

Summary of parametric statistics analysis for the differences of scores in the third empirical study for students with effective participation

Table 1: Summary of two-way ANOVA results for the differences of scores in the third empirical study for students with effective participation

| | Sum Sq | Df | F value | Pr(>F) | Sig |
|------------------|---------|----|---------|--------|-----|
| Type.(Intercept) | 1.938 | 1 | 0.281 | 0.599 | |
| Type.Type | 92.005 | 1 | 13.340 | 0.001 | ** |
| Type.CLRole | 45.461 | 1 | 6.592 | 0.014 | * |
| Type.Type:CLRole | 0.013 | 1 | 0.002 | 0.965 | |
| Type.Residuals | 255.178 | 37 | | | |

Signif. codes: 0 ‘***’ 0.01 ‘**’ 0.05

Table 2: Descriptive statistics and Tukey post-hoc test results for the differences of scores in the third empirical study for students with effective participation

| | N | mean | lsmean | SE | df | lwr.CI | upr.CI | t.ratio | p.value | p.adj | g | sig | mag |
|--|----|--------|--------|-------|----|--------|--------|---------|---------|-------|-------|-----|-------|
| Type.ont-gamified | 23 | 1.821 | 1.383 | 0.595 | 37 | 0.178 | 2.589 | | | | | | |
| Type.w/o-gamified | 18 | -1.467 | -1.853 | 0.657 | 37 | -3.183 | -0.523 | | | | | | |
| Type.ont-gamified - w/o-gamified | 41 | 3.288 | 3.236 | 0.886 | | 1.614 | 4.963 | 3.652 | 0.001 | 0.000 | 1.161 | ** | large |
| Type.ont-gamified.Apprentice | 16 | 2.501 | 2.501 | 0.657 | 37 | 1.171 | 3.832 | | | | | | |
| Type.w/o-gamified.Apprentice | 12 | -0.696 | -0.696 | 0.758 | 37 | -2.232 | 0.840 | | | | | | |
| Type.ont-gamified.Apprentice - w/o-gamified.Apprentice | 28 | 3.197 | 3.197 | 1.003 | | 0.500 | 5.895 | 3.188 | 0.003 | 0.015 | 1.114 | * | large |
| Type.ont-gamified.Master | 7 | 0.265 | 0.265 | 0.993 | 37 | -1.746 | 2.277 | | | | | | |
| Type.w/o-gamified.Master | 6 | -3.010 | -3.010 | 1.072 | 37 | -5.182 | -0.838 | | | | | | |
| Type.ont-gamified.Master - w/o-gamified.Master | 13 | 3.275 | 3.275 | 1.461 | | -0.655 | 7.205 | 2.242 | 0.031 | 0.131 | 1.385 | | |