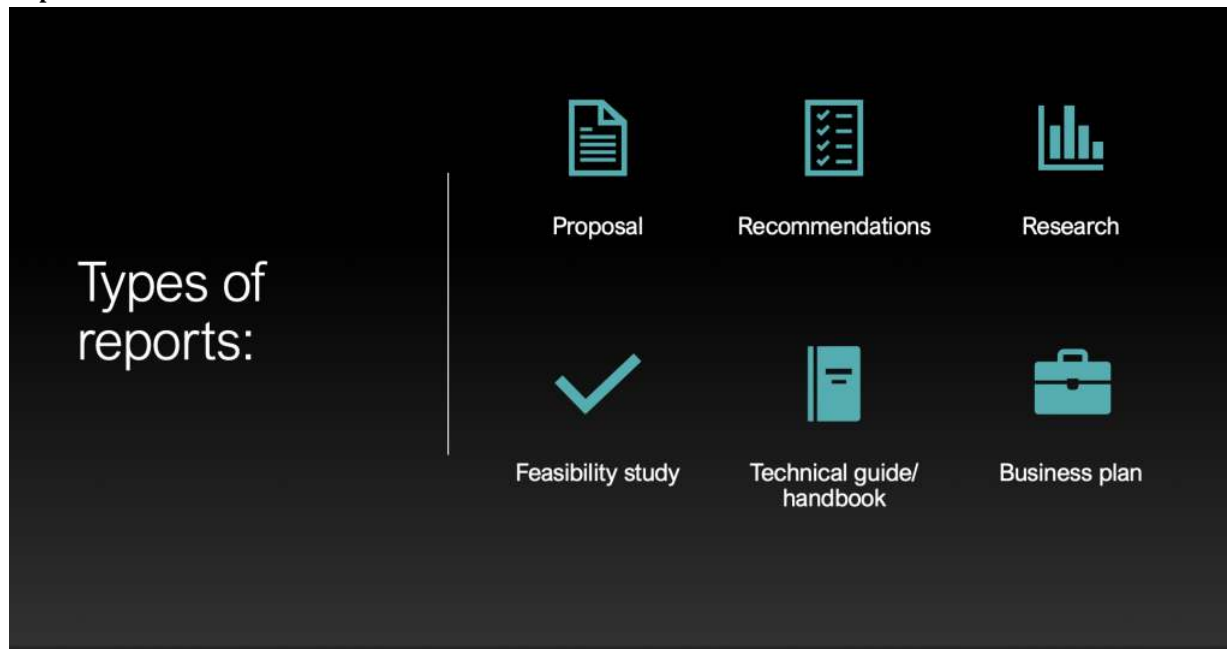
An account of your investigation into a subject, presented in a written document or oral presentation that has conventional formatting.

Something has changed with this definition. Can you see what it is? Similar to our first definition, this new definition also describes **reports** as an exchange of information. The difference, though, is that there is a focus on *you*—the writer or speaker—to share that information in a way that is accessible and relatable to your audience.

We'll explain how to do that in just a moment, but let's first review the different forms a **report** might take in your professional career, as well as some **reports** you may have already done (possibly even without realizing it).

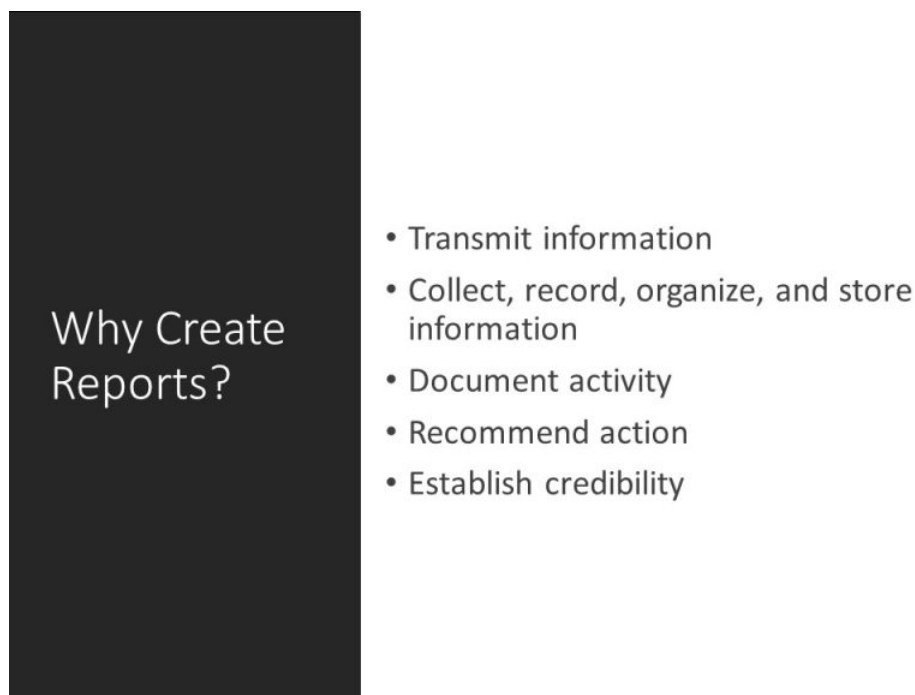
Types of Reports

Reports can take different forms. Here are few different types.



Depending on your career trajectory, you may have to do several, if not all, of these **report** types.

The reason why you may be writing or presenting a report will depend on your career and needs. As a result, there are a number of different reasons why you would create one.



Do any of those reasons sound familiar? They should! At their core, reports are a form of **rhetorical communication**, which we covered in the [first chapter](#). Not only are they intentional, purposeful acts of communication, but they also involve making a connection with the audience in order to get them to change something. You'll need to accomplish both in the formal report and persuasive presentation you create for RCM 200.

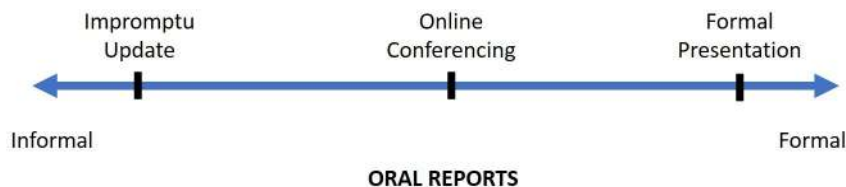
Composing a **report** may seem a bit overwhelming, but it's important to realize that you have already created several reports in your life. Of course, you may think, "That's not true. The whole reason I'm taking the class is so I can learn how to do that!" Trust us when we say that you have more experience with **reports** than you think.

Kinds of Reports

To help you see how you have already been creating reports in other contexts, it is important to distinguish between the two types of **reports**.

As we have mentioned, **reports** can be presented either orally or in writing. However, within those two categories are a range of different forms that a **report** can take. Not only that, it's important to recognize that **reports** can move on a spectrum from informal to formal.

Oral Reports



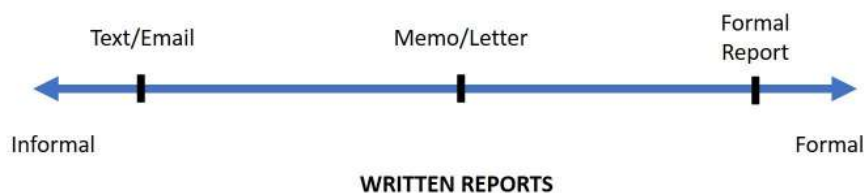
Can you think of any informal **oral reports** that you've done? Here is an example. If you meet with your team, and a colleague asks you about your portion of the research, you might tell them about some of the resources you have found and how you plan to use them. In this case, you would be providing an impromptu update. Does this sound familiar? If you bump into a friend in the hall and have a brief chat about your plans this weekend, this is also an impromptu update.

Online conferencing happens when you meet a supervisor, instructor, or team over a platform like Zoom or Webex. Usually, such meetings take place at a scheduled time, which means there are specific topics you need to discuss. It is far less casual than running into someone in the hallway. However, even an online conference can be less formal depending on the context. If you are video chatting with friends or family in another city, province, or even country, the odds are it will be far less formal, especially if you are just catching up!

If you have ever given a presentation in front of a class, you have given a formal presentation. In such assignments, you were likely being graded, which means there was more at stake for you. Similarly, if you are the leader of an on-campus club, you might occasionally have to speak in front of your club to discuss future plans and events. While this may be less stressful because you are not being graded, you are still operating in a professional capacity, which makes the presentation more formal.

These are just some of the ways you have already given **oral reports** in your life. Can you think of any other examples and determine whether they are informal or formal?

Written Reports



Like **oral reports**, **written reports** can take many forms that fall somewhere on the spectrum of informal and formal.

As we have discussed, text messages are generally very brief and are best kept short. As a result, they are an informal type of written report. If someone has asked you to text them when you leave, then they are asking for a **written report**. Emails can also fall into this informal category when they are being written to friends and family. However, emails become more formal when written to either a potential employer or co-worker. As you saw in the **Job Packet** section of this text, formal writing is essential if you want to convince a potential employer to hire you.

Memos and letters tend to be more formal since they are used in official capacities. However, even those will only be seen by a few sets of eyes.

Formal reports are much more technical and will likely be seen by many people. Therefore, they are much more formal.

Reports and Rhetoric

Hopefully, you have a sense of how you are already creating reports in your daily life. Now, let's review some examples of reports you may be familiar with (and some you may not be) and discuss how that writing is rhetorical in nature. While all these examples are focused on written reports, you will see examples of a rhetorical oral report later on in this text.

