

Online Resource 7

Analysis of covariance on overall test performance for study 3 of students that watched a videoclip either with or without any pop-up questions, correcting for exam grades on other lesson content

Online Resource 7. ANCOVA results and descriptive statistics for experimental test scores of groups that watched a video clip on cell signaling either with (experimental group) or without (control group) pop-up questions. The experimental test contained questions on cell signaling and were scored from 0% to 100%. The experimental test scores were adjusted for the second exam grades of the course.

Group	Experimental test score			
	Observed Mean	Adjusted Mean	S.E.	N
Experimental Group	80%	79%	1.17	105
Control Group	74%	75%	1.11	116

Source	SS	df	MS	F	p
Second Exam Grade	14106	1	14106	98.24	<0.001***
Control Group vs Experimental Group	1103	1	1103	7.68	0.006
Error	31302	218	144		

Note. $R^2 = 0.34$, Adj. $R^2 = 0.33$. The adjustments are based on second exam grade = 6.3. Homogeneity of regression was tested and not significant: $F = 0.58$, $p=0.362$ The second exam grade regression coefficient = 5.38***.
*** $p<0.001$