

	Condition		
	Long words	Short words	Difference
Number of words remembered	4	4	0
	8	5	3
	9	6	3
	6	4	2
	6	5	1
	9	6	3
n	6	6	6
mean	7	5	
stdev	2	0.89442719	1.264911

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	7	5
Variance	4	0.8
Observatio	6	6
Pearson Co	0.894427	
Hypothesiz	0	
df	5	
t Stat	3.872983	
P(T<=t) one	0.005862	
t Critical on	2.015049	
<b>P(T&lt;=t) two</b>	<b>0.011725</b>	
t Critical tw	2.570578	

1. Related samples t-test:

SE 0.516398 stdev(Di)/sqrt(n)

df 5 n-1

t\_stat 3.872983 (m1-m2)/SE

t\_crit(0.05) 2.571

**is t\_stat > t\_crit, for a proba of error of 0.05 (5%)?**

Significant difference? Yes

	Condition	
	Long words	Short words
Number of words remembered	4	4
	8	5
	9	6
	6	4
	6	5
	9	6
n	<hr/>	
mean		
stdev		

2. Independent samples, equal variance

s_pool <sup>2</sup>	$[(n1-1) s1^2 + (n2-1) s2^2]/(n1+n2-2)$
SE	$\sqrt{s\_pool^2 [1/n1 + 1/n2]}$
df	$n1 + n2 - 2$
t_stat	$(m1-m2)/SE$
t_crit(0.05)	
Significant difference?	

	Condition	
	Long words	Short words
Number of words remembered	4	4
	8	5
	9	6
	6	4
	6	5
	9	6
n	6	6
mean	7	5
stdev	2	0.89442719

2. Independent samples, unequal variance

SE  $\sqrt{1/n_1 s_1^2 + 1/n_2 s_2^2}$

df 6.923077  $(s_1^2/n_1 + s_2^2/n_2)^2 / ([s_1^2/n_1]^2/(n_1-1) + [s_2^2/n_2]^2/(n_2-1))$

t\_stat  $(m_1 - m_2) / SE$

t\_crit(0.05)

Significant difference?

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