Form Reports

A **form report** is what it sounds like: a form that you fill out to report something. These reports tend to be very dry and require only concise statements describing the facts. However, each still has a persuasive element.

- Taxes
 - If you have ever filed a tax return, you have submitted a form report to the government. This type of form report includes all of your sources of income and your eligible deductions. While most of this information is factual, you are still trying to persuade the government to accept your tax return because you do not want to provoke an audit. Ultimately, you are trying to convince the government that your information is credible.
- Incident Report
 - If you have ever worked at a job where safety was a large component, such as a lifeguard, you probably filled out incident reports. In these reports, you were not just describing the incident as you experienced it; rather, you were trying to present it in such a way that the reader will accept your account as true, complete, and unbiased.
- Expense Report
 - If you spent your own money for company business and you wanted to get it back, then you needed to write an expense report that demonstrated your professionalism. Otherwise, the company would not reimburse you.

Even though all of the above examples may appear simple, all of them have a rhetorical element that must be considered when filling them out.

Other Reports

Of course, all **reports** aren't as dry and concise as tax forms. After all, only the most basic level of persuasion is required in order to inspire the Internal Revenue Service to accept how much money you owe them or for them to pay you money that you are owed. Sometimes, however, a certain **report** will require you to focus more carefully on your persuasive skills in order to convince someone to do something with the facts.

- **Job Application**
 - Whenever you compose a job package to apply for a job, you are creating a **report**. This **report** describes the education, experiences, and skills that you can offer to a potential employer in the hope of persuading them that your **report** is true and that your assessment of how you will be a good fit is valid.
- Application to Graduate School
 - Similarly, when applying to graduate school, you are trying to persuade the admissions board that you would be a good fit for their program and their school.
- Funding for Business Plan
 - If you plan to start your own business, you will write up a business plan. This is a **report** that you create in order to attain funding for your business. A bank will not give you a loan without a complete **report**, or if they don't believe you are credible!

In summary, **reports** take many forms. You have already tried some, and others you have not. Regardless, it's okay if you are not an expert in any of them. This skill will come with time and plenty of practice. Our goal in this course is to give you the general skills you need to create effective, persuasive **reports** so that you can apply your knowledge to other situations.

Ultimately, in order to write a really effective report or give a stellar presentation, you will want to apply the rhetorical tools we have already discussed in this course.

How are Reports Rhetorical?

Reports (both written and oral) fall under two categories: **informative reports** and **persuasive reports**. Both try to achieve similar, though different, results. With an **informative report**, you want to establish your credibility so the audience accepts the facts. With **persuasive reports**, you want to audience to accept the facts, but you also want to change their thinking and, therefore, their actions.

For this course, you will be creating two **persuasive reports**: a written formal research report and an oral persuasive presentation.

Since both of your **reports** will be rhetorical in nature, your ultimate goal is to persuade the audience to take action on a topic. The question is, then, how do you accomplish this in your reports? The best place is to start with the rhetorical theory that we learned from [Bitzer](#) and [Aristotle](#). By using rhetorical theory to assess the situation and to plan a report, your message will become more persuasive.

Over the next couple of chapters, we will walk you through how to apply that theory as you construct your own reports. To help you see how this theory is applied in practice, you will see two students, Mei (she/her) and Hamid (he/him), go through their own processes. **Mei** is working on the **written report** for this course, and **Hamid** is working on the **persuasive presentation**. Before they can jump into using the theory, though, they'll need to come up with a focused topic for their report.

Key Takeaways

- Reports can take many forms. Whether written or oral, you already have experience creating a number different types of **reports** that range from informal to formal.
- This experience will be a big help to you in this class. What will probably be different for most of you, though, is that you will need to use the rhetorical theory we have discussed in this course to create your messages.
- Specifically, you will be using the theory of [Bitzer](#) and [Aristotle](#) to craft your reports so that they are persuasive in nature, *not* informative.

Reference

Leydens, J. (2008). Novice and insider perspectives on academic and workplace writing: Toward a continuum of rhetorical awareness. *IEEE Transactions on Professional Communication*, 51(3), 242-263. <https://doi.org/10.1109/tpc.2008.2001249>

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10.2: Video - Critical Essay Writing with Examples

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CHAPTER OVERVIEW

11: Evaluating Critical Writing

[11.1: Formatting the Report](#)

[11.2: Evaluating Writing](#)

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11.1: Formatting the Report

Learning Objectives

By the end of this chapter, you should be able to:

- Distinguish between the three parts of your written report: the front matter, the report body, and the back matter
- List out the 12 elements that are present within a written report
- Identify the different requirements found in a summary and introduction

Key Terms and Concepts

- front matter
- report body
- back matter

We've spent a lot of time on how to generate the content of your formal written report. However, it's time to take a step back and look at how you will format the report.

Like any kind of project, technical reports have specifications. These specifications can be for a number of different things such as the report's layout, organization, and content; how to format the headings and lists; and how to label graphics and tables. The advantage of a required format for written reports is that you or anyone else can expect them to be designed in a familiar way. If someone hands you a report, and you want to read the summary section first, you will know exactly where to look. This is why different academic programs and career fields use style guides like APA. Reports are usually read in a hurry because readers want to quickly get the information they need, and a standard report format helps them achieve that.

For our purpose in RCM 200, you need to think of your formal written report as having three distinct parts: a **front matter**, the **report body** and the **back matter**. Within those three parts are a combined twelve different elements you will potentially need to include in your report. In order, these elements are:

1. The **Front Matter**

- Cover Page
- Transmittal Document
- Title Page
- Summary
- Table of Contents
- List of Tables and Figures

2. The **Report Body**

- Introduction
- Discussion
- Conclusion

3. The **Back Matter**

- Recommendations
- References
- Appendix

Ensuring you have all of the correct elements present in your report—and that you write and format them correctly—is key if you wish to create a professional report and receive a good grade. We will now go into each element in detail. At the very bottom of this page, you will be able to see an example formal research report that includes most of these elements.

Front Matter

The first part is the **front matter**. This combination of elements, such as the title page and table of contents, will be the first thing your reader sees of your report. They are relatively easy to make, but if they are done sloppily, these elements can negatively

impact the reader's view of the credibility of your work before they even read it.

Cover/Cover Page

It's not uncommon for formal reports to be bound. In these cases, there is usually a cover, like with any book, and on that cover is the title of the report. If the report is produced by a company, the cover will have the company's name and logo.

You are not required to bind your formal research report though. However, you *will* need a cover page. At minimum, you will need to include the title of your report centered on the page. If you want, you can also include the author name. However, that is not required.

Transmittal Document

A transmittal document can either be a letter or memo. The one you choose will depend on who is receiving the report, but ultimately the goal of this element is to maintain goodwill with the client by adding a personal component to the report.

If you need a refresher on writing a memo or letter, revisit [this chapter](#) from our text. For our specific purposes though, your letter/memo should:

- describe the topic and remind the reader of who authorized the report
- make a brief statement of major findings while also acknowledging who helped form the report
- express appreciation to the client and offer to follow-up with the report

Title Page

The title page is similar to the cover page. The main difference is that the title page has more detail. Your title page must have three things:

1. the name of the report
2. the name and title of the author
3. the date of submission

In certain circumstances, a title page can also include the name and title of the person who commissioned the report.

Despite this being the third page your reader will see in the report, the title page is considered to be page Roman numeral **i** for numbering purposes. Though, this page is often unnumbered in the report.

Summary

The summary gives the reader an overview of the report. It allows them to quickly see what the content of your paper is without having to read the entire document.

In a professional context, you might have to search through dozens, if not hundreds of reports to find information for your own research. You obviously wouldn't have time to read all of them, so looking at just the summary section would help you quickly sort through your potential research materials.

In a long report, like the one you are writing for this course, the summary should be about 10% of the length of the entire report. It should condense the information that is already in the main document. This includes information like the report's recommendations, justifications, and conclusions.

The page number of this report (if numbered) would be Roman numeral **ii**.

Table of Contents

A table of contents (TOC) lists out the sections of a report. This means that the primary headings for each section are included along with the page numbers where they appear. If your report has secondary or lower headings, those should be included too.

Make sure your organization is consistent. A TOC must properly reflect the organization of your report. For example, you wouldn't put the summary (which comes at the top of your report) as the last entry of your TOC. Additionally, you must proofread to ensure that the headings are worded the same in the body of the report and the TOC.

List of Tables and Figures

The List of Tables and Figures operates similarly to the TOC. It presents an organized list of all the graphics that you created for your report with the page numbers where they are found. This list will be a separate page that comes after your TOC, which means that it needs to be in the TOC. Don't forget to include it!

Report Body

The second part of your formal research report is the **report body**. This is the main portion of the report that you have already been working on with your research.

You are probably familiar with the traditional five-paragraph essay—which has an introduction, body, and conclusion. For those kinds of essays, the introduction and conclusion are only one paragraph long. That is not the case for written reports where both of those elements can have multiple paragraphs. Similarly, the discussion can be broken up into multiple sub-sections, each with their own specific focus and multiple paragraphs. The number of paragraphs for all three parts will ultimately depend on the information you are trying to convey.

Students often are unclear about the distinctions between the Summary and Introduction, so we will spend a little more time on both of those.

Introduction

Your introduction sets the tone and expectations for your report.

