DOI: 10.20472/IAC.2016.027.032

JACQUELINE MUSABENDE
ISM, France

FRANK COTAE
Mount Royal University, Canada

EXPERIENTIAL LEARNING: GLOBALDNA SIMULATION FOR TEACHING INTERNATIONAL BUSINESS COURSES

Abstract:

The use of simulations in business education started in 1957, since then, hundreds of simulations have been developed and/or introduced in the classroom. In this paper, we present a literature review of the impact that business simulations have in developing decision-making skills, integrative, experiential learning, and teamwork skills. Building on the generative learning theory, experiential learning theory and bloom's taxonomy, we tested the simulation GlobalDNA with a sample of undergraduate students divided into 4 groups. The objective was to obtain feedback of the applicability and benefit of using this software to teach decision-making in international business courses from a student and instructor experience perspectives. Results showed GlobalDNA being applicable to senior level or capstone international business strategy courses and appropriate as an experiential learning tool. Students we asked, at the end of the class to submit introspective summaries regarding the software program. We found supporting evidence and student perceived benefits for implementing simulations into the international business curricula to represent the experiential learning prong, and GlobalDNA provided a relevant backdrop for it.

Keywords:

Simulation, Taxonomy, Experiential Learning, Theory, Pedagogy, Benchmark Competition

JEL Classification: I29

INTRODUCTION

The process of learning in the context of international business often proves complex as it needs to be representative of the true dynamic nature of the environment in which it takes place. The real life scenarios are often difficult to replicate in the constraints of the classroom, especially in a context that is dedicated to experiential learning. The paper here places a group of students, divided in groups, in the position of making actual business decisions, affected by benchmark competition and react to reports and economic changes within a simulation software –GlobalDNA – as part of a term project. The paper is organized into sections with literature review providing a context for the simulation and project, a theoretical segment placing the subject as an elongation of concepts part of the pedagogical body of knowledge, an organization part pointing to how the student groups operated, followed by collected feedback, conclusions and future use and limitations.

LITERATURE REVIEW

The use of simulations in business and economics education started in 1957 with a program called Top Management Decision Game developed by the American Management Association (Greenlaw et. al., 1962). Top Management Decision Game was the first non-military competitive business simulation. In the following decade hundreds of business and management simulations got developed. Since the mid-1950s, several business simulations have been develop and used in university business and management courses all over the world. By the mid 1990s over 200 business simulations were being used by approximately 9000 professors in US alone (Dickinson and Faria, 1995).

According to Greenlaw et al (1962) a business game is *"a sequential decision-making exercise structure around a model of a business operation, in which participants assume the role of managing the simulated operation".* The objective of business games, also referred as business simulations is to allow students the opportunity to apply theory and concepts into practice, and further develop their decision-making skills. Tompson and Dass (2000) stated that simulations provide student with more experience at exercising control than case studies. They developed a study to measure the level of improvement in students' self-efficacy when using a simulation versus a case study. Several simulations for teaching international business exist in the market today, including the Global Business Game, Country Manager, GlobalDNA, CESIM, Business Strategy Game known as BSG, Redundancia, Marketplace, CESIM, Links Global Competition, Glo-Bus, to name a few. Karriker and Aaron (2014) undertook a research effort on simulation software. The authors conclude that the simulations were engaging and provided the opportunity to bring theory into practice and gave students the ability to gain experience in decision making -all considered main objectives of any business simulation-. Software

based simulations were noted to have a learning curve that students found difficult and, at times, struggled with concepts and decisions regarding international strategies.

THEORY AND PEDAGOGICAL PURPOSE

The use of business simulations has been related mainly to the generative learning theory, experiential learning theory and to Bloom's taxonomy. The Bloom's taxonomy of learning includes cognitive, affective and psychomotor learning. It has been used for studying cognitive learning in business simulations. The pedagogical purpose was to enhance learning through the use of a simulation in order to expose students to an experiential dimension of the course. Students completed and operated in an independent environment, while having the benefit of instructor support and recommendations. The pilot program was analyzed and implemented for the purpose of introducing it on a larger scale and on permanent basis in senior level undergraduate courses. The software –GlobalDNA- was delivered via the Internet and contained a real life business environment in which the decisions made within a market affected other companies –benchmark competition.

