

# 1 Summaries of Parametric Statistics Analysis- for the gains in skill/knowledge estimates in the third empirical study

Table 1: Summary of two-way ANOVA results for the gains in skill/knowledge estimates in the third empirical study

	Sum Sq	Df	F value	Pr(>F)	Sig
Type.(Intercept)	0.026	1	5.277	0.028	
Type.Type	0.029	1	5.837	0.021	*
Type.CLRole	0.044	1	9.001	0.005	**
Type.Type:CLRole	0.003	1	0.711	0.405	
Type.Residuals	0.177	36			

Signif. codes: 0 “\*\*\*” 0.01 “\*” 0.05

Table 2: Descriptive statistics and Tukey post-hoc test results for the gains in skill/knowledge estimates in the third empirical study

	N	mean	lsmean	SE	df	lwr.CI	upr.CI	t.ratio	p.value	p.adj	g	sig	mag
Type.ont-gamified	22	0.023	0.001	0.017	36	-0.033	0.035						
Type.w/o-gamified	18	-0.048	-0.057	0.018	36	-0.093	-0.022						
Type.ont-gamified - w/o-gamified	40	0.071	0.059	0.024		0.026	0.116	2.416	0.021	0.003	0.904	**	large
Type.ont-gamified.Apprentice	16	0.048	0.048	0.018	36	0.013	0.084						
Type.w/o-gamified.Apprentice	12	-0.031	-0.031	0.020	36	-0.072	0.010						
Type.ont-gamified.Apprentice - w/o-gamified.Apprentice	28	0.079	0.079	0.027		0.007	0.151	2.954	0.006	0.027	1.160	*	large
Type.ont-gamified.Master	6	-0.045	-0.045	0.029	36	-0.103	0.013						
Type.w/o-gamified.Master	6	-0.083	-0.083	0.029	36	-0.141	-0.025						
Type.ont-gamified.Master - w/o-gamified.Master	12	0.038	0.038	0.040		-0.071	0.147	0.943	0.352	0.782	0.444		

Signif. codes: 0 ‘\*\*\*’ 0.01 ‘\*’ 0.05