First and foremost, your introduction is where you are trying to demonstrate your good judgement and good character to your reader through the use of rhetorical theory.

To accomplish this, you must provide your reader with an understanding of the purpose and scope of your report. Additionally, you must illustrate why your topic is important by describing the size and impact of the problem (the rhetorical exigence) that you are analyzing. The inclusion of these details will help establish your pathos appeal.

Lastly, an introduction will provide essential context that is required to understand the organization, language, and approach you are using to produce the report. This context contributes to your logos appeal and extends good will.

Summary vs Introduction

It's important to mention that many students will confuse the purpose of a report's summary and introduction. The main difference is that a summary provides an overview of the report as a whole. This means that it include the results and conclusions of the report. The introduction does not do this. Instead, it's purpose is to provide background information to help ease the reader into the topic. Below is a representation of the differences in a table format.

Summary	Introduction
condenses information that is already present in the main document	introduces the report and explains it in brief
can exist separately from the main document	prepares reader for report that follows
written for a general audience	covers the basic background information, justifies why report is being written
includes report's recommendations, justification, and conclusions	written in an engaging manner clearly shows the writer's aims and objectives
sources not needed	sources used to back claims

Exercises

Below is an example of former student's summary and introduction for their report. Read through both documents without clicking on the hotspots. After you are finished, see if you can answer the following questions. Once you have answered them, you may click on the hotspots to help break down both sections.

Please keep in mind as you read that these are just examples, and your summary and introduction may look different from these.

1. What differences do you see between the two sections?
2. Based off the **summary**, what do you think the report is about? What topics will it cover?
3. Based off the **summary**, what recommendations will this report make?
4. Based off the **introduction**, what specific topics will the report cover?
5. What sources are used to back up claims in the **introduction**? How do they help establish credibility?
6. What is the background information in the **introduction**? How does it justify the report being written?

The original version of this chapter contained H5P content. You may want to remove or replace this element.

Discussion

The discussion is the main part of your report. This is where you are defining the problem that you want to resolve. You do this by laying out your argument and presenting the information needed to support your conclusion. As a result, the discussion section will have the most detailed information. It is typically divided into multiple sections, each labeled with a heading that establishes the structure of the argument.

Conclusion

By the end of the discussion section, your reader should have a clear understanding of the problem you are addressing. The conclusion explains why it's important. It answers the "so what?" question that a reader will ultimately have by this stage of your report. Put another way, after reading your report, the reader will have all this new information you provided them, "so what" are they supposed to do with it?

To answer this question you must start by summarizing, section by section, the main claims of your report. You shouldn't be adding any new information at this point, or going into great detail. Rather, you are briefly explaining each point in the order they come up in your report and explaining how they connect to your main argument.

Do not tell the reader what you think they should do at this stage. That's for the recommendations section, which comes next.

Back Matter

Congratulations! You are now done with the **report body**! Just one more part to go.

The third, and final, part of the report is made up of the **back matter**. This is where the reader can find information that helps them learn more about your topic. Specifically, this is where you will put your recommendations, references page, and appendix.

Keep in mind that, for your formal written report for RCM 200, the recommendations and appendix are optional. However, you must include a references page.

Recommendations

This is where you will tell the reader how they should act based on the conclusions you have come to in your report.

Pay close attention to your tone here. Don't make it sound like you are commanding or ordering the reader to do something. Instead, try to recognize that the choice is up to the reader to decide whether to take the recommended action.

References Page

We've already talked a bit about the references page in the chapter on [APA Style](#), so we will just review here. A references page includes a full reference entry for each work you cite in your report. These entries allow your reader to find the original sources for the information you are using if they want them.

Keep in mind that every source in your reference page must appear in the body of your report as an in-text citation.

Appendix

The appendix section is for anything that needs to be attached to a report.

In general, a piece of content goes into the appendix if it is too long or complex to include in the discussion. However, don't just put anything in the appendix. The information should help the reader more fully understand your topic by supplementing the

material in the body of the report.

Each appendix item should contain only one type of material. For example, all images should be under one heading, all tables should be under a different heading, etc. Don't forget to include appendix items in the table of contents!

A Sample Report

We just went through twelve different elements that you will need to include in your formal report. That's a lot! To help you visual what your final product might look like, check out the example below.

The original version of this chapter contained H5P content. You may want to remove or replace this element.

Key Takeaways

- Using a consistent format for your written reports is essential for establishing your credibility as a writer. If your paper's format is inconsistent or missing key elements, a reader may assume you are not taking the report seriously and question the reliability of your work.
- A written report is made up of three parts: the front matter, the report body, and the back matter. Between these three parts, there are a total of 12 different elements that can be present in a report.
- The **front matter** is the first thing your reader will see. This part sets the stage for what's to come because it presents an outline of your report.
- The **report body** is the main portion of your report. It's where all the research on your topic goes. This is where you will be using the rhetorical strategies you have learned to try and persuade your audience.
- The **back matter** is where your reader can learn more about the topic. If they want to look up a citation you used or review extra material you couldn't get in the **report body**, they will go here.
- In terms of the 12 elements, most students struggle with differentiating between the summary and introduction sections. In brief, the summary provides an overview of the entire report. This means it includes the reports conclusions and, if needed, recommendations. The introduction, on the other hand, provides background information for the reader in order to help ease them into the topic.

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11.2: Evaluating Writing

Introduction

In 2010, a textbook being used in fourth grade classrooms in Virginia became big news for all the wrong reasons. The book, *Our Virginia* by Joy Masoff, had caught the attention of a parent who was helping her child do her homework, according to [an article in The Washington Post](#). Carol Sheriff was a historian for the College of William and Mary and as she worked with her daughter, she began to notice some glaring historical errors, not the least of which was a passage which described how thousands of African Americans fought for the South during the Civil War.

Further investigation into the book revealed that, although the author had written textbooks on a variety of subjects, she was not a trained historian. The research she had done to write *Our Virginia*, and in particular the information she included about Black Confederate soldiers, was done through the Internet and included sources created by groups like the Sons of Confederate Veterans, an organization which promotes views of history that de-emphasize the role of slavery in the Civil War.

How did a book with errors like these come to be used as part of the curriculum and who was at fault? Was it Masoff for using untrustworthy sources for her research? Was it the editors who allowed the book to be published with these errors intact? Was it the school board for approving the book without more closely reviewing its accuracy?

There are a number of issues at play in the case of *Our Virginia*, but there's no question that evaluating sources is an important part of the research process and doesn't just apply to Internet sources. Using inaccurate, irrelevant, or poorly researched sources can affect the quality of your own work. Being able to understand and apply the concepts that follow is crucial to becoming a more savvy user and creator of information.

The Evaluate pillar states that individuals are able to review the research process and compare and evaluate information and data. It encompasses important knowledge and abilities.

They understand

- The information and data landscape of their learning/research context
- Issues of quality, accuracy, relevance, bias, reputation and credibility relating to information and data sources
- How information is evaluated and published, to help inform their personal evaluation process
- The importance of consistency in data collection
- The importance of citation in their learning/research context

They are able to

- Distinguish between different information resources and the information they provide
- Choose suitable material on their search topic, using appropriate criteria
- Assess the quality, accuracy, relevance, bias, reputation and credibility of the information resources found
- Assess the credibility of the data gathered
- Read critically, identifying key points and arguments
- Relate the information found to the original search strategy
- Critically appraise and evaluate their own findings and those of others
- Know when to stop

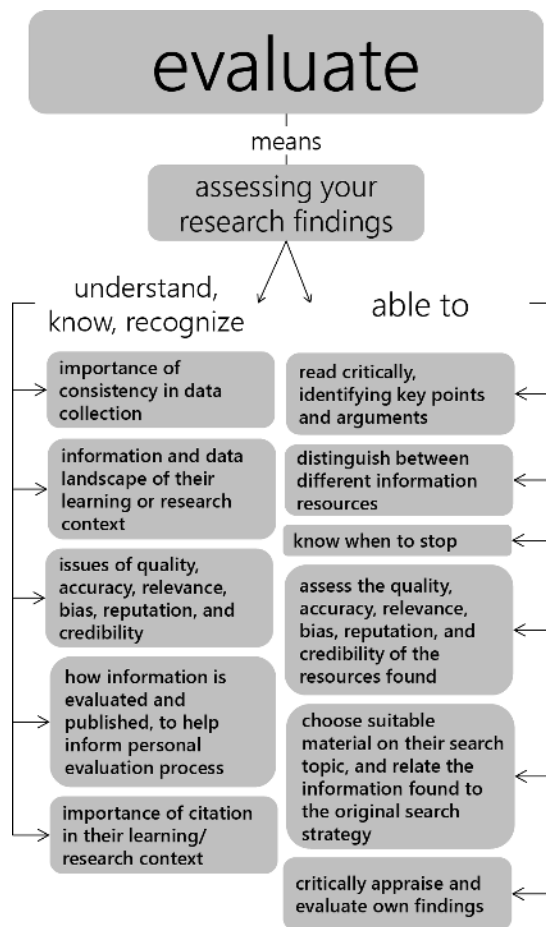


Figure: Proficiencies in the Evaluate pillar

The first section of this chapter will talk about some of the ideas and concepts behind evaluating sources (the abilities in the above list), while the second section will give you the opportunity to put your evaluation skills into practice.

