FROM EDUCATION TO EMPLOYMENT: USING MARKETING SIMULATION GAMES TO FOSTER META-SKILL

Christopher M. Tingley and Mark L. Vrooman

BRC Journal of Advances in Education 4, no. 1 (2020): 17–33.

<https://dx.doi.org/10.15239/j.brcadvje.2020.04.01>

WEB APPENDIX

<https://dx.doi.org/10.15239/j.brcadvje.2020.04.01.wa02>

Appendix 1

1. Using the scale below, I feel equipped to work in teams across multiple disciplines.
 - a. Disagree completely
 - b. Disagree
 - c. Disagree somewhat
 - d. Neither disagree or agree - Neutral
 - e. Agree somewhat
 - f. Agree
 - g. Agree completely
2. Using the scale below, I feel equipped to manage my time in a real work setting.
 - a. Disagree completely
 - b. Disagree
 - c. Disagree somewhat
 - d. Neither disagree or agree - Neutral
 - e. Agree somewhat
 - f. Agree
 - g. Agree completely
3. Using the scale below, I feel equipped to solve problems and come up with alternative solutions in a real work setting.
 - a. Disagree completely

- b. Disagree
- c. Disagree somewhat
- d. Neither disagree or agree - Neutral
- e. Agree somewhat
- f. Agree
- g. Agree completely

4. Using the scale below. I feel like I fit the definition of having a "good work ethic." (Good work ethic is defined as being reliable, dependable, dedicated, productive, cooperative, and having unparalleled self-discipline)

- a. Disagree completely
- b. Disagree
- c. Disagree somewhat
- d. Neither disagree or agree - Neutral
- e. Agree somewhat
- f. Agree
- g. Agree completely

5. 5. Using the scale below, I feel equipped to manage change in a real work setting. (Organizational change is a structured management approach to improving the organization and its performance)

- a. Disagree completely
- b. Disagree
- c. Disagree somewhat
- d. Neither disagree or agree - Neutral

- e. Agree somewhat
- f. Agree
- g. Agree completely

Appendix 2

Table 1

Breakdown of survey participants n=69

	Male	Female	Business Major	Other Major	Lower Level Students	Upper Level students
Participants	35	34	67	22	55	14

Table 2

Sample statistics for all participants n=69

	Mean	Standard Deviation	Std. Error Mean
Pre-test Question 1	6.10	.926	.111
Post-test Question 1	6.07	.792	.095
Pre-test Question 2	5.9565	.94612	.11390
Post-test Question 2	6.0145	.75718	.09115
Pre-test Question 3	5.7826	.82014	.09873
Post-test Question 3	6.0580	.80228	.09658
Pre-test Question 4	6.1014	.84270	.10145
Post-test Question 4	6.2029	.71906	.08656
Pre-test Question 5	5.6957	.87958	.10589
Post-test Question 5	5.8406	.91753	.11046

Table 3

Sample statistics for male participants n=35

	Mean	Standard Deviation	Std. Error Mean
Pre-test Question 1	6.40	.553	.093
Post-test Question 1	6.14	.648	.110
Pre-test Question 2	5.94	1.110	.188
Post-test Question 2	5.97	.747	.126
Pre-test Question 3	5.86	.772	.131
Post-test Question 3	6.20	.632	.107
Pre-test Question 4	6.06	.765	.129
Post-test Question 4	6.14	.772	.131
Pre-test Question 5	5.69	.758	.128
Post-test Question 5	6.00	.728	.123

Table 4

Paired sample statistics for female participants n=34

	Mean	Standard Deviation	Std. Error Mean
Pre-test Question 1	5.79	1.122	.192
Post-test Question 1	6.00	.921	.158
Pre-test Question 2	5.97	.758	.130
Post-test Question 2	6.06	.776	.133
Pre-test Question 3	5.71	.871	.149
Post-test Question 3	5.91	.933	.160
Pre-test Question 4	6.15	.925	.159
Post-test Question 4	6.26	.666	.114

Pre-test Question 5	5.71	1.001	.172
Post-test Question 5	5.68	1.065	.183

Table 5

Sample statistics for Business/Marketing majors n=47

	Mean	Standard Deviation	Std. Error Mean
Pre-test Question 1	6.11	.759	.111
Post-test Question 1	6.02	.847	.124
Pre-test Question 2	5.81	1.014	.148
Post-test Question 2	6.00	.752	.110
Pre-test Question 3	5.72	.772	.113
Post-test Question 3	6.19	.576	.084
Pre-test Question 4	6.13	.769	.112
Post-test Question 4	6.30	.623	.091
Pre-test Question 5	5.72	.772	.113
Post-test Question 5	5.87	.850	.124

Table 6

Sample statistics for non-Business/Marketing Majors n=22

	Mean	Standard Deviation	Std. Error Mean
Pre-test Question 1	6.09	1.231	.262
Post-test Question 1	6.18	.664	.142
Pre-test Question 2	6.27	.703	.150
Post-test Question 2	6.05	.785	.167

