Unit 5: Cognitive Psychology

Learning Objective 1 (pp. 179-180):  Sensation & Perception,  Sensation
1. What is cognitive psychology?
2. Why might the result of human sensation and perception differ from reality?
3. What are senses? What are sensations?
4. What is perception?
5. What is the difference between sensation and perception?

Learning Objective 2 (pp. 180-182):  Sensory Systems,  The Problem of Sensory Encoding
1. What is the purpose of an accessory structure? Identify two examples of accessory structures.
2. What is transduction? Where in a sensory system does it take place?
3. What role do neural receptors play in the process of sensation?
4. Describe the process of sensory adaptation. What does it demonstrate about neural receptors?
5. Which brain structure receives information from most sensory systems?

1. Why are perceptual failures useful to psychologists studying perception?
2. What is psychophysics?
3. What is subliminal stimulation? If it’s visual, are you aware of seeing it? If it’s auditory, are you aware of hearing it?
4. What is an absolute threshold? How might you discover your absolute threshold for sound?
5. How is a “subliminal priming” study conducted? Does it show evidence of subliminal influence?
6. Can subliminal stimuli influence your behavior? What is the general consensus of psychologists on this question?

Learning Objective 4 (pp. 186-188):  Organizing the Perceptual World,  Figure-Ground Discrimination,  Grouping
1. Define perceptual organization. Why is it essential?
2. What is figure/ground discrimination? What are the differences between figures and grounds?
3. What can reversible figure-ground images show us about perceptual organization?
4. What did Gestalt psychologists emphasize in their approach to perception?
5. Describe three different Gestalt principles of organization, and think of examples of each.
6. How does the likelihood principle help explain Gestalt grouping principles?
Learning Objective 5 (pp. 188-191): Recognizing the Perceptual World, Bottom-Up Processing, Top-Down Processing
1. Do objects look the same after we recognize them and place them into a perceptual category?
2. What is bottom-up processing? What information does this process use?
3. What are feature detectors? How are they part of a bottom-up processing system?
4. What is top-down processing? What information does this process use?
5. What is pareidolia? How is it related to top-down processing?
6. What are schemas? What are perceptual sets?
7. How are schemas and perceptual sets related to top-down processing?
8. How do both context and motivation affect top-down processing?

Learning Objective 6 (pp. 191-192): Network Processing, Culture, Experience, and Perception
1. Describe a neural network. How do psychologists use neural networks to understand perception?
2. What is a parallel distributed processing (PDP) model of perception?
3. In a parallel distributed processing model, what is an excitatory connection?
4. What do we mean by parallel processing? In what way is perceptual recognition parallel?
5. As a PDP network learns, what happens to the strengths of the connections inside the network?
6. How does culture affect perception?
7. How does experience affect perception?
8. How do the effects of culture and experience on perception reflect top-down processing?

Learning Objective 7 (pp. 193-195): Attention, Directing Attention, Ignoring Information, Divided Attention
1. Define attention.
2. What are the three important characteristics of attention?
3. What is an example of the impact of limited attentional resources?
4. What top-down processing factors affect your voluntary control of attention?
5. What kinds of stimuli usually attract our attention involuntarily?
6. What is inattentional blindness?
7. Define divided attention. Can you attend to more than one thing at a time?
8. What does it mean to say that a task is automatic? When a task has become automatic, how does it affect your attentional resources?
9. Are there different types of attentional resources? How do they help us perform tasks?
Learning Objective 8 (pp. 195-197): Memory, The Nature of Memory, Basic Memory Processes

1. What are the three basic processes in memory?
2. What is the encoding of a memory? (Why is the root word “code” in it?)
3. What are the three different types of encoding? How do they differ?
4. What is memory storage?
5. What is memory retrieval?

Learning Objective 9 (pp. 197-198): Types of Memory, Explicit and Implicit Memory

1. What are the three types of memory?
2. What kinds of things are stored in episodic memory?
3. What kinds of things are stored in semantic memory?
4. What kinds of things are stored in procedural memory?
5. When is memory explicit? Describe a situation in which you used memory explicitly.
6. When is memory implicit? When might you use memory implicitly?

Learning Objective 10 (pp. 198-199): Models of Memory, Levels of Processing, Transfer-Appropriate Processing, Multiple Memory Systems

1. What is the levels of processing model of memory? What does the encoding of memory have to do with levels of processing?
2. What is the difference between maintenance rehearsal and elaborative rehearsal? How do these different types of rehearsal influence the level of processing of a memory?
3. What does it mean when one memory has been encoded more deeply than another?
4. What is the transfer appropriate processing model of memory? How might you apply it in your studying?
5. What is the multiple memory systems model of memory? What does it say about how memory works?
6. If we have multiple memory systems, how should damage to one system affect a different system?