Distinguishing Between Information Resources

Information is published in a variety of formats, each with its own special considerations when it comes to evaluation. Consider the following formats.

Social Media

Social media is a quickly rising star in the landscape of information gathering. Facebook updates, tweets, wikis, and blogs have made information creators of us all and have a strong influence not just on how we communicate with each other but also on how we learn about current events or discover items of interest. Anyone can create or contribute to social media and nothing that's said is checked for accuracy before it's posted for the world to see. So do people really use social media for research? Currently, the main use for social media like tweets and Facebook posts is as primary sources that are treated as the objects under study rather than sources of information on a topic. But now that the Modern Language Association has a recommended way to cite a tweet, social media may, in fact, be gaining credibility as a resource.

News Articles

These days, social media will generally be among the first to cover a big news story, with news media writing an article or report after more information has been gathered. News articles are written by journalists who either report on an event they have witnessed firsthand, or after making contact with those more directly involved. The focus is on information that is of immediate interest to the public and these articles are written in a way that a general audience will be able to understand. These articles go through a fact-checking process, but when a story is big and the goal is to inform readers of urgent or timely information,

inaccuracies may occur. In research, news articles are often best treated as primary sources, especially if they were published immediately after a current event.

Magazine Articles

While news articles and social media tend to concentrate on what happened, how it happened, who it happened to, and where it happened, magazine articles are more about understanding *why* something happened, usually with the benefit of at least a little hindsight. Writers of magazine articles also fall into the journalist category and rely heavily on investigation and interviews for research. Fact-checking in magazine articles tends to be more accurate because magazines publish less frequently than news outlets and have more time to get facts right. Depending on the focus of the magazine, articles may cover current events or just items of general interest to the intended audience. The language may be more emotional or dramatic than the factual tone of news articles, but the articles are written at a similar reading level so as to appeal to the widest audience possible. A magazine article is considered a popular source rather than a scholarly one, which gives it less weight in a research context but doesn't take away the value completely.

Scholarly Articles

Scholarly articles are written by and for experts in a field and generally describe formal research studies or experiments conducted to provide new insight on a topic rather than reporting current events or items of general interest. You may have heard the term “peer review” in relation to scholarly articles. This means that before an article is published, it undergoes a review process in order to confirm that the information is accurate and the research it discusses is valid. This process adds a level of credibility to the article that you would not find in a magazine or news article. Scholarly articles tend to be long and feature specialized language that is not easily understood by someone who does not already have some level of expertise on the topic. Though they may not be as easy to use, they carry a lot of weight in a research context, especially if you are working in a field related to science or technology. These sources will give you information to build on in your own original research.

Books

Books have been a staple of the research process since Gutenberg invented the printing press because a topic can be covered in more depth in a book than in most other types of sources. Also, the conventional wisdom for books is that anyone can write one, but only the best ones get published. This is becoming less true as books are published in a wider variety of formats and via a wider variety of venues than in previous eras, which is something to be aware of when using a book for research purposes. For now, the editing process for formally published books is still in place and research in the humanities, which includes topics such as literature and history, continues to be published primarily in this format.

Choosing Materials

When choosing a source for your research, what criteria do you usually use? Gauging whether the source relates to your topic at all is probably one. How high up it appears on the results list when you search may be another. Beyond that, you may base your decision at least partly on how easy it is to access.

These are all important criteria, to varying degrees, but there are other criteria you may want to keep in mind when deciding if a source will be useful to your research.

Quality

Scholarly journals and books are traditionally considered to be higher quality information sources because they have gone through a more thorough editing process that ensures the quality of their content. Generally, you also pay more to access these sources or may have to rely on a library or university to pay for access for you. Information on the Internet can also be of a high quality but there is less of a quality assurance process in place for much of that information. In the current climate, the highest quality information even on the Internet often requires a subscription or other form of payment for access.

Clues to a source's level of quality are closely related to thinking about how the source was produced, including what format it was published in and whether it is likely to have gone through a formal editing process prior to publication.

Accuracy

A source is accurate if the information it contains is correct. Sometimes it's easy to tell when a piece of information is simply wrong, especially if you have some prior knowledge of the subject. But if you're less familiar with the subject, inaccuracies can be harder to detect, especially when they come in subtler forms such as exaggerations or inconsistencies.

To determine whether a source is accurate, you need to look more deeply at the content of the source, including where the information in the source comes from and what evidence the author uses to support their views and conclusions. It also helps to compare your source against another source. A reader of *Our Virginia* may not have reason to believe the information the author cites from the Sons of Confederate Veterans website is inaccurate, but if they compared the book against another source, the inconsistencies might become more apparent.

Relevance

Relevance has to do with deciding whether the source actually relates to your topic and, if it does, how closely it relates. Some sources may be an exact match; for others, you may need to consider a particular angle or context before you can tell whether the source applies to your topic. When searching for relevant sources, you should keep an open mind—but not too open. Don't pick something that's not really related just because it's on the first page or two of results or because it sounds good.

You can assess the relevance of a source by comparing it against your research topic or research question. Keep in mind that the source may not need to match on all points, but it should match on enough points to be usable for your research beyond simply satisfying a requirement for an assignment.

Bias

An example of bias is when someone expresses a view that is one-sided without much consideration for information that might negate what they believe. Bias is most prevalent in sources that cover controversial issues where the author may attempt to persuade their readers to one side of the issue without giving fair consideration to the other side of things. If the research topic you are using has ever been the cause of heated debate, you will need to be especially watchful for any bias in the sources you find.

Bias can be difficult to detect, particularly when we are looking at persuasive sources that we want to agree with. If you want to believe something is true, chances are you'll side with your own internal bias without consideration for whether a source exhibits bias. When deciding whether there is bias in a source, look for dramatic language and images, poorly supported evidence against an opposing viewpoint, or a strong leaning in one direction.

Reputation

Is the author of the source you have found a professor at a university or a self-published blogger? If the author is a professor, are they respected in their field or is their work heavily challenged? What about the publication itself? Is it held in high regard or relatively unknown? Digging a little deeper to find out what you can about the reputation of both the author and the publication can go a long way toward deciding whether a source is valuable.

You can investigate the reputation of an author by looking at any biographical information that is available as part of the source. Looking to see what else the author has published and whether this information has positive reviews is also important in establishing whether the author has a good reputation. The reputation of a publication can also be investigated through reviews, word-of-mouth by professionals in the field, or online databases that keep track of statistics related to a journal's credibility.

Credibility

Credibility has to do with the believability or trustworthiness of a source based on evidence such as information about the author, the reputation of the publication, and how well-formatted the source is. How likely would you be to use a source that was written by someone with no expertise on a topic or a source that appeared in a publication that was known for featuring low quality information? What if the source was riddled with spelling and formatting errors? Looking at sources like these should inspire more caution.

Objectively, credibility can be determined by taking into account all of the other criteria discussed for evaluating a source. Knowing that some types of sources, such as scholarly journals, are generally considered more credible than others, such as self-published websites, may also help. Subjectively, deciding whether a source is credible may come down to a gut feeling. If something about a source doesn't sit well with you, you may decide to pass it over.

Identifying Key Points and Arguments

Evaluating information about the source from its title, author, and summary information is only the first step. The evaluation process continues when you begin to read the source in more detail and make decisions about how (or whether) you will ultimately use it for your own research.

When you begin to look more deeply at your source, pay close attention to the following features of a document.

Introduction

The purpose of the introduction to any piece that has one is to give information about what the reader can expect from the source as a whole. There are different types of introductions, including forewords and prefaces that may be written by the author of the book or by someone else with knowledge of the subject. Introductory sections can include background information on why the topic was chosen, background on the author's interest in the topic, context pertaining to why the topic is important, or the lens through which the topic will be explored. Knowing this information before diving in to the body of the work will help you understand the author's approach to the topic and how it might relate to the approach you are taking in your own research.

Table of Contents

Most of the time, if your source is a book or an entire website, it will be divided into sections that each cover a particular aspect of the overall topic. It may be necessary to read through all of these sections in order to get a "big picture" understanding of the information being discussed or it may be better to concentrate only on the areas that relate most closely to your own research. Looking over the table of contents or menu will help you decide whether you need the whole source or only pieces of it.

List of References

If the source you're using is research-based, it should have a list of references that usually appear at the end of the document. Reviewing these references will give you a better idea of the kind of work the author put into their own research. Did they put as much work into evaluating their sources as you are? Can you tell from the citations if the sources used were credible? When were they published? Do they represent a fair balance of perspectives or do they all support a limited point of view? What information does the author use from these sources and in what way does he or she use that information? Use your own research skills to spy on the research habits of others to help you evaluate the source.

Evaluating Your Findings

In the case of *Our Virginia*, the author used a biased source as part of her research and the inaccurate information she got from that source affected the quality of her own work. Likewise, if anyone had used her book as part of their research, it would have set off a chain reaction, since whatever information they cited from *Our Virginia* would naturally have to be called into question, possibly diminishing the value of their own conclusions.

Evaluating the sources you use for quality, accuracy, relevance, bias, and credibility is a good first step in making sure this doesn't happen, but have you ever thought about evaluating the sources used by your own sources? This takes extra time, but looking at the reference list, bibliography, or notes section of any source you use to gauge the quality of the research done by the author of that source can be an important extra step.

