

Assessment Project: CRIN 550

Part 1: Overview

Course Description:

The key educational goals of psychology are to understand human brain's functions, analyze the effect of social interactions on the brain, describe the utility of psychology as a discipline, and experiment with psychology's core assumptions. The human brain's functions are broken down into several units on the chemistry and biology of the brain's various functions (including memory). The effects of social interactions are covered in units on individual differences, behavior, and disorders. The utility of psychology and the experimentation occurs throughout the yearlong class.

The global objective of psychology is to apply our understanding of the way humans think to the way that we act. The practice of psychology is the practice of self-reflection. A detailed understanding of the human condition gives students the chance to predict how they and others will act when confronted with particular stimuli. Developing our application of psychological processes to everyday life is integral to improving just about every aspect of our lives. Wondering why you forgot someone's name? See the unit on memory. Upset with your parents? Delve into the unit on parenting styles. Frustrated with your younger brother? Check out the unit on adolescence. This direct application of psychology to our everyday lives helps us make sense of the chaotic world we inhabit. So the next time a student is bombarded by a flash mob, he or she will know exactly why it's a) desirable to be in a flash mob and b) surprising to outsiders that the flash mob is happening.

Unit Description:

This unit is intended to cover the psychological process of receiving, encoding, processing, storing, and forgetting memories. It is designed in such a way that the concepts build upon one another to produce a firm understanding of memory for the student. First, we have a general introduction to the way that psychologists think of memory by discussing the various types of memories humans can have. On our second day, we will learn about sensory and working memory systems in more detail. Day three and four will deal with long-term memory. Students generally find this information very interesting because it is directly applicable to the way they live their lives. By attaining an understanding of how we process and retrieve long term memories, students will better appreciate how to maintain accurate long-term memories as well as the deficiencies that are inherent in the average person's long-term memory systems. This unit, while intuitive, is largely new content for students in high school – unlike other classes that can presuppose general content literacy, the task of a psychology class is to transfer students' thinking from the colloquial terminology that we use to describe memory events to more academic vocabulary that psychologists have proven and defined. Therefore, I have chosen to use direct instruction to prime students for psychological thinking in the four major themes outlined above (memory systems, sensory vs. working memory, long-term processing, and long-term retrieval) followed by hands-on activities that lead students to apply these concepts authentically to their own lives.

Intended Learning Outcomes:

1. Characterize the difference between shallow and deep (elaborate) processing and identify other factors that influence encoding.
2. Describe the operation of declarative, nondeclarative, sensory, short-term and working, and long-term memory.
3. Analyze the importance of retrieval cues in memory and explain the role that interference plays in retrieval.
4. Identify the brain structures most important to memory and relate difficulties created by reconstructive memory processes.
5. Describe the strategies for improving memory based on our understanding of memory and compare the processes that lead to inaccuracies in memory.

Assessment Plan:

Pre-Assessments: write a brief response to the warm-up question.

Formative Assessments: throughout this unit I will be using Cloze notes and written responses in worksheets that I create for the lectures and activities. I understand that some teachers would rather have their students simply discuss their thoughts rather than making them be written, but I see a desperate need for writing in this student population. I intend to read and grade their responses using rubrics when indicated. The practical conventions of writing tend to be missing from students' work, so I will guide students towards better writing by conferencing with them briefly when appropriate. The exit tickets are intended to be a series of formative assessments; I will use them to judge where students need reteaching or reinforcement of certain concepts. I have built in a good deal of time in this unit to allow for reinforcement because foreign psychology concepts can sometimes be confusing at first for students.

Summative Assessments: This unit includes two major summative assessments designed to touch on two different sides of Bloom's Taxonomy. First, students will take part in an experiment/activity and then write an essay about their experience. Second, students will take an exam of multiple choice and short answer response items. These complement each other because they reach different ends of the cognitive spectrum and have corresponding questions for students to attack. The end intention is for students to be able to both apply and recall the concepts of the unit; the two major summative assessments help them do just that.

