Summary of nonparametric statistics analysis for the latent trait estimates of Attention in the second study for students with effective participation

October 1, 2018

Table 1: Summary of Scheirer-Ray-Hare results for the latent trait estimates of Attention in the second study for students with effective participation

	Df	Sum Sq	Н	p.value	Sig
Type					
Type:Type	1	425.506	1.933	0.164	
Type:CLRole	1	4.153	0.019	0.891	
Type:Type:CLRole	1	255.507	1.161	0.281	
Type:Residuals	47	10321.834			

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

Table 2: Full descriptive statistic of the pair wilcoxon analysis for the latent trait estimates of Attention in the second study for students with effective participation

Type.less.1		Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z p.v	alue	r ma	agnitude
Type: Granter	Type.less.1	non-gamified	30	-0.22	23.58	707.5	242.5	-1.39	0.084	0.195	small
Type: greater 2	Type.less.2	ont-gamified	21	0.37	29.45	618.5	242.5	-1.39	0.084	0.195	small
Type:two.sided.1 non-gamified 30 -0.22 23.58 707.5 242.5 -1.39 0.167 0.195 small Type:tCLRole.less.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.280 0.110 small Type:CLRole.less.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.280 0.110 small Type:CLRole.less.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.280 0.110 small Type:CLRole.less.1 non-gamified.Master 11 0.16 16.77 184.5 90.5 -0.60 0.559 0.110 small Type:CLRole.less.12 non-gamified.Master 1 0.16 16.77 184.5 90.5 -0.60 0.559 0.110 small Type:CLRole.less.21 ont-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289	Type.greater.1	non-gamified	30	-0.22	23.58	707.5	242.5	-1.39	0.918	0.195	small
Type:CLRole.less.1	Type.greater.2	ont-gamified	21	0.37	29.45	618.5	242.5	-1.39	0.918	0.195	small
Type:CLRole.less.1	Type.two.sided.1	non-gamified	30	-0.22	23.58	707.5	242.5	-1.39	0.167	0.195	small
Type:CLRole.greater.1 non-gamified.Master 11 0.16 16.77 184.5 90.5 -0.60 0.280 0.110 small Type:CLRole.greater.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.727 0.110 small Type:CLRole.two.sided.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.727 0.110 small Type:CLRole.two.sided.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.559 0.110 small Type:CLRole.less.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.greater.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.greater.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 <t< td=""><td>Type.two.sided.2</td><td>ont-gamified</td><td>21</td><td>0.37</td><td>29.45</td><td>618.5</td><td>242.5</td><td>-1.39</td><td>0.167</td><td>0.195</td><td>$_{ m small}$</td></t<>	Type.two.sided.2	ont-gamified	21	0.37	29.45	618.5	242.5	-1.39	0.167	0.195	$_{ m small}$
Type:CLRole.greater.1 non-gamified Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.727 0.110 small Type:CLRole.greater.2 non-gamified.Master 11 0.16 16.77 184.5 90.5 -0.60 0.727 0.110 small Type:CLRole.two.sided.1 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.559 0.110 small Type:CLRole.less.11 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.559 0.110 small Type:CLRole.less.21 ont-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.two.sided.11 non-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.12 ont-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64	Type:CLRole.less.1	non-gamified.Apprentice	19	-0.56	14.76	280.5	90.5	-0.60	0.280	0.110	small
Type:CLRole.two.sided.1 non-gamified.Master 11 0.16 16.77 184.5 90.5 -0.60 0.727 0.110 small Type:CLRole.two.sided.2 non-gamified.Apprentice 19 -0.56 14.76 280.5 90.5 -0.60 0.559 0.110 small Type:CLRole.two.sided.2 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.greater.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.greater.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.greater.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67	Type:CLRole.less.2	non-gamified.Master	11	0.16	16.77	184.5	90.5	-0.60	0.280	0.110	$_{ m small}$
Type:CLRole.two.sided.1 non-gamified.Apprentice on non-gamified.Master 11 0.16 14.76 280.5 90.5 -0.60 0.559 0.110 small small small small small processes. Type:CLRole.less.11 non-gamified.Apprentice ont-gamified.Apprentice ont-gamified.Appr	Type:CLRole.greater.1	non-gamified.Apprentice	19	-0.56	14.76	280.5	90.5		0.727	0.110	$_{ m small}$
Type:CLRole.less.11 non-gamified.Master 11 0.16 16.77 184.5 90.5 -0.60 0.559 0.110 small Type:CLRole.less.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.less.21 ont-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.greater.12 non-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.105 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.less.12 non-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 <td>Type:CLRole.greater.2</td> <td>non-gamified.Master</td> <td>11</td> <td>0.16</td> <td>16.77</td> <td>184.5</td> <td>90.5</td> <td>-0.60</td> <td>0.727</td> <td>0.110</td> <td>$_{ m small}$</td>	Type:CLRole.greater.2	non-gamified.Master	11	0.16	16.77	184.5	90.5	-0.60	0.727	0.110	$_{ m small}$
Type:CLRole.less.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.052 0.289 small Type:CLRole.less.21 ont-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.052 0.289 small Type:CLRole.greater.21 non-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.21 ont-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.105 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.greater.12 ont-gamified.Apprentice 8 -0.04 15.56 124.5 63.5 -0.67	Type:CLRole.two.sided.1	non-gamified.Apprentice	19	-0.56	14.76	280.5	90.5	-0.60	0.559	0.110	$_{ m small}$
Type:CLRole.less.21 ont-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.052 0.289 small Type:CLRole.greater.21 non-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.105 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.less.22 non-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.22 non-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67							90.5				
Type:CLRole.greater.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.greater.21 ont-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.950 0.289 small Type:CLRole.less.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.less.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.less.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67	Type:CLRole.less.11	non-gamified.Apprentice	19	-0.56	14.26	271.0	81.0	-1.64	0.052	0.289	$_{ m small}$
