Learning Objectives

Upon completion of this unit, students should be able to:

1. Identify and explain the basic elements of cognition.
2. Compare and contrast formal reasoning and informal reasoning.
3. Distinguish how our thinking can be biased.
4. Analyze how our need for cognitive consistency can influence how we process information.
5. Appraise the methods used to measure intelligence and the theories of intelligence.
6. Define the three-box model of memory and explain the different types of memory.
7. Describe the constructive nature of memory and memory errors.
8. Describe how memories of an event can be influenced by questioning techniques.
9. Outline the processes involved in encoding, storage, and retrieval of memories.

Written Lecture

Chapter 9: Thinking and Intelligence

What is on your mind? Tell me your thoughts. Stop thinking about that!

Can one control and truly direct his/her thoughts? Have you ever been on a diet and just could not stop thinking about your favorite slice of pizza? Did you ever hear a song that made your mind immediately go back to a first date? It seems as if the very thoughts that we seek to avoid in our minds end up plaguing us beyond relief. Those unwanted thoughts can literally rob us of our peace and mental tranquility.

Wegner (1988) posits that our dilemma does not actually lie within the thoughts that trouble our consciousness. He argues that the trouble arises from our inability to suppress those thoughts. When we seek to repress certain thoughts, we actually begin to focus on them even more. If someone told you not to think about a black cat, could you do it? Let us try it. Do not think about a black cat. Now quickly, what is on your mind? (Is it a black cat?) As you read this section, you will gain great insight into mental manipulation and representations. Begin to notice how you actually categorize certain objects. Are all of your thoughts conscious ones? Can you think about something without actually realizing it?

Do you listen to your “gut” when you are seeking to make a decision? Have you ever just had a “bad feeling” about a particular individual? How did you get these feelings? Were they inherited? As you continue throughout your readings, begin to examine your ability to make rational decisions. According to Brown (1997), research was conducted in London, England, which suggests that daughters often inherit intuition from their fathers. The study examined the ability to recognize appropriate social behaviors, and to decode nonverbal cues. Eighty-eight families participated in the study in which the daughters had been
diagnosed with Turner’s syndrome (those that only have a single X chromosome). The parents were instructed to rate their daughters on several measures of social intelligence. It was then determined if the single X chromosome had been inherited from the girl’s mother or father. The results were quite astonishing. Measures of “intuition” were worse in the population who had received X chromosomes from the mothers. So, what do you think? If you are female, are your reasoning abilities more closely aligned with that of your father? If you’re male, what future implications might this mean for your daughters?

Do you think humans are inherently rational? Further examination of this section will reveal more barriers to rational thinking and reasoning abilities. According to Jungermann (1986), there are two sides to this debate. Some scholars purport that humans possess many biases which ultimately lead to illogical decision making. On the other hand, many argue that although we are sometimes guilty of making bad decisions, for the most part we are fairly rational beings. On which side of the camp have you pitched your tent? As you read this section, closely examine the areas which might lead to poor decisions.

Got milk?

Although it has been widely accepted that breast milk is better for infants than formula in regards to gastrointestinal issues, more research is emerging which might shed light on other areas of benefit. Studies have been conducted which show correlations between IQ scores and breastfeeding. Participants who were breastfed had IQ scores that were 6 or 7 points higher than their non-breastfed counterparts. Many scholars posit that breastfeeding assists brain development, which ultimately leads to an increase in cognitive abilities. Conversely, others argue that the mere decision to breastfeed could be correlated to other factors that influence intelligence. The mother’s IQ, ethnicity, and socioeconomic status also influence her decision to breastfeed, and these variables influence intelligence as well (Der, Batty, & Deary, 2006). As you read the section on intelligence, begin to examine your own thoughts, and look for ways in which to proactively increase one’s intelligence.

As you conclude your study of this chapter, take a moment to reflect upon your personal opinion in regards to intelligence? Can ACT and SAT scores accurately predict how well an individual will perform in college? Is there one particular characteristic in an individual that will automatically guarantee success or failure in life? What typically motivates achievement? Can one be considered intelligent in other areas, including musical and kinesthetic abilities? Continue to embrace critical thinking as you examine the issues. Is there more to intelligence than meets the eye?

Chapter 10: Memory

What did you have for breakfast last Thursday? How did you spend the last Sunday in the month of September? Where were you on September 11, 2001? Did you have difficulty recalling the answers to the first two questions? Did you immediately retrieve a memory for your whereabouts on 9/11? According to Brown & Kulik (1977), we can generally recall quite vividly memories that are associated with a very arousing or surprising event. This is referred to as a flashbulb memory. As you examine this chapter, Wade & Tavris (2011) will discuss various issues related to memory and the power of suggestion. Begin to examine your own experiences in which you attempted to recall a certain event. Did the questioning techniques influence your memories? Did you remember aspects that never actually took place? Is it possible to reconstruct memories with 100% accuracy?
As you continue your examination of this chapter, you will learn that your ability to recall certain memories is often influenced by the performance that is required. Our past experiences can interfere with our ability to learn new information. Pay close attention to the three-box model of memory and the process by which memories are encoded, stored, and retrieved. Notice that the ability to successfully process a thought will also impact the ability to recall that memory. Begin to develop certain strategies that will assist your recall efforts.

Do you often find yourself forgetting where you placed your keys? Have you ever experienced difficulty recalling a former co-worker’s phone number? According to Wade & Tavris (2011), there are several reasons why we forget certain things. This section will cover various mechanisms that account for our forgetfulness. Which one is most closely associated with you? Have you ever sought to forget a memory on purpose? Do you believe that an individual can suppress a traumatic experience and later recall it with 100% accuracy? How can one ascertain true memories from distorted ones?

As you conclude your study of this chapter, try to recall your earliest childhood memory. How old were you? What were you doing? Many scholars argue that we cannot accurately recall events earlier than our third year of life. What do you think? Are your memories truly yours, or were they influenced by stories that you have heard from others? Continue to use critical thinking as you examine this controversial issue.

References


Supplemental Reading

Click [here](#) to access a PDF of the Chapter 9 Presentation.

Click [here](#) to access a PDF of the Chapter 10 Presentation.

The following are three articles on psychology found within the Academic OneFile and Opposing Viewpoints Resource databases located in the CSU Online Library. The articles discuss the topics of triarchic theory and Alzheimer's disease.


**Learning Activities (non-graded)**

Various movies exist that illustrate aspects of memory, both short-term and long-term. The movies listed below relate to memory or memory loss. For additional enrichment, take a couple of hours to review one or more of these movies to identify various aspects of memory.

- *The Majestic* (2001)

As you review the film, ponder the following questions.

1. Which type(s) of memory were depicted in the film? (e.g. short-term, long-term)
2. In cases of memory loss, what type of memory loss occurred?
3. What was the cause of the character’s memory loss? Is this a common cause of memory loss?
4. Were the memory loss symptoms portrayed accurately? Why or why not?
5. If resolved, did the character’s memory problems disappear in a realistic fashion?
6. What caused the memory problem(s) to improve? Is this likely to occur in a real victim of amnesia?