Students worked in teams and over an 8- week pilot program and undertook training and made decisions with regards to a fictitious business endeavor that operated internationally. Every decision groups made affected market conditions, supply and demand, capital markets, operational strategies and customer trends. Each week, considered a round, students got feedback, used to substantiate their group's next round of decision. The aim was to teach students the complexities of making decisions in a free-market global environment. At the end of each of the 8 rounds a set of reports was generated by the system; reports that needed to be interpreted to best inform the next round of decision-making. At the end of the term, students turned in a report that served as a debriefing for their decisions, rationales, projections and results. Of particular importance for the turned in report was also the feedback and introspective opinions students expressed about using a simulation in the context of an undergraduate program, their perception of themselves having the skill set to complete the rounds and about the extent to which the simulation both applied to international business courses and was a tool that should be used in the future. The following section points to the tabulation of just such student feedback.

RESULTS AND STUDENT FEEDBACK

Student feedback is and was a primordial factor in the determining the appropriateness of the simulation and term long assignment and project. The pilot participants' opinions were found to differ from team to team and even within teams and it generally followed three segments: perceived issues or difficulties with the simulation software, perceived applicability to International Business or an International Market Entry Strategies course

and a final evaluation regarding the use of a simulation program as a term project. What we have found was that the issues or difficulties collected were congruent between teams – rationales for which they are reflected as in the table in a point format -, while the applicability and evaluation, while with some commonalities, showed a bit of diversity.

Issues or Difficulties and Observations	**Applicability**	**Evaluation**
- steep learning curve - high initial time commitment, sometimes overwhelming - difficult to tabulate all data and decisions - need for understanding accounting and finance concepts - on later round the decisions making process became easier - good realistic economic scenarios	*Team A* The software should be used in used in a strategy-based international business course, but only for upper 3rd year or 4th year students and prerequisite courses will be needed.	*Team A* The software program was engaging, the competitive aspect interesting and thought provoking and investor expectations were interesting. The use of a comprehensive and interactive assignment that mimics real market is a better learning tool than static assignments.
- lack of relevant consumer and market data for R&D and marketing decisions - some guessing was necessary due to time constraints - program became a bit repetitive - apt realism with regards to currency fluctuations - comprehensive risk analysis of markets well addressed	*Team B* The simulation should be used only in a capstone course, such as International Trade Management and it is applicable to international business or market entry strategies related course work.	*Team B* The assignment was entertaining and due to each week changes and results created a much needed disruption for the regular routine of exams and assignments. The hand-on approach was beneficial and reflective of the input.
- cost is appropriate if a textbook is not required - syncing team members schedules was initially difficult, solved through installing of a communication application on mobile devices	*Team C* The simulation should be used only after accounting, marketing, finance and supply chain courses have been completed.	*Team C* The simulation fits well as an end of term project, yet it should be complimented by other assignments while mindful of the time commitment for completion.
- too much information required substantial time	*Team D* The simulation applied to	*Team D* The software provided a

dedicated to analytics - more decisions rounds should be included to better adjust to the simulation scenario and improve results	international business courses, and provided a path to comprehend economic and political risk and instability.	"real life" assignment that places in context each course in an undergraduate business program.

The afterthought of the collecting and tabulating the data are best presented in the conclusions, yet they show first an objective assessment of the software and process and second a desire for looking and applying of a different facet of experiential learning tools.

CONCLUSION

The conclusion part of the paper looks at summarizing the student experience and place in the context of instructor perception with this experiential type of learning. GlobalDNA is seen as a business simulation program that has the potential to add hands on value to the classroom related lesson plan. It definitely gives students the opportunity to develop strategic business skills and test their company visions by subjecting them to real life business problems. The various business categories that can be accessed and manipulated by the students display the degree of complexity in which a company must oversee in order to fill out its day-to-day operations. Though, we believe this program would be very successful in a classroom setting, it is our belief that it would do much better if introduced in a senior or capstone course where students will be more thoroughly prepared for the various aspects of the program.

The need to further experiential learning is valid in the context of teaching international business courses. The segment represented by simulations as delivered through a consistent software program and system has been welcomed by students and academics alike, yet significant difficulties remain as seen from an instructor perspective, such as: (a) Software programs attempt to cover a multitude of subjects; subjects at times unrelated with international business undergraduate courses. Available programs do not necessarily follow student academic progression; progression that would allow for a more comprehensive understanding on how decisions for operating a fictional endeavor need to be made. Students in the pilot program found that only senior learners were able to deal with the level of complexity raised by the simulation. Strategy and risk were better represented in this simulation software than other programs available, as more content applied to international business specific course content: i.e. mergers and acquisitions.