Pre-test Question 3	5.91	.921	.196
Post-test Question 3	5.77	1.110	.237
Pre-test Question 4	6.05	.999	.213
Post-test Question 4	6.00	.873	.186
Pre-test Question 5	5.64	1.093	.233
Post-test Question 5	5.77	1.066	.227

Table 7

Sample statistics for lower-level participants (Freshman/Sophomore) n=55

	Mean	Standard Deviation	Std. Error Mean
Pre-test Question 1	6.04	.981	.132
Post-test Question 1	6.04	.693	.093
Pre-test Question 2	5.95	.911	.123
Post-test Question 2	6.04	.666	.090
Pre-test Question 3	5.78	.832	.112
Post-test Question 3	6.02	.850	.115
Pre-test Question 4	6.04	.816	.110
Post-test Question 4	6.15	.731	.099
Pre-test Question 5	5.64	.868	.117
Post-test Question 5	5.76	.981	.132

Table 8

Sample statistics for upper-level participants (Junior/Senior) n=14

	Mean	Standard Deviation	Std. Error Mean
--	------	--------------------	-----------------

Pre-test Question 1	6.36	.633	.169
Post-test Question 1	6.21	1.122	.300
Pre-test Question 2	6.00	1.109	.296
Post-test Question 2	5.93	1.072	.286
Pre-test Question 3	5.79	.802	.214
Post-test Question 3	6.21	.579	.155
Pre-test Question 4	6.36	.929	.248
Post-test Question 4	6.43	.646	.173
Pre-test Question 5	5.93	.917	.245
Post-test Question 5	6.14	.981	.132

Table 9

Paired T-Tests

	Mean		Std. Error	95% Confidence Interval				
All Participants	Difference	Std. Deviation	Mean	Lower	Upper	t-value	df	Sig (2-tailed)
Question 1	.029	.970	.117	-.204	.262	.248	68	.805
Question 2	-.05797	1.02733	.12368	-.30476	.18882	-.469	68	.641
Question 3	-.27536	.96838	.11658	-.50799	-.04273	-2.362	68	.021
Question 4	-.10145	.78861	.09494	-.29089	.08800	-1.069	68	.289
Question 5	-.14493	.87909	.10583	-.35611	.06625	-1.369	68	.175
Male Participants								
Question 1	.257	.817	.138	-.023	.538	1.862	34	.071
Question 2	-.029	1.175	.199	-.432	.375	-.144	34	.886
Question 3	-.343	.873	.147	-.643	-.043	-2.325	34	.026

Question 4	-.086	.818	.138	-.367	.195	-.620	34	.539
Question 5	-.314	.796	.135	-.588	-.041	-2.336	34	.026

Female Participants

Question 1	-.206	1.067	.183	-.578	.166	-1.125	33	.269
Question 2	-.088	.866	.148	-.390	.214	-.594	33	.556
Question 3	-.206	1.067	.183	-.578	.166	-1.125	33	.269
Question 4	-.118	.769	.132	-.386	.151	-.892	33	.379
Question 5	.029	.937	.161	-.298	.356	.183	33	.856

Business/Marketing

Majors

Question 1	.085	.880	.128	-.173	.344	.663	46	.511
Question 2	-.191	1.076	.157	-.507	.124	-1.220	46	.229
Question 3	-.468	.830	.121	-.712	-.224	-3.866	46	.000
Question 4	-.170	.761	.111	-.394	.053	-1.533	46	.132
Question 5	-.149	.955	.139	-.429	.131	-1.069	46	.291

Non-Majors

Question 1	-.091	1.151	.245	-.601	.419	-.370	21	.715
Question 2	.227	.869	.185	-.158	.613	1.226	21	.234
Question 3	.136	1.125	.240	-.363	.635	.568	21	.576
Question 4	.045	.844	.180	-.329	.420	.253	21	.803
Question 5	-.136	.710	.151	-.451	.179	-.901	21	.378

Freshman/Sophomore

Question 1	.000	.943	.127	-.255	.255	.000	54	1.000
------------	------	------	------	-------	------	------	----	-------

Question 2	-.091	1.110	.150	-.391	.209	-.607	54	.546
Question 3	-.236	1.053	.142	-.521	.048	-1.664	54	.102
Question 4	-.109	.737	.099	-.308	.090	-1.097	54	.277
Question 5	-.127	.904	.122	-.372	.117	-1.044	54	.301

Junior/Senior

Question 1	.143	1.099	.294	-.492	.778	.486	13	.635
Question 2	.071	.616	.165	-.284	.427	.434	13	.671
Question 3	-.429	.514	.137	-.725	-.132	-3.122	13	.008
Question 4	-.071	.997	.267	-.647	.504	-.268	13	.793
Question 5	-.214	.802	.214	-.677	.249	-1.000	13	.336