

The effect of introducing coaching from an experienced business professional on performance in a computer simulation classroom exercise

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ABSTRACT

This study examines the impact that experienced mentoring has on business decisions in a higher education business school. Students, arranged in teams, were given the opportunity to operate virtual companies in a well-known, business simulation program called Capsim. They were required to make decisions concerning marketing, production, finance, human resources, total quality management, and ethics during the term. One section of students was left to make decisions on their own, only provided with training on ways in which to operate the simulation software. A second section of students were not only provided with training on the simulation software but also hands-on coaching by a seasoned, business professional concerning decisions made in the simulation. Team performance was measured in both sections throughout the term. The quantitative results indicate that the intervention of coaching by the professional significantly improved performance on the treatment group. The findings indicate that the introduction of real-world experience into the classroom improves the ability of students to make decisions.

Keywords: simulation, capsim, real-world, business, ethics, virtual, teams, intervention

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INTRODUCTION

This study investigates the ways in which the integration of “real world experience” into a computer-based simulation improves student learning outcomes in a business classroom. Computer-based business simulations have been demonstrated to be innovative tools for teaching and learning and are often touted as a means to enhance students’ practical understanding of real business issues (Gurley and Wilson, 2010; Lin and Tu, 2011). As a matter of fact, some researchers have actually found that the student learning experience might be higher in a strictly simulation-based classroom than with an instructor-led classroom! (Proserpio and Magni, 2011). However, undergraduate business students often lack the required holistic understanding of the ways in which business functional units to effectively learn from computer simulations (Guo and Ro, 2008). Therefore, it was hypothesized that student performance might be improved through the introduction of a seasoned, industry professional into the classroom. There has been some evidence that this intervention helps guide students in a hands-on manner, as they progress through the business simulation (Grant, Malloy, Murphy, Foreman, and Robinson, 2010). The results of the present study indicate that the treatment was successful in improving student performance.

The Course

The Senior Seminar in Management and Marketing course is a required core course and is offered only to seniors in the school of business. It is a rather unique course that is required in addition to the traditional Business Policy course. Furthermore, each of the business disciplines has its own content-specific Senior Seminar. These seminars are taken by senior undergraduates after successfully passing the Business Policy course. The Management and Marketing Senior Seminar course examines business from the perspective of both the management and marketing managers. The course delivery method is a combination of critical case analyses, interactive media, and a computer-based simulation, called Capsim (Kilburn, Kilburn, and Fraught, 2010).

THE SIMULATION

The computer-based simulation used in the course was developed, is maintained, and is hosted by Capsim Management Simulations, Inc. It is a web-based interface. Computer simulations have been successfully used in marketing, accounting (Polimeni, Burke, and Benyaminy, 2009), organization behavior (Hill, Bartol, Tesluk and Langa, 2009), political science, and international management (Meleshevich & Tamashiro, 2008). The simulation has been used by over 600,000 students, representing over 500 higher education institutions (Saulnier, 2009). As such, it is considered a robust simulation, well-received in both the academic market as well as the business world, and is very realistic. Online computer simulations, such as Capsim, enhance the learning experience in a more complete manner than teaching pure theory or case study analysis (DiMeglio, 2008). The version of software used in this class was the Capsim Capstone simulation. The simulation is comprised of six companies

operating in a single product market (electronic sensor manufacturing). The six companies originated from the breakup of a hypothetical firm that had achieved a monopoly in the sensor market. The students work in teams (ranging from four to six students) during the term. Each team is assigned to one of these six virtual companies in the simulation. The professor ran one of the virtual companies in each of the two sections to provide the students with a “human” benchmark with which to compare their performance. Additionally, there was one virtual company in each section that was controlled by the computer. The computer-run companies were used as “optimal” benchmarks for performance in each of the two sections. Each class was provided with an abundance of training and support prior to initializing the live simulation. The professor provided several orientation sessions in which he described the simulation in his own manner and demonstrated it to the classes. Additionally, students were directed to online resources offered by Capsim including a wealth of online tutorials, multi-media presentations, and downloadable manuals. Students are all also required to complete an ungraded quiz online that is found at the Capsim website. After completing all of these orientation exercises, the students also complete two practice simulation rounds.