Tables of Specifications:

Test Table of Specifications

Content	KN	CO	AP	AN	SY	EV
Surface and deep processing & factors that influence encoding	Identify 8, 10, 17	Characterize 3, 5				

Operation of sensory, short-term and working, and long-term memory		Describe * 1, 12, 13, 16, 20				
Importance of retrieval cues and interference in retrieval		Explain 9, 15		Analyze * 6, 7, 19		
Brain structures important to memory and reconstructive memory processes	Identify 2, 11					Relate * (Assessed elsewhere summatively)
Improving memory and inaccuracies in memory		Describe 4, 14, 18				Compare 18

“Unit Assessment Plan” Table of Specifications

Content	KN	CO	AP	AN	SY	EV
Surface and deep processing & factors that influence encoding	Identify Cloze	Characterize Cloze				
Operation of sensory, short-term and working, and long-term memory		Describe Cloze				
Importance of retrieval cues and interference in retrieval		Explain Cloze		Analyze Essay Activity		
Brain structures important to memory and reconstructive memory processes	Identify Cloze	Relate Cloze				Relate Essay Activity
Improving memory and inaccuracies in memory		Describe Cloze				Compare Essay Activity

Classroom/School Context:

Phoebus's demographics are 69% black, 28% white, 2% Hispanic, and 1% "other". The vast majority of students are on free or reduced lunch programs. I have a wide variety of classes and therefore also a wide variety of students. Some students are college-bound, others require remedial reading programs, others are scholar-athletes, still others have IEPs and 504 plans. I understand that students may have different backgrounds than myself when they take this test, but the beauty of psychology is that it endeavors to describe the human experience and its content does not discriminate against any group.

Explicit Purpose/Use of Test:

Four hundred years ago, Descartes wrote, “divide each difficulty into as many parts as is feasible and necessary to resolve it.” This is my philosophy when it comes to testing. I have attempted to constantly assess my students throughout the unit to keep the content fresh in their minds, but I see the utility of a summative assessment. It breaks the mass of content into bite-sized questions, so that the students can differentiate among the various concepts. But as Sartre wrote, “As far as men go, it is not what they are that interests me, but what they can become.” Summative assessments are not an end, but a means. I will use this test to help students continue to build the skills that they will need as citizens.

Part 2: Design Elements of the Test

Construct validity:

As far as I can tell in my limited experience as a student teacher, this test mimics the format and content structure of all other valid social studies tests. It has good face validity because it uses a style of writing that the students are used to at Hampton. I mixed in a few questions that they would have seen on the unit test for this class to ensure that the phraseology would not vary too greatly. More deeply, this test also closely follows my ILOs for this unit. As shown above, it hits nearly every single marked block of the table of specifications.

Content validity:

This test is designed to sample efficiently from the ILOs shown above in my table of specification. Every box has at least two items tested. The three categories that I found developed important skills in psychology are highlighted with an asterisk above. They represent my “overtaught” ILOs (overlearning is a psychology concept that states the memory will retain items taught to an extreme). As it stands, I think these will most interest the students, so I have planned to teach them in an authentic manner – with projects, activities, and experiments. If this proves to not be the case, I will adjust the unit accordingly (the benefit of having an elective). At that time, I will also adjust my ILOs and my assessment in response to my change in formal curriculum.

Rationale for choice of test item types:

For the vast majority of my test items, I chose to use multiple-choice (select response) questions. First, I did not want this test to take too long. This is an elective course; it should be fun,

interesting, and engaging. I do not believe tests are any of those things. So, I wanted to limit the amount of time students are “testing.” Second, my school is accredited with warning. The students are literally tested every week in their four core classes. It would not be a stretch to estimate they take a multiple-choice test every single day at school. I sincerely do not like that I will be adding my test to the deluge of multiple-choice testing they have already, but I also believe that this test is valid and will help them remember the content it tests. The multiple-choice questions were aligned to the ILOs that I am going to teach, as were the supply-response questions. I included the supply-response questions because I think they are more authentic assessments of learning. I tried to stay away from direct recall questions in the supply-response because I would prefer to assess students’ essay writing skills than to assess their memorization skills.

