## 1 Summaries of Nonparametric Statistics Analysis

Table 1: Summary of Scheirer-Ray-Hare results

	Df	Sum Sq	Н	p.value	Sig
gain.theta					
gain.theta:Type	1	0.281	0.001	0.975	
gain.theta:CLRole	1	3459.620	12.558	0.000	**
gain.theta:Type:CLRole	1	475.858	1.727	0.189	
gain.theta:Residuals	53	11492.240			

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

## 2 Summaries of Wilcoxon Data Analysis

Table 2: Descriptive statistic of the pair wilcoxon analysis

	Group	z	Median	Mean.Ranks	Sum.Ranks	D	Z	p.value	r
gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.greater.1	non-gamified. Apprentice	13	0.58	19.31	251	160	2.88	0.002	0.544
gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.greater.2	ont-gamified.Master	15	0.34	10.33	155	160	2.88	0.002	0.544
gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.two.sided.1	non-gamified. Apprentice	13	0.58	19.31	251	160	2.88	0.003	0.544
gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.two.sided.2	ont-gamified.Master	15	0.34	10.33	155	160	2.88	0.003	0.544
gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.less.1	non-gamified.Master	14	0.31	11.64	163	28	-2.05	0.021	0.381
gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.less.2	ont-gamified.Apprentice	15	0.66	18.13	272	28	-2.05	0.021	0.381
gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.two.sided.1	non-gamified.Master	14	0.31	11.64	163	28	-2.05	0.041	0.381
gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.two.sided.2	ont-gamified.Apprentice	15	0.66	18.13	272	28	-2.05	0.041	0.381
gain.theta.Type:CLRole.ont-gamified.Apprentice:ont-gamified.Master.greater.1	ont-gamified.Apprentice	15	0.66	21.13	317	197	3.50	0.000	0.640
gain.theta.Type:CLRole.ont-gamified.Apprentice:ont-gamified.Master.greater.2	ont-gamified.Master	15	0.34	9.87	148	197	3.50	0.000	0.640
gain.theta.Type:CLRole.ont-gamified.Apprentice:ont-gamified.Master.two.sided.1	ont-gamified.Apprentice	15	0.66	21.13	317	197	3.50	0.000	0.640
gain.theta.Type:CLRole.ont-gamified.Apprentice:ont-gamified.Master.two.sided.2	ont-gamified.Master	15	0.34	9.87	148	197	3.50	0.000	0.640