Type:CLRole.greater.21 ont-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.950 0.289 small Type:CLRole.two.sided.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.105 0.289 small Type:CLRole.two.sided.21 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.less.22 ont-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.less.22 ont-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.12 ont-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.23 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
Type:CLRole.two.sided.11 non-gamified.Apprentice 19 -0.56 14.26 271.0 81.0 -1.64 0.105 0.289 small Type:CLRole.two.sided.21 ont-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.105 0.289 small Type:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.greater.12 ont-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.13 non-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67					14.26	271.0					
Type:CLRole.two.sided.21 ont-gamified.Apprentice 13 0.37 19.77 257.0 81.0 -1.64 0.105 0.289 small Type:CLRole.less.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small Type:CLRole.greater.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.22 ont-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small Type:CLRole.less.13 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.522 0.128 small Type:CLRole.less.13 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148	Type:CLRole.greater.21	ont-gamified.Apprentice	13	0.37	19.77	257.0	81.0	-1.64	0.950	0.289	$_{ m small}$
Type:CLRole.less.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.261 0.128 small rype:CLRole.less.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.261 0.128 small rype:CLRole.greater.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small rype:CLRole.greater.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small rype:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small rype:CLRole.two.sided.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.522 0.128 small rype:CLRole.two.sided.22 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small rype:CLRole.greater.13 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small rype:CLRole.greater.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small rype:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small rype:CLRole.two.sided.13 non-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small rype:CLRole.two.sided.23 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small rype:CLRole.two.sided.23 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small rype:CLRole.two.sided.23 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small rype:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none rype:CLRole.greater.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none rype:CLRole.greater.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none rype:CLRole.greater.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none rype:CLRole.greater.15 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none rype:CLRole.less.15 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none rype:CLRole.less.15 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small rype:CLRole.less.25 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small rype:CLRole.less.25 ont-gam	Type:CLRole.two.sided.11	non-gamified.Apprentice	19	-0.56	14.26	271.0	81.0	-1.64	0.105	0.289	$_{ m small}$
Type:CLRole.less.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.261 0.128 small Type:CLRole.greater.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.12 non-gamified.Master 8 -0.056 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.22 ont-gamified.Master 8 -0.056 13.34 253.5 63.5 -0.67 0.752 0.128 small Type:CLRole.two.sided.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.522 0.128 small Type:CLRole.less.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small Type:CLRole.less.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small Type:CLRole.greater.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.two.sided.24 non-gamified.Master 11 0.16 10.99 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 non-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.tss.25 ont-	Type:CLRole.two.sided.21	ont-gamified.Apprentice	13	0.37	19.77	257.0	81.0	-1.64	0.105	0.289	$_{ m small}$
Type:CLRole.greater.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.747 0.128 small Type:CLRole.greater.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.522 0.128 small Type:CLRole.two.sided.22 ont-gamified.Apprentice 8 -0.04 15.56 124.5 63.5 -0.67 0.522 0.128 small Type:CLRole.less.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small Type:CLRole.less.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.48 0.219 small Type:CLRole.greater.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859											
Type:CLRole.greater.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.747 0.128 small Type:CLRole.two.sided.12 non-gamified.Apprentice 19 -0.56 13.34 253.5 63.5 -0.67 0.522 0.128 small Type:CLRole.two.sided.22 non-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.522 0.128 small Type:CLRole.less.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small Type:CLRole.greater.13 non-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.148 0.219 small Type:CLRole.greater.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.greater.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.23 non-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.24 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.24 ont-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.24 ont-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.greater.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.less.25 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small Type:CLRole.less.25 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small Type:CLRole.less.25 ont-gamified.App	Type:CLRole.less.22	ont-gamified.Master	8				63.5	-0.67	0.261	0.128	$_{ m small}$