Potential threats to reliability:

As mentioned in the directions for this assignment, I had a colleague read through my test. She discovered that the test had a few questions that were cut off by page breaks, so I adjusted that. Unfortunately, the colleague was also a teacher who is a white college graduate, so I am afraid it would be difficult to know if this test violates any cultural validity issues. I tried to use basic vocabulary because many of my students are struggling readers. I also have a philosophical worry with select-response questions’ ability to produce reliable results, but that is also unavoidable in this test situation. I plan to analyze my items using my table of specifications to see if any particular ILOs were totally lost on the students. I will spend far more time focusing on the supply-response questions to absorb my students’ writing ability. I will only have a sample size of one, though, so I cannot compare this test to any other writing exercises the students have done thus far.

Potential for and cautions about predictive validity:

Like any test that is being offered for the first time, it is difficult to precisely extrapolate results into the future. I think that this test will have decent predictive validity for students’ knowledge of the particular content, but not whether other classes will do well on the test or understand the same questions the same way. We know from this unit on memory that how students are “primed” vastly impacts what they will recall and how they will recall it. To argue that on a test by test basis, with unique humans, there can be serious meaningful predictive validity is a stretch in my eyes. What if there is an illness? What if a substitute taught the content incorrectly? What about snow days? What if the football team makes a deep run into the playoffs? What if the student is suddenly homeless (as has happened several times in my classroom)? I know rationally we *can* embrace the concept of predictive validity, but I wonder *should we*? Should we rest our entire educational system on this concept as we do with high stakes testing? Those are my cautions about predictive validity.

Scoring and grading procedures:

I have weighted my multiple-choice questions at two points each, to equal thirty-four points total. The supply response items are ten points each, for a total of thirty. My aim was to make the two roughly equal, so that if a student did not have recognition skills, she/he could make up for

that with essay writing and recall skills. I find the two are of equal importance, but select-response questions require far more to make valid results. My goal is to help students improve with their writing, so I will try to grade without bias against their writing ability. In my experience so far, there is great room for improvement, so I will focus on that rather than putting down what they have produced. Again, cultural bias is difficult to protect against, but I will try to use the obvious methods of hiding students' names and grading them randomly. At first, I will also try to grade my tests twice so that I am fair across the board with them.

Name: _____

Memory Unit Test

Multiple-Choice Questions are worth 2 points each.

1. The storage capacity of long-term memory is best described as
 - a. a single item
 - b. about seven items
 - c. about seven volumes
 - d. limitless(Taken from another test)

2. Which of the following parts of the brain is important to emotional memory?
 - a. hippocampus
 - b. amygdala
 - c. corpus callosum
 - d. cerebellum

3. _____ is a characteristic of deep processing.
 - a. simple repetition of items
 - b. identifying the color of an item
 - c. associating new items with known items
 - d. holding an item in short term memory(Taken from another test)

4. Which of the following processes accurately describes a mnemonic device?
 - a. Grouping memory into chunks of information
 - b. Connecting memory with events in one's life
 - c. Boiling a concept down to its basic principle
 - d. Associating memory with illogical material

5. Which is an accurate characterization of short-term memory?
 - a. short-term memory can hold information indefinitely
 - b. short-term memory contains a large amount of information
 - c. short-term memory can hold about seven items at a time
 - d. short-term memory manipulates visual information(Taken from another test)

6. Interference seems to affect _____ the most.
 - a. memory based on visual images
 - b. long-term memory recall
 - c. short-term and sensory memory
 - d. muscular and motor memory

7. Why is our ability to “forget” information useful?
 - a. to improve the effectiveness of mnemonics
 - b. to protect ourselves from proactive interference
 - c. to sharpen information that is important
 - d. to facilitate our deep processing

8. The first step in placing information into memory storage is
 - a. mnemonic memory
 - b. short-term memory
 - c. sensory memory
 - d. rehearsal

(Taken from another test)

9. Which of the following describes the recency effect?
 - a. the position of an item in working memory
 - b. the tendency to report the last item first when asked
 - c. the process of storing and recalling visual memories
 - d. the inclination to remember a person’s first name