Learning Objective 11 (pp. 199-201): Parallel Distributed Processing, Information Processing

1. What is the parallel distributed processing (PDP) model of memory? How is it related to the PDP model of perceptual recognition discussed in Learning Objective 6 (in this unit)?
2. How does PDP describe the interconnection of memories?
3. In the PDP model of memory, what is it that makes a memory stronger?
4. What operates in parallel in the PDP model of memory? What is an advantage of having memory items activated simultaneously?
5. In the information processing model of memory, what are the three stages of mental processing?
6. How does information flow among the three stages of memory?
Learning Objective 12 (pp. 201-204): Storing New Memories, Sensory Memory, Short-Term Memory and Working Memory, Storage Capacity of Short-Term Memory, The Power of Chunking, Duration of Short-Term Memory

1. What is the major function of sensory memory? Approximately how long is information held in sensory memory?
2. How does sensory memory help us experience a stable, consistent flow of sensory perceptions?
3. What is the function of short-term memory?
4. What is working memory? How does short-term memory relate to working memory?
5. What are the two components of working memory?
6. What is the capacity of short-term memory? What is another name of this capacity?
7. What is the process of chunking? How can chunking be used to increase the immediate memory span?
8. Approximately how long is information held in short-term memory without rehearsal?

Learning Objective 13 (pp. 204-207): Long-Term Memory, Encoding in Long-Term Memory, Storage Capacity of Long-Term Memory

1. Why is remembering what you were doing 40 minutes ago dependent on long-term memory?
2. What kind of encoding is most often used in long-term memory? What kind of information is held and lost in this kind of encoding?
3. What is dual-coding theory? What is the advantage of encoding a memory in more than one type of code? What does this say about memory for pictures?
4. What do we know about the capacity of long-term memory?
5. How accurate are our memories?
6. What are flashbulb memories? How accurate are they?

Learning Objective 14 (pp. 207-209): Retrieving Memories, Retrieval Cues and Encoding Specificity, Context and State Dependence

1. What is retrieval? What are retrieval cues?
2. What is the encoding specificity principle? How does the idea of encoding specificity help explain how well a particular retrieval cue works?
3. What is context-dependent memory? Give an example.
4. What is state-dependent memory? Give an example.
5. How do context and state dependence relate to encoding specificity?
Learning Objective 15 (pp. 209-210): Retrieval From Semantic Memory, Semantic Networks, Retrieving Incomplete Knowledge

1. What is a semantic memory network?
2. What is spreading activation? How is it related to memory?
3. In a semantic network, are some associations stronger than others? How is this related to the speed of memory retrieval?
4. How can semantic networks explain making inferences?
5. What does it mean to retrieve incomplete information?
6. What is the tip-of-the-tongue phenomenon? Why is it a type of incomplete knowledge?
7. What is the feeling-of-knowing experience? Why is it a type of incomplete knowledge?

Learning Objective 16 (pp. 210-214): Constructing Memories, Schemas, Memory, Perception, and Eyewitness Testimony

1. Why do psychologists often say memory is constructive? How does this relate to the accuracy of memories?
2. What is a schema? How can schemas influence memory construction?
3. Why doesn’t long-term memory work well for accurate eyewitness identification?
4. What is the misinformation effect? How is it related to constructive memory?
5. What two factors increase jurors’ tendency to believe eyewitness testimony?
6. How is the accuracy of eyewitnesses’ memories related to their confidence?
7. What are police procedures are likely to induce false feelings of confidence in eyewitness testimony?

Learning Objective 17 (pp. 214-219): Forgetting, How Do We Forget?, Why Do We Forget? The Roles of Decay and Interference, Thinking Critically: Can Traumatic Memories Be Repressed and Then Recovered?

1. What is a “forgetting curve,” and what is the typical shape of a forgetting curve?
2. What has the relearning method revealed about how long memories can last? What are savings?
3. What is the difference between decay and interference in forgetting?
4. How does decay explain forgetting from short-term memory? How does interference explain forgetting from short-term memory?
5. What primarily explains forgetting from long-term memory?
6. Can traumatic memories be repressed and then recovered? Why is this question so controversial?
7. What is motivated forgetting?
8. What does research show about vividness and confidence related to false memories?
Learning Objective 18 (pp. 219-222): Biological Bases of Memory, Biochemistry of Memory, Brain Structures and Memory, The Impact of Brain Damage, Multiple Storage Areas

1. Review synapses described in Unit 2. What are two kinds of changes in synapses in the brain that are related to forming new memories?
2. Which areas of the brain are most strongly associated with forming new memories?
3. What is anterograde amnesia? What causes this form of amnesia?
4. What is retrograde amnesia?
5. Where might long-term memories be stored in the brain?
6. What brain regions are activated when retrieving memories?

Learning Objective 19 (pp. 223-224): Intelligence, Testing for Intelligence, Understanding Intelligence

1. What are the three main characteristics of intelligence, according to most psychologists?
2. What is psychometrics? What is the focus of the psychometric approach to intelligence?
3. What is the g factor? What are s factors? How is each related to intelligence?
4. What does a score of 100 on an IQ test represent?


1. What does it mean to say that someone is gifted?
2. How is high IQ related to academic achievement, and to mental and physical health?
3. What does it mean to say that someone is intellectually disabled? What are the four categories of intellectual disability?
4. What does it mean to say that someone has a learning disability? Is this different from being intellectually disabled?
5. What are dyslexia, dysphasia, dysgraphia, and dyscalculia?