At this point, students are well-prepared to begin the production simulation. The production simulation runs for eight consecutive weeks, with each week representing a hypothetical year in the life of the industry. Each week, teams must make decisions concerning pricing, positioning, unit sales forecasts, production planning, labor allocation, ethical decision making, research and development, financing, and marketing resources allocations. Moreover, students are also exposed advanced business modules of human resources, total quality management, and advanced marketing. At the end of each week, the professor processes the rounds and the teams have access to reports including annual reports for their companies, industry changes, competitive analysis, and balanced scorecards. Once each successive round is processed, teams can also compare their respective teams’ performance that of over 2,000 other teams competing across the country.

THE IMPROVEMENT

The Introduction of the Business Professional

Student feedback from earlier sections of the class indicated that students did not really understand the simulation, did not think it added value to the class, and were not very satisfied with the class overall. It was evident from discussing the simulation with former students that they did not understand the practical implications and strategic overtones of the tactical decisions made during the simulation. Since a computer simulation is meant to replicate a real business environment, it was decided to have a seasoned business professional work directly with the teams in an effort to enhance their learning experience. It was hypothesized that the consistent presence of a seasoned professional would not only increase the students’ appreciation for the interrelated nature of a business but also improve their performance in the simulation.

To test this hypothesis, it was decided to have this business professional coach only one of the two sections in which the simulation was implemented. The mentored group became the “treatment” group and the non-mentored group became the “control” group. The non-mentored group was left to make team decisions on their own without much intervention from the professor and no guidance from the business professional since he was not present in the classroom. The mentored teams made all of their decisions in the classroom in the presence of the business professional and the professor, who provided the same minimal guidance as provided to the other section. The business professional was able to answer questions, explain the real-life implications of the proposed decisions, and offer personal anecdotes to crystallize the importance of the decisions in the mind of the students.

RESULTS

The results indicate that the presence of a business professional in the classroom substantially improved the ability of the students to make meaningful decisions in the simulation. Team performance was measured by a variety of assessments including peer evaluations, financial performance within the industry, and a final oral presentation. One of the best, quantitative measures of success in the simulation was the Balanced Scorecard. This measured performance from the customer, internal business, innovation and learning, and financial perspectives. The results of the weekly scorecards, as well as the total for the simulation, can be found in Table 1 (Appendix A). The mean of the final scores for the student-led teams that had no guidance from the business professional was 492.0 (out of a possible 1,000). The mean of the final scores for the student-led teams that had coaching from the business professional was 598.50. Clearly, the teams that received coaching from the business professional achieved substantially superior scores. Anecdotally, the instructor also observed that the coached students seemed to be more engaged with the exercise, understood the process, and seemed to interact more with one another.

CONCLUSION

Innovation in the classroom was achieved in this instance by enhancing the learning experience through the use of a seasoned business professional to coach a section of the class. Computer simulations have been proven to be effective teaching tools in the business classroom. However, without real life business experience, students have difficulty applying classroom-based knowledge to simulation decisions. By introducing a business professional into one of the two sections, the team’s scores improved substantially. This indicates that adding a layer of experience to the business simulation enhances the learning experience and improves decision making abilities.

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Appendix A

Capsim Balanced Scorecard

Treatment Group

Mean Total Scorecard - Student-Led Companies: 598.50

Round	1	2	3	4	5	6	7	8	Recap	Total
Possible Points	82	89	89	100	100	100	100	100	240	1000
Andrews	49	65	54	60	62	59	50	62	<u>190</u>	650
Baldwin	55	51	55	56	58	55	61	65	<u>167</u>	624
Chester	59	59	63	57	36	38	45	51	<u>68</u>	476
Digby	59	63	55	56	58	56	55	52	<u>191</u>	644
Erie – Professor-Led Company	33	59	67	45	53	66	80	78	<u>160</u>	640
Ferris – Computer-Led	56	62	53	54	46	49	44	44	<u>140</u>	548

Capsim Balanced Scorecard

Control Group

Mean Total Scorecard – Student-led Companies: 492.00

Round	1	2	3	4	5	6	7	8	Recap	Total
Possible Points	82	89	89	100	100	100	100	100	240	1000
Andrews	52	55	48	49	42	50	50	57	<u>142</u>	545
Baldwin	56	48	44	41	34	33	44	53	<u>172</u>	524
Chester	50	32	28	38	21	31	45	43	<u>44</u>	332
Digby	43	45	54	48	51	51	70	75	<u>130</u>	567
Erie – Professor-Led Company	58	65	71	28	70	76	80	72	<u>194</u>	714
Ferris – Computer-Led Company	58	62	58	49	47	48	47	40	<u>161</u>	571