10. Which of these actions *does not* require memory?
 - a. talking
 - b. walking
 - c. breathing
 - d. eating

11. Which brain structures controls procedural memory?
 - a. cerebellum
 - b. hippocampus
 - c. corpus callosum
 - d. pons

12. The storage capacity of working memory is best described as
 - a. 2 items
 - b. 7 items
 - c. 10 chunks
 - d. 12 chunks

13. The tip-of-the-tongue phenomenon can be best described as an instance of
 - a. complete storage failure
 - b. complete retrieval failure
 - c. partial retrieval
 - d. partial storage

(Taken from another test)

14. Which of the following methods can be described as improving memory?
- the fan effect
 - the testing effect
 - massed practice
 - shallow processing
15. What is a possible explanation for the benefits of spaced practice?
- helps with short-term retention
 - is good when coupled with massed practice
 - leads towards sharper details
 - gives a narrower understanding of content
16. The image that persists for about $\frac{1}{2}$ second after being seen is a(n)
- sensation
 - echo
 - icon
 - illusion
- (Taken from another test)
17. Both _____ memories are largely unconscious.
- explicit and procedural
 - explicit and declarative
 - implicit and procedural
 - implicit and declarative
- (Taken from another test)

Rubric for question number 18:

CATEGORY	4	3	2	1
Length ___/4	The letter is 5 or more sentences.	The letter is 4 sentences.	The letter is 3 sentences.	The letter is less than 2 sentences.
Concepts ___/4	Three psychology concepts were presented in a clear and organized fashion. It was easy to figure out what the letter was about.	Two psychology concepts were expressed in a pretty clear manner, but the organization could have been better.	One psychology concept was expressed, but was not very clear. It took more than one reading to figure out what the letter was about.	The letter seemed to be a collection of unrelated sentences. It was very difficult to figure out what the letter was about.
Leveling ___/4	Leveling is described as the story getting progressively shorter as some details are left out.	Leveling is described as the story getting less detailed.	Leveling is described as the story lacking all detail.	Leveling is inaccurately defined.
Sharpening ___/4	Letter describes sharpening as the process of highlighting specific details in memory AND that individuals recall different details.	Letter describes sharpening as the process of highlighting specific details in memory.	Letter describes sharpening as the process of highlighting all details in memory.	Sharpening is inaccurately defined.
False Assumptions ___/4	Letter notes that some details were inaccurate and explains that this is due to differences in individual schemas (false assumptions).	Letter notes that some details were inaccurate.	Letter does not note that some details were inaccurate.	Letter claims story was totally accurate.
Conclusion ___/4	Letter has a logical ending that explains why memory is a construction and not a recording.	Letter has a logical ending that explains why memory is not a recording.	Letter has a logical ending.	Letter has no conclusion.

Rubric for question 19:

5 points	<ul style="list-style-type: none">• Student offers a plausible explanation for why the map may be inaccurate.• Student correctly identifies why a person uses explicit memory in the mapping.• Student correctly identifies why a person uses implicit memory in the mapping.• Student writes using proper grammar and conventions.
4 points	<ul style="list-style-type: none">• Student covers three of the bullet points above.
3 points	<ul style="list-style-type: none">• Student covers two of the bullet points above.
2 points	<ul style="list-style-type: none">• Student covers one of the bullet points above.
1 point	<ul style="list-style-type: none">• Student covers none of the bullet points above.

Rubric for question 20:

5 points	<ul style="list-style-type: none">• Student names the three memory systems in the correct order.• Student describes the capacity of each system.• Student identifies the durability of storage in each system.• Student identifies the format of information in each system.• Student indicates how information is transferred between systems.• Student writes using proper grammar and conventions.
4 points	<ul style="list-style-type: none">• Student covers four of the bullet points above.
3 points	<ul style="list-style-type: none">• Student covers three of the bullet points above.
2 points	<ul style="list-style-type: none">• Student covers two of the bullet points above.
1 point	<ul style="list-style-type: none">• Student covers one or none of the bullet points above.