Knowing When to Stop

For some researchers, the process of searching for and evaluating sources is a highly enjoyable, rewarding part of doing research. For others, it's a necessary evil on the way to constructing their own ideas and sharing their own conclusions. Whichever end of the spectrum you most closely identify with, here are a few ideas about the ever-important skill of knowing when to stop.

You've satisfied the requirements for the assignment and/or your curiosity on the topic

If you're doing research as part of a course assignment, chances are you've been given a required number of sources. Novice researchers may find this number useful to understand how much research is considered appropriate for a particular topic. However, a common mistake is to focus more on the number of sources than on the quality of those sources. Meeting that magic number is great, but not if the sources used are low quality or otherwise inappropriate for the level of research being done.

You have a deadline looming

Nothing better inspires forward motion in a research project than having to meet a deadline, whether it's set by a professor, an advisor, a publisher, or yourself. Time management skills are especially useful, but since research is a cyclical process that sometimes circles back on itself when you discover new knowledge or change direction, planning things out in minute detail may not work. Leaving yourself enough time to follow the twists and turns of the research and writing process goes a long way toward getting your work in when it's expected.

You need to change your topic

You've been searching for information on your topic for a while now. Every search seems to come up empty or full of irrelevant information. You've brought your case to a research expert, like a librarian, who has given advice on how to adjust your search or how to find potential sources you may have previously dismissed. Still nothing. It could be that your topic is too specific or that it covers something that's too new, like a current event that hasn't made it far enough in the information cycle yet. Whatever the reason, if you've exhausted every available avenue and there truly is no information on your topic of interest, this may be a sign that you need to stop what you're doing and change your topic.

You're getting overwhelmed

The opposite of not finding enough information on your topic is finding too much. You want to collect it all, read through it all, and evaluate it all to make sure you have exactly what you need. But now you're running out of room on your flash drive, your Dropbox account is getting full, and you don't know how you're going to sort through it all *and* look for more. The solution: stop looking. Go through what you have. If you find what you need in what you already have, great! If not, you can always keep looking. You don't need to find everything in the first pass. There is plenty of opportunity to do more if more is needed!

From Theory to Practice

Looking back, the *Our Virginia* case is more complicated than it may have first appeared. It wasn't just that the author based her writing on research done through the Internet. It was the nature of the sources she used and the effect using those sources ultimately had on the quality of her own work. These mistakes happened despite a formal editing process that should have ensured better accuracy and an approval process by the school board that should have evaluated the material more closely. With both of these processes having failed, it was up to one of the book's readers, the parent of a student who compared the information against her own specialized knowledge, to figure it all out.

Now that you know more about the theory behind evaluating sources, it's time to apply the theory. The following section will help you put source evaluation into perspective using something called the CRAAP test. You'll also have the opportunity to try out your new skills with several hands-on activities.

Evaluating Resources in Practice

When you begin evaluating sources, what should you consider? The CRAAP test is a series of common evaluative elements you can use. The CRAAP test was developed by librarians at California State University at Chico and it gives you a good, overall set of elements to look for when evaluating a resource. Let's consider what each of these evaluative elements means.

Currency

One of the most important and interesting steps to take as you begin researching a subject is selecting the resources that will help you build your thesis and support your assertions. Certain topics require you to pay special attention to how current your resource is—because they are time sensitive, because they have evolved so much over the years, or because new research comes out on the topic so frequently. When evaluating the currency of an article, consider the following

- When was the item written, and how frequently does the publication it is in come out?
- Is there evidence of newly added or updated information in the item?
- If the information is dated, is it still suitable for your topic?
- How frequently does information change about your topic?

Exercise: Assess Currency

Assessing currency means understanding the importance of timely information

Imagine that you are writing a paper for a Political Science class on Japan's environmental policy since the Kyoto Treaty. Identify one resource that you would find helpful in your research, and one resource that you would find less helpful. Write one sentence explaining why you would or would not use each resource, paying special attention to the currency of each item.

Relevance

Understanding what resources are most applicable to your subject and why they are applicable can help you focus and refine your thesis. Many topics are broad and searching for information on them produces a wide range of resources. Narrowing your topic and

focusing on resources specific to your needs can help reduce the piles of information and help you focus in on what is truly important to read and reference. When determining relevance consider the following:

- Does the item contain information relevant to your argument or thesis?
- Read the article's introduction, thesis, and conclusion.
- Scan main headings and identify article keywords.
- For book resources, start with the index or table of contents—how wide a scope does the item have? Will you use part or all of this resource?
- Does the information presented support or refute your ideas?
- If the information refutes your ideas, how will this change your argument?
- Does the material provide you with current information?
- What is the material's intended audience?

Exercise: Find Relevant Sources

Relevance is the importance of the information for your specific needs

You are researching a paper where you argue that vaccinations have no connection to autism. Which of these resources would you consider relevant? Why or why not?

1. Hviid, Anders, Michael Stellfield, Jan Wohlfart, and Mads Melbye. "Association Between Thimerosal-Containing Vaccine and Autism." *Journal of the American Medical Association* 290, no. 13 (October 1, 2003): 1763-1766.
<http://jama.jamanetwork.com/article.aspx?articleid=197365>
2. Chepkemai Maina, Lillian, Simon Karanja, and Janeth Kombich. "Immunization Coverage and Its Determinants among Children Aged 12 - 23 Months in a Peri-Urban Area of Kenya." *Pan-African Medical Journal* 14, no.3 (February 1, 2013).
<http://www.panafrican-med-journal.com/content/article/14/3/full/>

Authority

Understanding more about your information's source helps you determine when, how, and where to use that information. Is your author an expert on the subject? Do they have some personal stake in the argument they are making? What is the author or information producer's background? When determining the authority of your source, consider the following

- What are the author's credentials?
- What is the author's level of education, experience, and/or occupation?
- What qualifies the author to write about this topic?
- What affiliations does the author have? Could these affiliations affect their position?
- What organization or body published the information? Is it authoritative? Does it have an explicit position or bias?

Exercise: Identify Authoritative Sources

Authority is the source of the information—the author's purpose and what their credentials and/or affiliations are.

The following items are all related to a research paper on women in the workplace. Write two sentences for each resource explaining why the author or authors might or might not be considered authoritative in this field:

Carvajal, Doreen. "The Codes That Need to Be Broken." *New York Times*, January 26, 2011, http://www.nytimes.com/2011/01/27/world/27iht-rules27.html?_r=0

Sheffield, Rachel. "Breadwinner Mothers: The Rest of the Story." *The Foundry Conservative Policy News Blog*, June 3, 2013. <http://blog.heritage.org/2013/06/03/breadwinner-mothers-the-rest-of-the-story>

Baker, Katie J.M. "Your Guide to the Very Important Paycheck Fairness Act." *Jezebel (blog)*, January 31, 2013, <http://jezebel.com/5980513/your-hand...k-fairness-act>

Accuracy

Determining where information comes from, if evidence supports the information, and if the information has been reviewed or refereed can help you decide how and whether to use a source. When determining the accuracy of a source, consider the following:

- Is the source well-documented? Does it include footnotes, citations or a bibliography?
- Is information in the source presented as fact, opinion or propaganda? Are biases clear?
- Can you verify information from referenced information in the source?

- Is the information written clearly and free of typographical and grammatical mistakes? Does the source look to be edited before publication? A clean, well-presented paper does not always indicate accuracy, but usually at least means more eyes have been on the information.

Exercise: Find Accurate Sources

Accuracy is the reliability, truthfulness, and correctness of the content.

Which of the following articles are peer reviewed? How do you know? How did you find out? Were you able to access the articles to examine them?

1. Coleman, Isobel. "The Global Glass Ceiling." *Current* 524 (2010): 3-6.
2. Lang, Ilene H. "Have Women Shattered the Glass Ceiling?" Editorial, *USA Today*, April 14, 2010, http://usatoday30.usatoday.com/news/opinion/forum/2010-04-15-column15_ST1_N.htm?csp=34
3. Townsend, Bickley. "Breaking Through: The Glass Ceiling Revisited." *Equal Opportunities International* 16, no. 5 (1997): 4-13.

Purpose

Knowing why information was created is a key to evaluation. Understanding the reason or purpose of the information, if the information has clear intentions, or if the information is fact, opinion or propaganda will help you decide how and why to use information

- Is the author's purpose to inform, sell, persuade, or entertain?
- Does the source have an obvious bias or prejudice?
- Is the article presented from multiple points of view?
- Does the author omit important facts or data that might disprove their argument?
- Is the author's language informal, joking, emotional, or impassioned?
- Is the information clearly supported by evidence?

Exercise: Identify the Information Purpose

Purpose is the reason the information exists—determine if the information has clear intentions or purpose and if the information is fact, opinion, or propaganda.

Take a look at the following sources. Why do you think this information was created? Who is the creator?

- <http://www.chevron.com/globalissues/climatechange/>
- <http://www.beefnutrition.org/>
- Fahrenheit 911 – Movie. <http://www.imdb.com/title/tt0361596/>
- Lydall, Wendy. *Raising a Vaccine Free Child*. Inkwazi Press, 2009
- <http://www.nwf.org/What-We-Do/Protec...-Wildlife.aspx>
- <http://zapatopi.net/treeoctopus/>
- Owen, Mark and Kevin Maurer. *No Easy Day: The Firsthand Account of the Mission That Killed Osama Bin Laden*. New York: Penguin, 2012.
- Your Brain on Video Games http://www.ted.com/talks/daphne_bavelier_your_brain_on_video_games.html

Conclusion

When you feel overwhelmed by the information you are finding, the CRAAP test can help you determine which information is the most useful to your research topic. How you respond to what you find out using the CRAAP test will depend on your topic. Maybe you want to use two overtly biased resources to inform an overview of typical arguments in a particular field. Perhaps your topic is historical and currency means the past hundred years rather than the past one or two years. Use the CRAAP test, be knowledgeable about your topic, and you will be on your way to evaluating information efficiently and well!

