Chunky Words
Dependent t-test

Name_____Date_____

Studies have shown that we recall facts better when they are chunked together. You will test this idea by giving participants a list of words to recall in 60 seconds, then asking them to make sentences out of the words and to recall another list of words in 60 seconds. You will then examine the differences between the number of correctly recalled words for the random list of words and the "chunked" words.

1. What is your hypothesis?

Step#1: Determine which students will be the participant in the study and which student will be the researcher (who will collect and record the data). The researcher gives the participant the list of words below and asks him/her to take 60 seconds to study and remember the words:

great	clock	cream
dinner	ice	pillow
hammer	peel	word
tree	end	light

After the time is up, take away the list and ask the participant to write down the words. What was their number correct out of twelve? Record the data and repeat this process for as many participants as possible. You may share data with other "researchers" in your class.

Participant	# correctly recalled
1	
2	
3	
4	
5	
6	
7	
8	

Step#2: Recorder gives the participant the list of words below and asks him/her to take 60 seconds to write a couple sentences or short story to help remember the words:

leaf	time	wipe
number	ice	dog
what	roll	boy
toast	black	water

Participant	# correctly recalled
1	
2	
3	
4	
5	
6	
7	
8	

2. Fill in the chart below with the differences in # words recalled

Participant	12 Random words # RECALLED	Chunked words # RECALLED	d = Random - Chunked
1			
2			
3			
4			
5			
6			
7			
8			

3. Write your null and alternative hypothesis.

4. Find the mean difference from the table in #2.

5. Calculate the standard deviation of the differences.

6. Perform a dependent t-test to test your hypothesis at the 10% significance level. State your conclusion.

7. Explain why you would use a dependent t-test instead of an independent t-test.

8. This study examines whether people recall with greater accuracy when information is "chunked" together. Who might be the target population of the study?

9. Discuss your sampling method and how this could impact results. How could you select a random sample from your target population using a better method?

10. Identify other problems with your study.

Print and cut words for the study:

Great	clock	cream
Dinner	ice	pillow
hammer	peel	word
tree	end	light

leaf	time	wipe
number	ice	dog
what	roll	boy
toast	black	water