Type:CLRole.two.sided.12 non-gamified.Apprentice 19	Type:CLRole.greater.12	non-gamified.Apprentice	19	-0.56	13.34	253.5	63.5	-0.67	0.747	0.128	$_{ m small}$
Type:CLRole.two.sided.22 ont-gamified.Master 8 -0.04 15.56 124.5 63.5 -0.67 0.522 0.128 small Type:CLRole.less.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small Type:CLRole.less.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.148 0.219 small Type:CLRole.greater.13 non-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small Type:CLRole.greater.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small Type:CLRole.greater.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.24 ont-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.85 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small											
Type:CLRole.less.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.148 0.219 small Type:CLRole.less.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.148 0.219 small Type:CLRole.greater.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.greater.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.two.sided.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540											
Type:CLRole.less.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.148 0.219 small Type:CLRole.greater.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.greater.23 ont-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.two.sided.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0	Type:CLRole.two.sided.22	ont-gamified.Master	8	-0.04	15.56	124.5	63.5	-0.67	0.522		
Type:CLRole.greater.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.859 0.219 small Type:CLRole.greater.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.two.sided.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 -1.07 0.295 0.219 small Type:CLRole.less.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 ont-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.15 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.85 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.less.13	non-gamified.Master	11	0.16	10.82	119.0	53.0	-1.07	0.148	0.219	$_{ m small}$
Type:CLRole.greater.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.859 0.219 small Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.two.sided.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.less.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.greater.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 </td <td>Type:CLRole.less.23</td> <td>ont-gamified.Apprentice</td> <td>13</td> <td>0.37</td> <td>13.92</td> <td>181.0</td> <td>53.0</td> <td>-1.07</td> <td>0.148</td> <td>0.219</td> <td>$_{ m small}$</td>	Type:CLRole.less.23	ont-gamified.Apprentice	13	0.37	13.92	181.0	53.0	-1.07	0.148	0.219	$_{ m small}$
Type:CLRole.two.sided.13 non-gamified.Master 11 0.16 10.82 119.0 53.0 -1.07 0.295 0.219 small Type:CLRole.two.sided.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.less.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.greater.24 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019	Type:CLRole.greater.13	non-gamified.Master	11	0.16	10.82	119.0	53.0	-1.07	0.859	0.219	$_{ m small}$
Type:CLRole.two.sided.23 ont-gamified.Apprentice 13 0.37 13.92 181.0 53.0 -1.07 0.295 0.219 small Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.less.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.greater.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.24 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.15 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.88 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.less.25 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.greater.23	ont-gamified.Apprentice	13	0.37	13.92	181.0	53.0	-1.07	0.859		small
Type:CLRole.less.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.540 0.019 none Type:CLRole.less.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.540 0.019 none Type:CLRole.greater.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.greater.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.476 0.019 none Type:CLRole.two.sided.14 non-gamified.Master 11 0.16 10.09 111.0 45.0 0.08 0.951 0.019 none Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.two.sided.13	non-gamified.Master	11	0.16	10.82	119.0	53.0	-1.07	0.295	0.219	small
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Type:CLRole.two.sided.23	ont-gamified.Apprentice	13	0.37	13.92	181.0	53.0	-1.07	0.295	0.219	$_{ m small}$
	Type:CLRole.less.14	non-gamified.Master	11	0.16	10.09	111.0	45.0	0.08	0.540	0.019	none
	Type:CLRole.less.24	ont-gamified.Master	8	-0.04	9.88	79.0	45.0	0.08	0.540	0.019	none
	Type:CLRole.greater.14	non-gamified.Master	11	0.16	10.09	111.0	45.0	0.08	0.476	0.019	none
Type:CLRole.two.sided.24 ont-gamified.Master 8 -0.04 9.88 79.0 45.0 0.08 0.951 0.019 none Type:CLRole.less.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.greater.24	ont-gamified.Master	8	-0.04	9.88	79.0	45.0	0.08	0.476	0.019	none
Type:CLRole.less.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.848 0.222 small Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.two.sided.14	non-gamified.Master	11	0.16	10.09	111.0	45.0	0.08	0.951	0.019	none
Type:CLRole.less.25 ont-gamified.Master 8 -0.04 9.25 74.0 66.0 1.02 0.848 0.222 small Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.two.sided.24	ont-gamified.Master	8	-0.04	9.88	79.0	45.0	0.08	0.951	0.019	none
Type:CLRole.greater.15 ont-gamified.Apprentice 13 0.37 12.08 157.0 66.0 1.02 0.164 0.222 small	Type:CLRole.less.15	ont-gamified.Apprentice	13	0.37	12.08	157.0	66.0	1.02	0.848	0.222	small
	Type:CLRole.less.25	ont-gamified Master	8	-0.04	9.25	74.0	66.0	1.02	0.848	0.222	small
$ \text{Type:CLRole.greater.25} \text{ont-gamified.Master} \qquad 8 -0.04 \qquad \qquad 9.25 \qquad \qquad 74.0 66.0 1.02 0.164 0.222 \text{small} $	Type:CLRole.greater.15	ont-gamified.Apprentice	13	0.37			66.0	1.02	0.164		small
	Type:CLRole.greater.25	ont-gamified.Master	8	-0.04	9.25	74.0	66.0	1.02	0.164	0.222	small

Table 2: (continued)

	Group	N	Median	Mean.Ranks	Sum.Ranks	U	Z	p.va	lue	r m	agnitude
Type:CLRole.two.sided.15	ont-gamified.Apprentice	13	0.37	12.08	157.0	66.)	1.02	0.325	0.222	small
Type:CLRole.two.sided.25	ont-gamified.Master	8	-0.04	9.25	74.0	66.)	1.02	0.325	0.222	small