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CHAPTER OVERVIEW

12: Critical Reflection

[12.1: Reflection](#)

[12.2: Reflective Writing](#)

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12.1: Reflection

From their textbook, Psychology 12th edition, Carole Wade, Carol Tavis and Alan Swinkels list some important and useful guidelines for critical decision-making.

Ask questions; be willing to wonder. Always be on the lookout for questions that have not been answered by the experts in the field or by the media. Be willing to ask “What’s wrong here?” and/or “Why is this the way it is,” and “How did it come to be that way?”

Define the problem. An inadequate formulation of a question can produce misleading or incomplete answers. Ask neutral questions that don’t presuppose answers.

What evidence supports or refutes this argument and its opposition? Just because many people believe, including so-called experts, it doesn’t make it so.

Analyze assumptions and biases. All of us are subject to biases, beliefs that prevent us from being impartial. Evaluate the assumptions and biases that lie behind the arguments, including your own.

Control emotional reasoning. “If I feel this way, it must be true.” Passionate commitment to a view can motivate a person to think boldly without fear of what others will say, but when “gut feelings” replace clear thinking, the results can be disastrous.

Don’t oversimplify. Look beyond the obvious, rest easy generalizations, and reject either/or thinking. Don’t argue solely by anecdote.

Consider other interpretations. Formulate hypotheses that offer reasonable explanations of characteristics, behavior, and events.

Tolerate uncertainty. Sometimes the evidence merely allows us to draw tentative conclusions. Don’t be afraid to say, “I don’t know.” Don’t demand “the answer.”¹

Reference

1. Wade, Carol and Carol Tavis and Alan Swinkels. Psychology. Boston: Pearson, 2017.

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12.2: Reflective Writing

Scenario

Norm Allknow from the Identify chapter has done a lot of work since the last time we saw him. His research supports his thesis statement and he's got something to say. Now he needs to figure out how to say it.

He writes a 10-page paper starting with his thesis statement, followed by some facts from his research, and then briefly concludes that he has proved his point. He hands it in to his teacher and he's finished. Except that he starts to feel like he just did an awful lot of work for an audience of one person. Who else might be interested and how might he reach them? How can he communicate his message in ways other than a straightforward paper? How can he get the most out of his effort?

Presenting the Results of Your Research

In earlier chapters we discussed how to identify a research topic and how to focus in on specific questions that we hoped to answer. Then we discussed ways to search for, organize, and evaluate information that would help to answer those questions. Now it's time to think about the best way (or ways) to present the information.

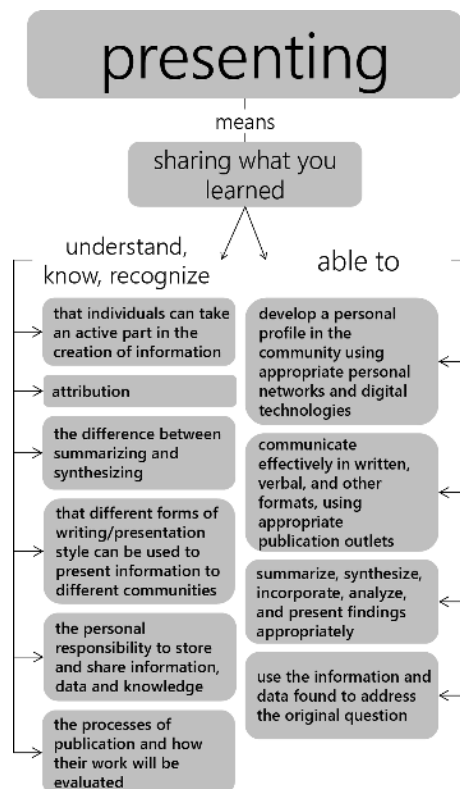
Individuals adept at the Present pillar can apply the knowledge they have gained. They can present the results of their research, synthesize new and old information and data to create new knowledge, and disseminate their work in a variety of ways.

They understand

- The difference between summarizing and synthesizing
- That different forms of writing/presentation style can be used to present information to different communities
- That data can be presented in different ways
- Their personal responsibility to store and share information and data
- Their personal responsibility to disseminate information & knowledge
- How their work will be evaluated
- The processes of publication
- The concept of attribution
- That individuals can take an active part in the creation of information through traditional publishing and digital technologies (e.g. blogs, wikis)

They are able to

- Use the information and data found to address the original question
- Summarize documents and reports verbally and in writing
- Incorporate new information into the context of existing knowledge
- Analyze and present data appropriately
- Synthesize and appraise new and complex information from different sources
- Communicate effectively using appropriate writing styles in a variety of formats
- Communicate effectively verbally
- Select appropriate publications and dissemination outlets in which to publish if appropriate
- Develop a personal profile in the community using appropriate personal networks and digital technologies (e.g. discussion lists, social networking sites, blogs, etc.)



Proficiencies in the Present pillar

Processing What You Find

In many or even most cases, during the process of finding a variety of information sources, you will begin to develop an answer to your research question. Even if you feel that you've already found the proof you need to support your thesis, it is still important to review the information and data you have to be sure you're clear about what it is (and isn't) telling you. Be careful not to let your own opinion lead you into a misinterpretation of your sources.

One useful way to consolidate the information you've found is to summarize what you think it says, and then find a definite source for each specific item in your summary. You can start by filling in the final box in the chart below, from the Identify chapter.

What do you already Know about your topic?	What do you Want to know about your topic?	How will you find information on your topic?	What have you Learned about your topic?

However, an expanded version of this same box can tell you a lot more about where the information is from, and will also prove useful when you need to cite a specific bit of information in your bibliography. In the left column of the following box, list what you have learned, bit by bit. In the right column, list where you found it. If it was found in more than one source, list them all and think about which one you find to be the most reliable or useful. Depending on where and how you present your findings, you may be called upon to defend your sources, so it pays to be prepared for this.

What have you learned about your topic?	Where did you learn it?

This exercise is just one way to process your information and may not be the best way for everyone. Summarizing in paragraph form is another way to accomplish the same task, with the added benefit that what you write in the summary can often become part of your final product. Just be careful that you aren't using paraphrased material without properly citing the source it came from. Verbally summarizing your findings, and especially your arguments in favor of your conclusions, to a friend, classmate, or teacher is an excellent way to confirm your mastery of the topic. While the means of summarizing can vary, the key at this point is to make sure you understand what you've found and how it relates to your topic and research question.

Now that you're confident in your knowledge of your topic, you can formally answer your original research question when you present what you've found. Did your original thesis/hypothesis turn out to be true? If so, say so! If not, why not? Be sure you're able to state specifics that prove or disprove your projections. Was anything a surprise? Do any of your findings suggest future research possibilities?

One of the most satisfying parts of doing research is having something to add to a topic's base of knowledge. Think about what you found in relation to your original research question and compare it to all of the sources you examined on your topic. Did you discover something new? If your research involved experiments, you may have new results or data sets that others can use. Even if you didn't generate new data, maybe you saw new connections between existing sources that no one has written about before. Think about this as you begin to put together the presentation of your findings, you may have something to share!

Choosing How to Present

The way you finally present your research findings is largely dependent on your original goals. If you were researching for a class project, it's likely that the teacher provided you with fairly specific requirements and it would obviously be a good idea to stick to them.

Even if you did initially do the research for a class project though, you may find yourself in a situation similar to Norm at the beginning of the chapter, wanting to share your work more widely. You've already done the work, so why not get all the benefit you can?

Some of the more common ways of presenting information are discussed below, but the descriptions of them are not exhaustive and remember that these are not nearly all of the options. In addition, you can often combine more than one method of presentation to highlight different elements of your findings or to reach multiple audiences.

Written

Writing is the most established way to share your research findings. Benefits of writing include the ability to proofread, edit, and rewrite to get your presentation exactly right. Done skillfully, writing can hold your audience's attention and effectively deliver information. Done poorly, it can confuse or bore your audience to the point that they stop reading. To avoid this second possibility, if at all possible, have someone read your writing before you give it to the final audience. Take constructive criticism to heart, so that your voice is clearly heard.

Traditional Paper

One of the most common ways to present research findings, especially for students, is in a short paper written as a class assignment. The way this type of paper is formatted is determined by the teacher, and is fairly straightforward. The goal is usually to demonstrate to the teacher that you have understood the topic and can draw some conclusions from what you've learned.

Thesis/Dissertation

At higher levels of education, you may be called upon to write a thesis paper or even a dissertation. At this point, you are entering the realm of high level professional or scholarly expertise, and will be expected to produce original ideas and the necessary supporting research to contribute to your field. The type of writing in theses and dissertations varies depending on the subject area, but generally these manuscripts are longer and more detailed than a traditional class paper. They also use more discipline-specific language, and can take several years to complete.

