

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

	Df	Sum Sq	H	p.value	Sig
Type					
Type:Type	1	90.054	2.347	0.126	
Type:CLRole	1	7.058	0.184	0.668	
Type:Type:CLRole	1	37.501	0.977	0.323	
Type:Residuals	17	632.888			

Signif. codes: 0 “\*\*\*” 0.01 “\*\*” 0.05

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

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type.less.1	non-gamified	7	-0.11	8.07	56.5	28.5	-1.53	0.066	0.334	medium
Type.less.2	ont-gamified	14	0.48	12.46	174.5	28.5	-1.53	0.066	0.334	medium
Type.greater.1	non-gamified	7	-0.11	8.07	56.5	28.5	-1.53	0.938	0.334	medium
Type.greater.2	ont-gamified	14	0.48	12.46	174.5	28.5	-1.53	0.938	0.334	medium
Type.two.sided.1	non-gamified	7	-0.11	8.07	56.5	28.5	-1.53	0.132	0.334	medium
Type.two.sided.2	ont-gamified	14	0.48	12.46	174.5	28.5	-1.53	0.132	0.334	medium
Type:CLRole.less.1	non-gamified.Apprentice	5	0.40	4.20	21.0	6.0	0.39	0.714	0.146	small
Type:CLRole.less.2	non-gamified.Master	2	-0.37	3.50	7.0	6.0	0.39	0.714	0.146	small
Type:CLRole.greater.1	non-gamified.Apprentice	5	0.40	4.20	21.0	6.0	0.39	0.429	0.146	small
Type:CLRole.greater.2	non-gamified.Master	2	-0.37	3.50	7.0	6.0	0.39	0.429	0.146	small
Type:CLRole.two.sided.1	non-gamified.Apprentice	5	0.40	4.20	21.0	6.0	0.39	0.857	0.146	small
Type:CLRole.two.sided.2	non-gamified.Master	2	-0.37	3.50	7.0	6.0	0.39	0.857	0.146	small
Type:CLRole.less.11	non-gamified.Apprentice	5	0.40	6.60	33.0	18.0	-0.86	0.219	0.222	small
Type:CLRole.less.21	ont-gamified.Apprentice	10	0.40	8.70	87.0	18.0	-0.86	0.219	0.222	small
Type:CLRole.greater.11	non-gamified.Apprentice	5	0.40	6.60	33.0	18.0	-0.86	0.815	0.222	small
Type:CLRole.greater.21	ont-gamified.Apprentice	10	0.40	8.70	87.0	18.0	-0.86	0.815	0.222	small
Type:CLRole.two.sided.11	non-gamified.Apprentice	5	0.40	6.60	33.0	18.0	-0.86	0.437	0.222	small
Type:CLRole.two.sided.21	ont-gamified.Apprentice	10	0.40	8.70	87.0	18.0	-0.86	0.437	0.222	small
Type:CLRole.less.12	non-gamified.Apprentice	5	0.40	4.10	20.5	5.5	-1.11	0.151	0.369	medium
Type:CLRole.less.22	ont-gamified.Master	4	1.15	6.12	24.5	5.5	-1.11	0.151	0.369	medium
Type:CLRole.greater.12	non-gamified.Apprentice	5	0.40	4.10	20.5	5.5	-1.11	0.865	0.369	medium
Type:CLRole.greater.22	ont-gamified.Master	4	1.15	6.12	24.5	5.5	-1.11	0.865	0.369	medium
Type:CLRole.two.sided.12	non-gamified.Apprentice	5	0.40	4.10	20.5	5.5	-1.11	0.317	0.369	medium
Type:CLRole.two.sided.22	ont-gamified.Master	4	1.15	6.12	24.5	5.5	-1.11	0.317	0.369	medium
Type:CLRole.less.13	non-gamified.Master	2	-0.37	4.00	8.0	5.0	-1.08	0.182	0.311	medium
Type:CLRole.less.23	ont-gamified.Apprentice	10	0.40	7.00	70.0	5.0	-1.08	0.182	0.311	medium
Type:CLRole.greater.13	non-gamified.Master	2	-0.37	4.00	8.0	5.0	-1.08	0.864	0.311	medium
Type:CLRole.greater.23	ont-gamified.Apprentice	10	0.40	7.00	70.0	5.0	-1.08	0.864	0.311	medium
Type:CLRole.two.sided.13	non-gamified.Master	2	-0.37	4.00	8.0	5.0	-1.08	0.364	0.311	medium
Type:CLRole.two.sided.23	ont-gamified.Apprentice	10	0.40	7.00	70.0	5.0	-1.08	0.364	0.311	medium
Type:CLRole.less.14	non-gamified.Master	2	-0.37	1.50	3.0	0.0	-1.85	0.067	0.756	large
Type:CLRole.less.24	ont-gamified.Master	4	1.15	4.50	18.0	0.0	-1.85	0.067	0.756	large
Type:CLRole.greater.14	non-gamified.Master	2	-0.37	1.50	3.0	0.0	-1.85	1.000	0.756	large
Type:CLRole.greater.24	ont-gamified.Master	4	1.15	4.50	18.0	0.0	-1.85	1.000	0.756	large
Type:CLRole.two.sided.14	non-gamified.Master	2	-0.37	1.50	3.0	0.0	-1.85	0.133	0.756	large
Type:CLRole.two.sided.24	ont-gamified.Master	4	1.15	4.50	18.0	0.0	-1.85	0.133	0.756	large
Type:CLRole.less.15	ont-gamified.Apprentice	10	0.40	6.80	68.0	13.0	-0.99	0.177	0.265	small
Type:CLRole.less.25	ont-gamified.Master	4	1.15	9.25	37.0	13.0	-0.99	0.177	0.265	small
Type:CLRole.greater.15	ont-gamified.Apprentice	10	0.40	6.80	68.0	13.0	-0.99	0.839	0.265	small
Type:CLRole.greater.25	ont-gamified.Master	4	1.15	9.25	37.0	13.0	-0.99	0.839	0.265	small

Table 2: *(continued)*

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.value	r	magnitude
Type:CLRole.two.sided.15	ont-gamified.Apprentice	10	0.40	6.80	68.0	13.0	−0.99	0.357	0.265	small
Type:CLRole.two.sided.25	ont-gamified.Master	4	1.15	9.25	37.0	13.0	−0.99	0.357	0.265	small