

EXERCISES USING SPSS

1. T-TEST
 GROUPS=group(1 2)
 /MISSING=ANALYSIS
 /VARIABLES=wpm
 /CRITERIA=CIN(.95) .

T-Test

Group Statistics

	GROUP	N	Mean	Std. Deviation	Std. Error Mean
WPM	1.00	10	410.6000	85.3635	26.9943
	2.00	10	514.2000	75.7889	23.9666

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
WPM	Equal variances assumed	.153	.700
	Equal variances not assumed		

Independent Samples Test

		t-test for Equality of Means			
		t	df	Sig. (2-tailed)	Mean Difference
WPM	Equal variances assumed	-2.870	18	.010	-103.6000
	Equal variances not assumed	-2.870	17.751	.010	-103.6000

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
WPM	Equal variances assumed	36.0983	-179.4398	-27.7602
	Equal variances not assumed	36.0983	-179.5161	-27.6839

Conclusion: Reading speed was significantly greater for the group that attended the speed reading course than for people who did not attend, $t(18) = -2.87, p = .01$.

2. T-TEST

```
PAIRS= noclass WITH class (PAIRED)
/CRITERIA=CIN(.95)
/MISSING=ANALYSIS.
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T-Test

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 NOCLASS	410.6000	10	85.3635	26.9943
CLASS	514.2000	10	75.7889	23.9666

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 NOCLASS & CLASS	10	.428	.217

Paired Samples Test

		Paired Differences					t
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		
					Lower	Upper	
Pair 1	NOCLASS - CLASS	-103.6000	86.5373	27.3655	-165.5051	-41.6949	-3.786

Paired Samples Test

	df	Sig. (2-tailed)
Pair 1 NOCLASS - CLASS	9	.004

For the between-groups design used in Exercise 1, $t = -2.87$, $p = .010$. For the dependent-groups design used in Exercise 2, $t = -3.79$, $p = .004$. The dependent-groups or paired-samples design is more powerful.