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

Table 3: Full descriptive statistic of the pair wilcoxon analysis

p.value	0.491		0.516	0.516	0.981	0.981		0.915	0.093	0.093	0.185									0.999	0.002															0.683	_	1.000	
Z	-0.03	-0.03	-0.03	-0.03	-0.03	-0.03	1.36	1.36	1.36	1.36	1.36	1.36	-1.27	-1.27	-1.27	-1.27	-1.27	-1.27	2.88	2.88	2.88	2.88	2.88	2.88	-2.05	-2.05	-2.05	-2.05	-2.05	-2.05	0.44	0.44	0.44	0.44	0.44	0.44	3.50	3.50	
n	403	403	403	403	403	403	119	119	119	119	119	119	70	70	20	70	70	70	160	160	160	160	160	160	28	28	28	28	28	28	115	115	115	115	115	115	197	197	
Sum.Ranks	781	872	781	872	781	872	210	168	210	168	210	168	161	245	161	245	161	245	251	155	251	155	251	155	163	272	163	272	163	272	220	215	220	215	220	215	317	148	
Mean.Ranks	28.93	29.07	28.93	29.07	28.93	29.07	16.15	12.00	16.15	12.00	16.15	12.00	12.38	16.33	12.38	16.33	12.38	16.33	19.31	10.33	19.31	10.33	19.31	10.33	11.64	18.13	11.64	18.13	11.64	18.13	15.71	14.33	15.71	14.33	15.71	14.33	21.13	9.87	
Median	0.50	0.45	0.50	0.45	0.50	0.45	0.58	0.31	0.58	0.31	0.58	0.31	0.58	99.0	0.58	99.0	0.58	99.0	0.58	0.34	0.58	0.34	0.58	0.34	0.31	99.0	0.31	0.06	0.31	99.0	0.31	0.34	0.31	0.34	0.31	0.34	99.0	0.34	
Z	27	30	27	30	27	30	13	14	13	14	13	14	13	15	13	15	13	15	13	15	13	15	13	15	14	15	14	15	14	15	14	15	14	15	14	15	15	15	
Group	non-gamified	ont-gamified	non-gamified	ont-gamified	non-gamified	ont-gamified	non-gamified.Apprentice	non-gamified.Master	non-gamified.Apprentice	non-gamified.Master	non-gamified.Apprentice	non-gamified.Master	non-gamified.Apprentice	ont-gamified.Apprentice	non-gamified.Apprentice	ont-gamified.Apprentice	non-gamified.Apprentice	ont-gamified. Apprentice	non-gamified.Apprentice	ont-gamified.Master	non-gamified.Apprentice	ont-gamified.Master	non-gamified.Apprentice	ont-gamified.Master	non-gamified.Master	ont-gamified.Apprentice	non-gamified.Master	ont-gamified.Apprentice	non-gamified.Master	ont-gamified.Apprentice	non-gamified.Master	ont-gamified.Master	non-gamified.Master	ont-gamified.Master	non-gamified.Master	ont-gamified.Master	ont-gamified. Apprentice	ont-gamified.Master	
	gain.theta.Type.non-gamified:ont-gamified.less.1	gain.theta.Type.non-gamified:ont-gamified.less.2	gain.theta.Type.non-gamified:ont-gamified greater.1	gain.theta.Type.non-gamified:ont-gamified greater.2	gain.theta.Type.non-gamified:ont-gamified.two.sided.1	gain.theta.Type.non-gamified:ont-gamified.two.sided.2	gain.theta.Type:CLRole.non-gamified.Apprentice:non-gamified.Master.less.1	gain.theta.Type:CLRole.non-gamified.Apprentice:non-gamified.Master.less.2	gain.theta.Type:CLRole.non-gamified.Apprentice:non-gamified.Master.greater.1	gain.theta.Type:CLRole.non-gamified.Apprentice:non-gamified.Master.greater.2	gain.theta.Type:CLRole.non-gamified.Apprentice:non-gamified.Master.two.sided.1	gain.theta.Type:CLRole.non-gamified.Apprentice:non-gamified.Master.two.sided.2	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Apprentice.less.1	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Apprentice.less.2	gain.theta. Type: CLRole.non-gamified.Apprentice:ont-gamified.Apprentice.greater.1	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Apprentice.greater.2	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Apprentice.two.sided.1	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Apprentice.two.sided.2	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.less.1	${\tt gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.less.2}$	${\tt gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.greater.1}$	gain.theta. Type: CLRole.non-gamified. Apprentice: ont-gamified. Master. greater. 2	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.two.sided.1	gain.theta.Type:CLRole.non-gamified.Apprentice:ont-gamified.Master.two.sided.2	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.less.1	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.less.2	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.greater.1	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.greater.2	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Apprentice.two.sided.1	gain.theta. Type: CLRole.non-gamified. Master: ont-gamified. Apprentice.two.sided.2	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Master.less.1	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Master.less.2	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Master.greater.1	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Master.greater.2	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Master.two.sided.1	gain.theta.Type:CLRole.non-gamified.Master:ont-gamified.Master.two.sided.2	gain.theta.Type:CLRole.ont-gamified.Apprentice:ont-gamified.Master.less.1	gain.theta.Tvpe:CLBole.ont-gamified.Apprentice:ont-gamified.Master.less.2	

Table 3: (continued)

	Group	z	Median	Mean.Kanks	Sum. Kanks	⊃	7	p.value	
gain.theta.Type:CLRole.ont-gamified.Apprentice:ont-gamified.Master.greater.2	ont-gamified.Master	15	0.34	9.87	148	197	3.50	0.000	0

Table 3: (continued)

Group	z	Median	Mean.Ranks	Sum.Ranks	Þ	Z	p.value	
ont-gamified.Apprentice	15	99.0	21.13	317	197	3.50	0.000	0
ont-gamified.Master	15	0.34	9.87	148	197	3.50	0.000	0
	Group fled.App fled.Mas	Group N fied.Apprentice 15 fied.Master 15	Group N Me fied.Apprentice 15 fied.Master 15	Group N Median Mean.R   fied.Apprentice 15 0.66 2   fied.Master 15 0.34	Group N Median Mean.Ranks S   ried.Apprentice 15 0.66 21.13   ried.Master 15 0.34 9.87	Group N Median Mean.Ranks Sum.Ranks   died.Apprentice 15 0.66 21.13 317   died.Master 15 0.34 9.87 148	Group N Median Mean.Ranks Sum.Ranks U   died.Apprentice 15 0.66 21.13 317 197   died.Master 15 0.34 9.87 148 197	Group N Median Mean.Ranks Sum.Ranks U   fied.Apprentice 15 0.66 21.13 317 197   fied.Master 15 0.34 9.87 148 197

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