

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

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

	Sum Sq	Df	F value	Pr(>F)	Sig
Type.(Intercept)	0.020	1	5.132	0.031	
Type.Type	0.034	1	8.972	0.005	**
Type.CLRole	0.030	1	7.806	0.009	**
Type.Type:CLRole	0.002	1	0.439	0.512	
Type.Residuals	0.115	30			

Signif. codes: 0 ‘***’ 0.01 ‘**’ 0.05

Table 2: Descriptive statistics and Tukey post-hoc test results for the gains in skills/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	18	0.026	0.009	0.016	30	-0.025	0.042						
Type.w/o-gamified	16	-0.052	-0.061	0.017	30	-0.096	-0.027						
Type.ont-gamified - w/o-gamified	34	0.079	0.070	0.023		0.035	0.122	2.995	0.005	0.001	1.131	**	large
Type.ont-gamified.Apprentice	13	0.049	0.049	0.017	30	0.014	0.084						
Type.w/o-gamified.Apprentice	11	-0.037	-0.037	0.019	30	-0.075	0.002						
Type.ont-gamified.Apprentice - w/o-gamified.Apprentice	24	0.085	0.085	0.025		0.016	0.154	3.364	0.002	0.011	1.563	*	large
Type.ont-gamified.Master	5	-0.032	-0.032	0.028	30	-0.088	0.025						
Type.w/o-gamified.Master	5	-0.086	-0.086	0.028	30	-0.143	-0.030						
Type.ont-gamified.Master - w/o-gamified.Master	10	0.054	0.054	0.039		-0.052	0.161	1.390	0.175	0.515	0.599		

Signif. codes: 0 ‘***’ 0.01 ‘*’ 0.05