Statistical Analysis in the second study for signed-up students

Table 1: Two-way ANOVA and Scheirer-Ray-Hare in the second study for signed-up students

	Sum Sq	Df	F value	Pr(>F)	Sig	Df	Sum Sq	H	p.value	Sig
difScore.(Intercept)	86.838	1	24.758	0.000						
difScore.Type	1.995	1	0.569	0.455		1	13.612	0.069	0.792	
difScore.CLRole	14.418	1	4.111	0.049	*	1	703.592	3.590	0.058	
difScore.Type:CLRole	0.976	1	0.278	0.601		1	48.644	0.248	0.618	
difScore.Residuals	154.327	44				44	8446.152			

Signif. codes: 0 “**” 0.01 “*” 0.05

Table 2: Summary of Pair wilcoxon in the second study for signed-up students

1 Assumptions for Parametric Tests

Table 3: Univariate normality test in the second study for signed-up students

	normality.fail	W	p.value
difScore	FALSE	0.99	0.95

Table 4: Notes to be taken into account about sample size in the second study for signed-up students

	code	description
difScore.Type.1	WARN: sample.size	current size is 14 and recommended size is 15 for the group: 'ont-gamified:Apprentice'.
difScore.Type.2	WARN: sample.size	current size is 8 and recommended size is 15 for the group: 'non-gamified:Master'.
difScore.Type.3	WARN: sample.size	current size is 5 and recommended size is 15 for the group: 'ont-gamified:Master'.

Recent studies carried out through simulations have indicated that ANOVA is reliable even when the data are non-normally distributed and the sample size is greater thatn 15 observations for each group. This size value is based on the Reference: Rana, R. K., Singhal, R., & Dua, P. (2016). Deciphering the dilemma of parametric and nonparametric tests. Journal of the Practice of Cardiovascular Sciences, 2(2), 95.

The sample size to carried out any parametric and non-parametric analysis is 5, and it was established using common sense. The warning and fails indicated in this section should be taking into account when a paper or report will be elaborated.