## Summary of parametric statistics analysis for the differences of scores in the second empirical study for signed-up students

Table 1: Summary of two-way ANOVA results for the differences of scores in the second empirical study for signed-up students

|                  | Sum Sq  | Df | F value | Pr(>F) | Sig |
|------------------|---------|----|---------|--------|-----|
| Type.(Intercept) | 86.838  | 1  | 24.758  | 0.000  |     |
| Type.Type        | 1.995   | 1  | 0.569   | 0.455  |     |
| Type.CLRole      | 14.418  | 1  | 4.111   | 0.049  | *   |
| Type.Type:CLRole | 0.976   | 1  | 0.278   | 0.601  |     |
| Type.Residuals   | 154.327 | 44 |         |        |     |

Signif. codes: 0 "\*\*" 0.01 "\*" 0.05

Table 2: Descriptive statistics and Tukey post-hoc test results for the differences of scores in the second empirical study for signed-up students

|   | N  | mean  | lsmean | SE    | df | lwr.CI | upr.CI | t.ratio | p.value | p.ajd | g     | sig | mag |
|---|----|-------|--------|-------|----|--------|--------|---------|---------|-------|-------|-----|-----|
| Type.non-gamified                                       | 29 | 1.998 | 1.788  | 0.389 | 44 | 1.004  | 2.572  |         |         |       |       |     |     |
| Type.ont-gamified                                       | 19 | 1.695 | 1.317  | 0.488 | 44 | 0.334  | 2.300  |         |         |       |       |     |     |
| Type.non-gamified - ont-gamified                        | 48 | 0.303 | 0.471  | 0.624 |    | -0.811 | 1.417  | 0.754   | 0.455   | 0.587 | 0.155 |     |     |
| Type.non-gamified.Apprentice                            | 21 | 2.256 | 2.256  | 0.409 | 44 | 1.432  | 3.079  |         |         |       |       |     |     |
| Type.ont-gamified.Apprentice                            | 14 | 2.114 | 2.114  | 0.501 | 44 | 1.106  | 3.123  |         |         |       |       |     |     |
| Type.non-gamified.Apprentice - ont-gamified.Apprentice  | 35 | 0.141 | 0.141  | 0.646 |    | -1.584 | 1.867  | 0.219   | 0.828   | 0.996 | 0.071 |     |     |
| Type.non-gamified.Master                                | 8  | 1.320 | 1.320  | 0.662 | 44 | -0.015 | 2.654  |         |         |       |       |     |     |
| Type.ont-gamified.Master                                | 5  | 0.520 | 0.520  | 0.838 | 44 | -1.168 | 2.208  |         |         |       |       |     |     |
| ${\bf Type. non-gamified. Master-ont-gamified. Master}$ | 13 | 0.800 | 0.800  | 1.068 |    | -2.051 | 3.650  | 0.749   | 0.458   | 0.877 | 0.445 |     |     |