Scholarly Journal Article

Articles published in scholarly journals undergo a peer-review process (see the Evaluate chapter) to ensure that they are reliable and significant additions to the literature on a topic. If you get to a point in your research where you feel you have a contribution that others could use, investigate the possibility of submitting an article for publication, especially if your research is relevant to your intended career. It can be difficult to determine which journal to submit your article to, so don't hesitate to ask teachers, colleagues, or even the editor of the journal if your article's content is appropriate.

Blog/Tweet/Other Social Media

A relatively new option for getting your information out to a wide audience is to use social media tools. If you have your own blog or website you can easily publish your findings for the entire world to see (getting people to actually look at it is another issue, with many possible solutions). You can also use Facebook, Twitter or other tools to let people know what you're working on and to direct them to more detailed information that you've posted elsewhere online. While this may seem unusual, it is becoming more and more popular for researchers to share work online as it progresses, so that other interested parties can contribute and ask questions, making the final product more robust, whatever form it ends up taking.

Spoken

Presenting information verbally might seem easier than writing or terrifying, depending on your experience and personality. Ideally you will be thoroughly prepared and able to clearly explain your findings, while also being able to respond effectively to unanticipated questions. It takes practice and a deep knowledge of your topic to do this—even the best speakers get flustered once in a while. Don't be afraid to say you don't know the answer and always offer to follow up on a question.

Class Presentation/Speech

As with the class paper, a class presentation is one of the first experiences most students will have with verbally presenting their research. One great benefit of this type of presentation is that you will most likely receive detailed feedback on how well it was received and perhaps even get some suggestions on how to improve your delivery. Your fellow students will also be faced with the same task and can even provide this type of feedback before the actual presentation takes place.

Conference Presentation or Poster Session

As your expertise on a topic grows, you may want to reach a wider audience. You will also want to reach an audience that is interested in your topic. An excellent place to find this audience is at a professional conference in your field. Aside from the many other benefits of attending professional conferences, presenting at a conference will help you begin to make yourself known to other researchers in similar subject areas. Responding to audience questions will give you the chance to prove that you really know your material or, alternately, can point out gaps in your knowledge that may lead to new research opportunities. Poster sessions are a great way to get your feet wet, as your poster will be available for you to refer to and the atmosphere is not quite as overwhelming as standing in front of a full audience for a presentation.

Audiovisual

Visual images can have an immediate impact on how your audience reacts to and understands your presentation. Choose them wisely and use them at appropriate times! You can read more about how different visualizations of information affect the way that information is received in the Visual Literacy chapter. Below are just a few brief thoughts about how you might use visuals in your presentations.

Powerpoint/Prezi/Other Presentation Software

Powerpoint has been around long enough that most everyone knows it. For many purposes a slideshow that you speak over, or even a slideshow that is posted online for individual viewing, can succinctly get your point across. Newer presentation tools such as Prezi (prezi.com) use a similar underlying idea but enable you to create more dynamic presentations directly online. Keep in mind that in most cases, tools such as these are meant to accompany a speaker and to use them effectively takes forethought and practice.

Images

Images can be powerful tools to grab attention, condense information, and tell your story. Different types of images can be useful in different contexts. In an art class you may use reproductions of famous paintings or drawings, or images you've created on your own. In a business class, graphs and charts may be more appropriate. Just make sure the images you choose actually make your presentation more effective rather than distracting attention from your main point.

Song

Keeping your audience in mind, don't be afraid to present your material in an unusual manner. If you can create a song (as one example), you may make your audience curious enough to stay around for more detailed information later!

Video

With the tools available now, it is possible to create a quality video product to present your information without extensive training or a lot of money. New online tools are constantly being introduced (and retired, unfortunately) which enable you to enter your content (words, images, video, etc.) and have it processed into a completed video in a short amount of time. Your library is also likely to have tools available for you to use to create video and audio projects, including not only the editing software, but often the video cameras, microphones, and hard drives you'll need to create original content. Don't hesitate to ask a librarian for both access and help using these resources. Many libraries also offer introductory courses on the software they provide to get you off to a running start.

Choosing a Presentation Format

The examples above give you an idea of the variety of presentation venues available, but its up to you to decide which is most appropriate at a given time. If you're unsure, experiment.

Exercise: Present Your Information in Different Formats

Take what you've learned about your topic and express it as a written paragraph, a 140 character tweet, and a Prezi. Try to draw a picture that clearly explains your findings. Which of these seems most complete? Which seems most effective? Which seems most attention grabbing? Which was the hardest to do? Attempting this exercise might help you to make your decision about which format to use, although there are other things to consider first, particularly your intended audience.

Audience

Who you plan to present to affects how, when, and what you will present. If you're presenting your findings in a paper that only your teacher will ever see, you will focus exclusively on what that teacher has asked for. When you're presenting for a less well-defined audience however, you must imagine what they may already know (or not) about your topic, as well as what might interest them and what forms of presentation might be most appealing to them.

Exercise: Plan for Your Audience

Audience	What might they know?	What presentation methods might appeal most?
Teacher of the class		
Fellow students		
Experts at a conference		
Your family at a holiday gathering		
A group of elementary school students		
Newscaster interviewing you		

How do the different audiences affect what you might or might not include in your presentation about your topic? How do they affect the ways you might choose to present the information?

Many times you will present to an audience composed of various groups or unknown groups (particularly if you're posting the presentation online). If you've considered a number of different audiences and chosen the content and methods most likely to appeal to most of them, your chances of success will be higher than if you only include what is most interesting to you.

Your Role in Creating and Sharing Information

When you finally do publish the results of your research, there are some things to think about in terms of what happens next.

What will you do with the information now that you're finished with it? If you've written a paper for a class there may be only one copy. Do you save it and the associated notes you've made in case you need them later or do you throw it away once you get the grade? It can be difficult to project what may be useful in the future.

If you've published more widely, there are likely to be more copies, either physical or digital. Who is responsible for maintaining those copies? In a more formal situation such as a scholarly journal, the article will be maintained as part of the archives of that journal. (However, there are some questions about online-only journals. What happens if the journal goes out of business? Some journals have contingency plans for this, but not all.) If you've given a speech, do you keep the notes? If you've published on a blog, are you archiving the blog, or will it disappear once you stop using it? Even if you decide to save absolutely everything, unless you have a plan for organizing it, you may not be able to find a specific item when you need it.

Another consideration about what happens after your work is shared is what the reaction to it might be. This depends on the audience, but if you've created something really interesting or important, you may find that there is follow-up to be done. You might just be responding to comments on a blog posting or you could find yourself presenting your findings at conferences and continuing to develop your research on the topic. There may be negative feedback as well, and this is where thinking ahead about how you can support each of your arguments is important. Online, of course, there may be everything from kudos to spam and you'll have to decide how seriously to take all of that feedback. As time goes by, you may find that your work is being cited by other researchers, which is a wonderful validation of your efforts.

You are a Creator of Information

During the research process, at times it can feel as if you are just collecting what others have written or said, and that your presentation is just going to repeat what is already known on the topic. While this may be true for introductory-level papers, once you know a little more about your topic, you will be synthesizing what you've discovered, and drawing your own conclusions. Once you publish these conclusions you will have created new information.

Before the advent of online tools, publishing your new information was difficult and often expensive. It was hard to reach a large audience because of the physical limitations of producing and distributing paper copies of publications. Now anyone can publish anything and make it available to the entire Internet-connected world in a matter of seconds. This means that you have a great

opportunity to share your ideas and to communicate with people around the world who are interested in similar topics. It also means that you have to carefully consider what you publish because anyone, even an unintended audience, can find what you've published.

In addition to being able to share information freely, you also have access to tools to create and edit audio and video materials that were prohibitively expensive to create or adapt not too long ago. You can now share more interactive and engaging material with a wider audience than ever before. This is a great opportunity and a great responsibility— use it wisely!

Wider Connections

When you begin to share your own work, you gain insight into the processes of producing and publishing information, which will help you the next time you need to find sources for a research project. Now that you know what it took for you to produce information in a given format, you know what other creators had to do to produce their work. This can help you decide which sources will be most reliable and valuable for your own research.

Presenting your information is usually considered the final step in the research process. You tell the audience what you've found out and you go home. However, as we've seen, sometimes in the process of presenting or preparing to present, you uncover new questions and need to Identify that new information need. Or you may discover that what you thought was a reliable source was not so reliable and you need to Evaluate a little more. The research process is not linear, but a continuous cycle with various entry and exit points that change depending on your goals, topic, and methods. Ideally, for those who enjoy it, it never ends!

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Index

A

accessing prior knowledge
9.3: Effective Reading Strategies
active reading
9.3: Effective Reading Strategies
ad hominem
8.4: Fallacies
annotating notes
9.4: Taking Notes
antipositivism
1.3: The History of Sociology
appeal to emotion
8.4: Fallacies
appeal to ignorance
8.4: Fallacies
applying reading
9.3: Effective Reading Strategies
asking questions
9.3: Effective Reading Strategies

B

bandwagon fallacy
8.4: Fallacies

C

circular reasoning
8.4: Fallacies
claim
5.2: Defining a Claim
comparison reasoning
8.3: Types of Reasoning
concept mapping
9.4: Taking Notes
conflict theory
1.4: Theoretical Perspectives
constructivism
1.4: Theoretical Perspectives
Cornell method
9.4: Taking Notes
culture
1.2: What Is Sociology?

