Summary of nonparametric statistics analysis for the scores of Effort/Importance in the first study for students with effective participation

Table 1: Summary of Scheirer-Ray-Hare results for the scores of Effort/Importance in the first study for students with effective participation

	Df	Sum Sq	H	p.value	Sig
Type					
Type:Type	1	438.193	2.263	0.132	
Type:CLRole	1	623.521	3.221	0.073	
Type:Type:CLRole	1	312.872	1.616	0.204	
Type:Residuals	44	7724.414			

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

Table 2: Descriptive statistic of the pair wilcoxon analysis for the scores of Effort/Importance in the first study for students with effective participation

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.greater.1	non-gamified.Apprentice	10	5.83	13.30	133	78	2.13	0.017	0.476	medium
Type:CLRole.greater.2	non-gamified.Master	10	4.50	7.70	77	78	2.13	0.017	0.476	medium
Type:CLRole.two.sided.1	non-gamified.Apprentice	10	5.83	13.30	133	78	2.13	0.035	0.476	medium
Type:CLRole.two.sided.2	non-gamified.Master	10	4.50	7.70	77	78	2.13	0.035	0.476	medium
Type:CLRole.less.1	non-gamified.Master	10	4.50	8.40	84	29	−2.42	0.007	0.493	medium
Type:CLRole.less.2	ont-gamified.Apprentice	14	6.00	15.43	216	29	−2.42	0.007	0.493	medium
Type:CLRole.two.sided.11	non-gamified.Master	10	4.50	8.40	84	29	−2.42	0.014	0.493	medium
Type:CLRole.two.sided.21	ont-gamified.Apprentice	14	6.00	15.43	216	29	−2.42	0.014	0.493	medium
Type:CLRole.less.11	non-gamified.Master	10	4.50	9.20	92	37	−1.94	0.026	0.396	medium
Type:CLRole.less.21	ont-gamified.Master	14	6.00	14.86	208	37	−1.94	0.026	0.396	medium

Table 3: Full descriptive statistic of the pair wilcoxon analysis for the scores of Effort/Importance in the first study for students with effective participation