The majority of current software programs available as simulations (i.e Glo-Bus and Country Manager) do not offer the possibility of market exits, mergers and acquisitions, subject matter that is discussed in international business, management and strategy courses. (b) The learning curve applicable to performing well in the simulation was seen

as intensive and only noteworthy if the simulation provided enough rounds to enable alleviation of past decisional errors and understanding of the environmental scope for each decision made. Of note here is that instructor training needed a substantial time allocation. (c) Time constraints faced by students in the context of adding another team project to their coursework load seemed fair, if clear instructions were delivered at the beginning of the program and several practice rounds were implemented. (d) Cost associated with the simulations as an add-on to the textbook material seemed to not play a significant role in the feedback from students. (e) All students appeared enthusiastic about the close to “real-life” scenario and the introductions of an objective software program to augment the teaching and assessment material, often seen as static and having lower applicability.

FUTURE USES AND LIMITATIONS

GlobalDNA, the benchmark simulation used for the pilot program was well received, and is applicable to the intended International Business course, fact that prompted its assimilation and classroom implementation as a permanent experiential learning tool. A new assessment will be undertaken after the next full course implementation. The only caveat is that the simulation contains significant components related to student discipline command of marketing, finance, risk management, economics and accounting, courses strongly advanced as needed prerequisites; prerequisites now included in the enrollment conditions

The limitations of the pilot program were on several and start with the scope, software applicability, time allocation and student team centered complexities. The time allocated by both students and instructors in setting up, presenting and supporting the simulation seems higher than for a typical case study project, at least at the start of the process, yes at more experiential learning tools are implemented in course seen as prerequisite the more seamless the expected learning curve results are expected to be.

REFERENCES

Alssaty, F. (2014). The utilization of simulation games to enhance student learning in colleges and schools of business: A case study. Journal of Management and Marketing Research, p. 1-13.

Anderson, P.H. & Lawton, L. Business simulations and cognitive learning: Developments, desires, and future directions, Simulation & Gaming, Vol. 2, pp. 193-216.

Cadotte, E.; Bonney, L.; Riley, R.; MacGuire, C. (2010). : The role that large scale, integrative business simulations can play in assurance of learning and assessment. Marketplace Simulation, pp. 1-38.

Dickinson, J. R. and Faria, A. J. (1995). Simulation Gaming for Sales Management Training and a Demonstration. In Saunders, Danny (ed.) The Simulation and Gaming Workbook Volume 3: Games and Simulations for Business. Kogan Page, London.

Farrell, C. (2005). Perceived effectiveness of simulations in international business strategy. Journal of Teaching in International Business, Vol. 3, pp. 71-88.

Greenlaw, P.; Herron, L.; Rawdon, R. (1962). Business Simulation in Industrial and University Education. Prentice-Hall, Inc., Englewood Cliffs, N.J.

Hough, J. (2012). The case of business simulations in higher education in South Africa, South African Journal of Higher Education, vol. 5, pp. 973-986.

Karriker, J.H.; Aaron, J.R. (2014). More than just fun and games: BSG and Glo-Bus as strategic education instruments. Journal of Management Education, Vol. 5, pp. 768-775.

King, J.A.; Mayer, S.; Richardson, P. (2011). Beyond case study analysis?: Three enhanced approaches to teaching business strategy, The BRC Journal of Advances in Education, pp. 81-99.

Kolbs, D. (1984). Experiential Learning: Experience as the source of learning and development. Prentice Hall, Inc., Englewood Cliffs, N.J.

Ried, M.; Brown, S.; Tabibzadeh, K. (2012). Capstone teaching models: Combining simulation, analytical intuitive learning processes, history & effectiveness. Journal of Education for Business, Vol. 3, pp. 178-184.

Stephen, J.; Parente, D.H.; Brown, R.C. (2002). : Seeing the forest and the trees: Balancing functional and integrative knowledge using large-scale simulations in capstone business strategy classes. Journal of Management Education, Vol. 2, pp. 164-193.

Tompson, G. H.; Dass, P. (2000). Improving students' self-efficacy in strategic management: The relative impact of cases and simulations. Simulation & Gaming, 31: 22–41.

Washbush, J.; Gosen, J. J. (2001). An exploration of game-derived learning in total enterprise simulations. Simulation & Gaming, 32, 281-296.

Wills, K.V.; Clerkin, T.A. (2009). Incorporating reflective practice into team simulation projects for improved learning outcomes. Business Communication Quarterly, pp. 1-7.

Zantow, K.; Knowlton, D.S.; Sharp, D.C. (2015). More than fun and games: Reconsidering the virtues of strategic management simulations, Academy of Management learning & Education, Vol. 4, pp. 451-458.