Summary of nonparametric statistics analysis for the latent trait estimates of Interest/Enjoyment in the third study for students with effective participation

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Table 1: Summary of Scheirer-Ray-Hare results for the latent trait estimates of Interest/Enjoyment in the third study for students with effective participation

	Df	Sum Sq	H	p.value	Sig
Type					
Type:Type	1	6.035	0.039	0.844	
Type:CLRole	1	288.400	1.844	0.175	
Type:Type:CLRole	1	363.625	2.325	0.127	
Type:Residuals	39	5911.439			

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

Table 2: Descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Interest/Enjoyment in the third study for students with effective participation

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.less.1	ont-gamified.Apprentice	15	0.31	10.53	158	38	−1.78	0.039	0.362	medium
Type:CLRole.less.2	ont-gamified.Master	9	0.51	15.78	142	38	−1.78	0.039	0.362	medium

Table 3: Full descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Interest/Enjoyment in the third study for students with effective participation

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	ont-gamified	24	0.51	21.67	520.0	220.0	−0.20	0.425	0.030	none
Type.less.2	w/o-gamified	19	0.31	22.42	426.0	220.0	−0.20	0.425	0.030	none
Type.greater.1	ont-gamified	24	0.51	21.67	520.0	220.0	−0.20	0.579	0.030	none
Type.greater.2	w/o-gamified	19	0.31	22.42	426.0	220.0	−0.20	0.579	0.030	none
Type.two.sided.1	ont-gamified	24	0.51	21.67	520.0	220.0	−0.20	0.851	0.030	none
Type.two.sided.2	w/o-gamified	19	0.31	22.42	426.0	220.0	−0.20	0.851	0.030	none
Type:CLRole.less.1	ont-gamified.Apprentice	15	0.31	10.53	158.0	38.0	−1.78	0.039	0.362	medium
Type:CLRole.less.2	ont-gamified.Master	9	0.51	15.78	142.0	38.0	−1.78	0.039	0.362	medium
Type:CLRole.greater.1	ont-gamified.Apprentice	15	0.31	10.53	158.0	38.0	−1.78	0.963	0.362	medium
Type:CLRole.greater.2	ont-gamified.Master	9	0.51	15.78	142.0	38.0	−1.78	0.963	0.362	medium
Type:CLRole.two.sided.1	ont-gamified.Apprentice	15	0.31	10.53	158.0	38.0	−1.78	0.078	0.362	medium
Type:CLRole.two.sided.2	ont-gamified.Master	9	0.51	15.78	142.0	38.0	−1.78	0.078	0.362	medium
Type:CLRole.less.11	ont-gamified.Apprentice	15	0.31	12.77	191.5	71.5	−1.20	0.119	0.227	small
Type:CLRole.less.21	w/o-gamified.Apprentice	13	0.31	16.50	214.5	71.5	−1.20	0.119	0.227	small
Type:CLRole.greater.11	ont-gamified.Apprentice	15	0.31	12.77	191.5	71.5	−1.20	0.886	0.227	small
Type:CLRole.greater.21	w/o-gamified.Apprentice	13	0.31	16.50	214.5	71.5	−1.20	0.886	0.227	small
Type:CLRole.two.sided.11	ont-gamified.Apprentice	15	0.31	12.77	191.5	71.5	−1.20	0.238	0.227	small
Type:CLRole.two.sided.21	w/o-gamified.Apprentice	13	0.31	16.50	214.5	71.5	−1.20	0.238	0.227	small
Type:CLRole.less.12	ont-gamified.Apprentice	15	0.31	10.37	155.5	35.5	−0.74	0.240	0.162	small
Type:CLRole.less.22	w/o-gamified.Master	6	0.52	12.58	75.5	35.5	−0.74	0.240	0.162	small
Type:CLRole.greater.12	ont-gamified.Apprentice	15	0.31	10.37	155.5	35.5	−0.74	0.771	0.162	small
Type:CLRole.greater.22	w/o-gamified.Master	6	0.52	12.58	75.5	35.5	−0.74	0.771	0.162	small
Type:CLRole.two.sided.12	ont-gamified.Apprentice	15	0.31	10.37	155.5	35.5	−0.74	0.480	0.162	small
Type:CLRole.two.sided.22	w/o-gamified.Master	6	0.52	12.58	75.5	35.5	−0.74	0.480	0.162	small
Type:CLRole.less.13	ont-gamified.Master	9	0.51	13.44	121.0	76.0	1.17	0.880	0.250	small
Type:CLRole.less.23	w/o-gamified.Apprentice	13	0.31	10.15	132.0	76.0	1.17	0.880	0.250	small
Type:CLRole.greater.13	ont-gamified.Master	9	0.51	13.44	121.0	76.0	1.17	0.127	0.250	small
Type:CLRole.greater.23	w/o-gamified.Apprentice	13	0.31	10.15	132.0	76.0	1.17	0.127	0.250	small
Type:CLRole.two.sided.13	ont-gamified.Master	9	0.51	13.44	121.0	76.0	1.17	0.253	0.250	small
Type:CLRole.two.sided.23	w/o-gamified.Apprentice	13	0.31	10.15	132.0	76.0	1.17	0.253	0.250	small
Type:CLRole.less.14	ont-gamified.Master	9	0.51	9.11	82.0	37.0	1.18	0.885	0.306	medium
Type:CLRole.less.24	w/o-gamified.Master	6	0.52	6.33	38.0	37.0	1.18	0.885	0.306	medium
Type:CLRole.greater.14	ont-gamified.Master	9	0.51	9.11	82.0	37.0	1.18	0.129	0.306	medium
Type:CLRole.greater.24	w/o-gamified.Master	6	0.52	6.33	38.0	37.0	1.18	0.129	0.306	medium
Type:CLRole.two.sided.14	ont-gamified.Master	9	0.51	9.11	82.0	37.0	1.18	0.256	0.306	medium
Type:CLRole.two.sided.24	w/o-gamified.Master	6	0.52	6.33	38.0	37.0	1.18	0.256	0.306	medium
Type:CLRole.less.15	w/o-gamified.Apprentice	13	0.31	10.31	134.0	43.0	0.35	0.642	0.081	none
Type:CLRole.less.25	w/o-gamified.Master	6	0.52	9.33	56.0	43.0	0.35	0.642	0.081	none
Type:CLRole.greater.15	w/o-gamified.Apprentice	13	0.31	10.31	134.0	43.0	0.35	0.375	0.081	none
Type:CLRole.greater.25	w/o-gamified.Master	6	0.52	9.33	56.0	43.0	0.35	0.375	0.081	none

Table 3: *(continued)*

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.two.sided.15	w/o-gamified.Apprentice	13	0.31	10.31	134.0	43.0	0.35	0.749	0.081	none
Type:CLRole.two.sided.25	w/o-gamified.Master	6	0.52	9.33	56.0	43.0	0.35	0.749	0.081	none