D

decipherable shorthand note taking
9.4: Taking Notes
dramaturgical analysis
1.4: Theoretical Perspectives
dynamic equilibrium
1.4: Theoretical Perspectives
dysfunctions
1.4: Theoretical Perspectives

E

enhancing notes
9.4: Taking Notes
evaluating reading
9.3: Effective Reading Strategies
evidence
7.4: Defining Evidence

F

fake news
7.7: Testing of Fake News Sources
fallacies
8.4: Fallacies
False Dilemma
8.4: Fallacies
figuration
1.2: What Is Sociology?
function
1.4: Theoretical Perspectives
functionalism
1.4: Theoretical Perspectives

G

generalized others
1.3: The History of Sociology
grand theories
1.4: Theoretical Perspectives

H

hasty generalization
8.4: Fallacies
hypothesis
1.4: Theoretical Perspectives

I

inferring and implying
9.3: Effective Reading Strategies

L

latent functions
1.4: Theoretical Perspectives
learning vocabulary
9.3: Effective Reading Strategies

M

manifest functions
1.4: Theoretical Perspectives

N

Non sequitur
8.4: Fallacies
nota taking systems
9.4: Taking Notes
note organizing systems
9.4: Taking Notes

O

online learning
9.2: The Nature and Types of Reading
outlining notes
9.4: Taking Notes

P

paradigms
1.4: Theoretical Perspectives
positivism
1.3: The History of Sociology
Post hoc ergo propter hoc (historical fallacy)
8.4: Fallacies

Q

qualitative sociology
1.3: The History of Sociology
quantitative sociology
1.3: The History of Sociology

R

reading speed and pacing
9.3: Effective Reading Strategies
reading to comprehend familiar content
9.2: The Nature and Types of Reading
reading to introduce new content
9.2: The Nature and Types of Reading
reason
8.2: Overview of Reasoning
recursive reading
9.3: Effective Reading Strategies
reification
1.2: What Is Sociology?
reviewing notes
9.4: Taking Notes

S

scheduling reading
9.3: Effective Reading Strategies
schema
2.4: Knowledge and Literacy
sign reasoning
8.3: Types of Reasoning
significant others
1.3: The History of Sociology
skimming
9.3: Effective Reading Strategies
slippery slope
8.4: Fallacies
social facts
1.4: Theoretical Perspectives
social institutions
1.4: Theoretical Perspectives
social solidarity
1.4: Theoretical Perspectives
society
1.2: What Is Sociology?
sociological imagination
1.2: What Is Sociology?
sociology
1.2: What Is Sociology?
SQ3R Reading Strategy
9.3: Effective Reading Strategies
symbolic interactionism
1.4: Theoretical Perspectives

T

theory
1.4: Theoretical Perspectives
Toulmin approach
4.3: Toulmin Approach to Argument

V

verstehen
1.3: The History of Sociology
visual note taking
9.4: Taking Notes

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 - 1.2: Critical Thinking Skills — [CC BY-NC 4.0](#)
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 - 3.2: Crafting Arguments — [CC BY-NC 4.0](#)
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 - 4: Clarity, Consistency and Structure — [CC BY-NC 4.0](#)
 - 4.1: Claims — [CC BY-NC 4.0](#)
 - 4.1.1: The Topics of Argumentation — [CC BY-NC 4.0](#)
 - 4.1.2: Defining a Claim — [CC BY-NC 4.0](#)
 - 4.1.3: Characteristics of a Claim — [CC BY-NC 4.0](#)
 - 4.1.4: Types of Claims — [CC BY-NC 4.0](#)
 - 4.1.5: The Argumentative Burdens — [CC BY-NC 4.0](#)
 - 4.1.6: There Are No Ties In An Argument — [CC BY-NC 4.0](#)
 - 4.1.7: Manipulation by Reversing the Burdens — [CC BY-NC 4.0](#)
 - 4.1.8: Fake News Stories and Manipulation of Burdens — [CC BY-NC 4.0](#)
 - 4.1.9: We Want to Believe — [CC BY-NC 4.0](#)
 - 4.1.10: The “Magic” of the Internet — [CC BY-NC 4.0](#)
 - 4.1.11: The Focus of This Chapter — [CC BY-NC 4.0](#)
 - 4.2: Truth — [CC BY-NC 4.0](#)
 - 4.3: Validity — [CC BY-NC 4.0](#)
 - 4.4: Truth vs. Validity — [CC BY-NC 4.0](#)
 - 4.5: Differences Between Truth and Validity — [CC BY-NC 4.0](#)
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 - 5.1: The Skill of Knowing What Questions to Ask — [CC BY-NC 4.0](#)
 - 5.2: Assumptions and Inferences — [CC BY-NC 4.0](#)
 - 5.3: Challenging Our Assumptions — [CC BY-NC 4.0](#)
 - 5.4: Issues — [CC BY-NC 4.0](#)
 - 5.5: The Seven Stock Issues of a Policy Claim — [CC BY-NC 4.0](#)
 - 5.6: Contentions — [CC BY-NC 4.0](#)
 - 5.7: Analyzing a Policy of Claim with Issues and Contentions — [CC BY-NC 4.0](#)
 - 5.8: Creating a Case — [CC BY-NC 4.0](#)
 - 5.9: Quick Review — [CC BY-NC 4.0](#)
 - 5.10: The Focus of this Chapter — [CC BY-NC 4.0](#)
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 - 6.1: Finding and Evaluating Research Sources — [CC BY-NC 4.0](#)
 - 6.2: Strategies For Conducting Research — [CC BY-NC 4.0](#)
 - 6.3: Evidence — [CC BY-NC 4.0](#)
 - 6.3.1: The Building Blocks of an Argument — [CC BY-NC 4.0](#)
 - 6.3.2: Defining Evidence — [CC BY-NC 4.0](#)

- 6.3.3: Checking on the Domain Indicators — [CC BY-NC 4.0](#)
- 6.3.4: Using Evidence — [CC BY-NC 4.0](#)
- 6.3.5: Testing of Fake News Sources — [CC BY-NC 4.0](#)
- 6.3.6: The Focus of this Chapter — [CC BY-NC 4.0](#)
- 7: Identifying Flaws — [CC BY-NC 4.0](#)
 - 7.1: The Logic of Our Arguments — [CC BY-NC 4.0](#)
 - 7.2: Overview of Reasoning — [CC BY-NC 4.0](#)
 - 7.3: Types of Reasoning — [CC BY-NC 4.0](#)
 - 7.4: Fallacies — [CC BY-NC 4.0](#)
 - 7.5: The Focus of this Chapter — [CC BY-NC 4.0](#)
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 - Index — [Undeclared](#)
 - Glossary — [Undeclared](#)

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 - [1.6: Key Terms - CC BY 4.0](#)
 - [1.7: Section Summary - CC BY 4.0](#)
 - [1.8: References - CC BY 4.0](#)
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 - [2.3: The Critical Thinking Process - CC BY 4.0](#)
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 - [3.3: Sapir-Whorf Hypothesis - CC BY 4.0](#)
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 - [4.1: Defining An Argument - CC BY 4.0](#)
 - [4.2: Identifying Arguments - CC BY 4.0](#)
 - [4.3: Toulmin Approach to Argument - CC BY 4.0](#)
 - [4.4: No Absolute Certainties - CC BY 4.0](#)
 - [4.5: Arguments vs. Explanations - CC BY 4.0](#)
 - [4.6: Creating A Counter Argument - CC BY 4.0](#)
 - [4.7: Video - Understanding Arguments - CC BY 4.0](#)
 - [5: Clarity, Consistency, and Structure - CC BY 4.0](#)
 - [5.1: Clarity - CC BY 4.0](#)
 - [5.2: Defining a Claim - CC BY 4.0](#)
 - [5.3: Characteristics of a Claim - CC BY 4.0](#)
 - [5.4: Consistency and Validity - CC BY 4.0](#)
 - [5.5: Truth vs. Validity - CC BY 4.0](#)
 - [5.6: Soundness - CC BY 4.0](#)
 - [5.7: Structure - CC BY 4.0](#)
 - [6: Assumptions - CC BY 4.0](#)
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 - [6.2: Assumptions and Inferences - CC BY 4.0](#)
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 - [7.4: Defining Evidence - CC BY 4.0](#)
 - [7.5: Checking on the Domain Indicators - CC BY 4.0](#)
 - [7.6: Using Evidence - CC BY 4.0](#)
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 - [7.8: The Focus of this Chapter - CC BY 4.0](#)
 - [7.9: Video - Evaluating Sources - CC BY 4.0](#)
 - [7.10: Video - Evaluating Evidence - CC BY 4.0](#)
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 - [8.3: Types of Reasoning - CC BY 4.0](#)
 - [8.4: Fallacies - CC BY 4.0](#)

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- 8.6: Cognitive Dissonance - [CC BY 4.0](#)
- 8.7: Video - Five Fallacies Examples - [CC BY 4.0](#)
- 8.8: Video - More Fallacies Examples - [CC BY 4.0](#)
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 - 9.1: Prelude to Reading and Notetaking - [CC BY 4.0](#)
 - 9.2: The Nature and Types of Reading - [CC BY 4.0](#)
 - 9.3: Effective Reading Strategies - [CC BY 4.0](#)
 - 9.4: Taking Notes - [CC BY 4.0](#)
 - 9.5: Summary - [CC BY 4.0](#)
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 - 10.1: The Rhetorical Nature of Reports - [CC BY 4.0](#)
 - 10.2: Video - Critical Essay Writing with Examples - [CC BY 4.0](#)
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