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	non-gamified	20	5.33	20.93	418.5	208.5	−1.50	0.067	0.217	small
Type.less.2	ont-gamified	28	6.00	27.05	757.5	208.5	−1.50	0.067	0.217	small
Type.greater.1	non-gamified	20	5.33	20.93	418.5	208.5	−1.50	0.934	0.217	small
Type.greater.2	ont-gamified	28	6.00	27.05	757.5	208.5	−1.50	0.934	0.217	small
Type.two.sided.1	non-gamified	20	5.33	20.93	418.5	208.5	−1.50	0.135	0.217	small
Type.two.sided.2	ont-gamified	28	6.00	27.05	757.5	208.5	−1.50	0.135	0.217	small
Type:CLRole.less.1	non-gamified.Apprentice	10	5.83	13.30	133.0	78.0	2.13	0.985	0.476	medium
Type:CLRole.less.2	non-gamified.Master	10	4.50	7.70	77.0	78.0	2.13	0.985	0.476	medium
Type:CLRole.greater.1	non-gamified.Apprentice	10	5.83	13.30	133.0	78.0	2.13	0.017	0.476	medium
Type:CLRole.greater.2	non-gamified.Master	10	4.50	7.70	77.0	78.0	2.13	0.017	0.476	medium
Type:CLRole.two.sided.1	non-gamified.Apprentice	10	5.83	13.30	133.0	78.0	2.13	0.035	0.476	medium
Type:CLRole.two.sided.2	non-gamified.Master	10	4.50	7.70	77.0	78.0	2.13	0.035	0.476	medium
Type:CLRole.less.11	non-gamified.Apprentice	10	5.83	12.15	121.5	66.5	−0.21	0.426	0.042	none
Type:CLRole.less.21	ont-gamified.Apprentice	14	6.00	12.75	178.5	66.5	−0.21	0.426	0.042	none
Type:CLRole.greater.11	non-gamified.Apprentice	10	5.83	12.15	121.5	66.5	−0.21	0.589	0.042	none
Type:CLRole.greater.21	ont-gamified.Apprentice	14	6.00	12.75	178.5	66.5	−0.21	0.589	0.042	none
Type:CLRole.two.sided.11	non-gamified.Apprentice	10	5.83	12.15	121.5	66.5	−0.21	0.847	0.042	none
Type:CLRole.two.sided.21	ont-gamified.Apprentice	14	6.00	12.75	178.5	66.5	−0.21	0.847	0.042	none
Type:CLRole.less.12	non-gamified.Apprentice	10	5.83	13.10	131.0	76.0	0.35	0.643	0.072	none
Type:CLRole.less.22	ont-gamified.Master	14	6.00	12.07	169.0	76.0	0.35	0.643	0.072	none
Type:CLRole.greater.12	non-gamified.Apprentice	10	5.83	13.10	131.0	76.0	0.35	0.370	0.072	none
Type:CLRole.greater.22	ont-gamified.Master	14	6.00	12.07	169.0	76.0	0.35	0.370	0.072	none
Type:CLRole.two.sided.12	non-gamified.Apprentice	10	5.83	13.10	131.0	76.0	0.35	0.743	0.072	none
Type:CLRole.two.sided.22	ont-gamified.Master	14	6.00	12.07	169.0	76.0	0.35	0.743	0.072	none
Type:CLRole.less.13	non-gamified.Master	10	4.50	8.40	84.0	29.0	−2.42	0.007	0.493	medium
Type:CLRole.less.23	ont-gamified.Apprentice	14	6.00	15.43	216.0	29.0	−2.42	0.007	0.493	medium
Type:CLRole.greater.13	non-gamified.Master	10	4.50	8.40	84.0	29.0	−2.42	0.993	0.493	medium
Type:CLRole.greater.23	ont-gamified.Apprentice	14	6.00	15.43	216.0	29.0	−2.42	0.993	0.493	medium
Type:CLRole.two.sided.13	non-gamified.Master	10	4.50	8.40	84.0	29.0	−2.42	0.014	0.493	medium
Type:CLRole.two.sided.23	ont-gamified.Apprentice	14	6.00	15.43	216.0	29.0	−2.42	0.014	0.493	medium
Type:CLRole.less.14	non-gamified.Master	10	4.50	9.20	92.0	37.0	−1.94	0.026	0.396	medium
Type:CLRole.less.24	ont-gamified.Master	14	6.00	14.86	208.0	37.0	−1.94	0.026	0.396	medium
Type:CLRole.greater.14	non-gamified.Master	10	4.50	9.20	92.0	37.0	−1.94	0.975	0.396	medium
Type:CLRole.greater.24	ont-gamified.Master	14	6.00	14.86	208.0	37.0	−1.94	0.975	0.396	medium
Type:CLRole.two.sided.14	non-gamified.Master	10	4.50	9.20	92.0	37.0	−1.94	0.053	0.396	medium
Type:CLRole.two.sided.24	ont-gamified.Master	14	6.00	14.86	208.0	37.0	−1.94	0.053	0.396	medium
Type:CLRole.less.15	ont-gamified.Apprentice	14	6.00	15.32	214.5	109.5	0.53	0.705	0.101	small
Type:CLRole.less.25	ont-gamified.Master	14	6.00	13.68	191.5	109.5	0.53	0.705	0.101	small
Type:CLRole.greater.15	ont-gamified.Apprentice	14	6.00	15.32	214.5	109.5	0.53	0.304	0.101	small
Type:CLRole.greater.25	ont-gamified.Master	14	6.00	13.68	191.5	109.5	0.53	0.304	0.101	small

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.two.sided.15	ont-gamified.Apprentice	14	6.00	15.32	214.5	109.5	0.53	0.607	0.101	small
Type:CLRole.two.sided.25	ont-gamified.Master	14	6.00	13.68	191.5	109.5	0.53	0.607	0.101	small