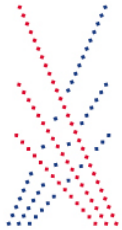

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Teamwork Skills Development in an Online Business Simulation Game and their Transferability to the Workplace

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Summary

Simulation games have become a popular experiential method of teaching in business and management programmes. They give students access to practical scenarios that would not normally be available to them, offering an appreciation of, for example, market forces and the interconnection and impact of the various functions in an organisation. Studies of simulation games have shown that students also benefit from 'soft skill' development when working together, particularly in the areas of teamwork and communication. However, research has rarely pursued the question of the practical contribution, offered by an online simulation to a professional student demographic, for skills application in their workplaces. In this study, we propose to investigate the contributions of an online business simulation game in the development of teamwork skills that can be potentially be applied in real work situations. As part of the study, we also aim to consider the features of online team composition that aid or hinder teamwork effectiveness.

Word Count: 1731

Background

The virtues of role play exercises as a way of immersing students in an activity that allows them to live an experience that is otherwise difficult to teach has been widely acknowledged in academic research (see for example, Faria, 1998; Tao, Cheng and Sun 2009; Costin, Brien and Slattery 2018). These active learning opportunities allow students not only to develop job-related know-how but they also facilitate the development of what have been termed the 'softer', but no less important skills, of teamwork, communication and complex problem solving (Mitri, 2017).

Soft skills are qualities, sometimes referred to as "people skills" (Robles, 2012) and "employability skills" (Levant *et al*, 2016 p368), and refer to attributes such as teamwork, communication, flexibility, taking responsibility and professionalism (Robles, 2012; Levant *et. al*, 2016). They are vital compliments to the 'harder', technical skills required in a job role. Soft skills enable employees to carry out their functional duties and, significantly, they have also been recognised as key learning components in education by leading management and business accreditation bodies such as CIMA and AACSB. These institutions have acknowledged that softer skills contribute to overall competency development; and as a result, have built this into their learning prescriptions in management and business programmes (Levant et al, 2016).

Simulations games offer an accessible experience, mimicking reality but remaining free of the associated risks. Gaba and DeAnda's (1988) work on a medical simulation argued that simulations eliminate risk, allow rare scenarios to be presented to train for the unusual and permit errors without negative consequences. They can be stopped and reviewed at will, and recording and playback are possible allowing greater reflection and critical review. Siddiqui, Khan and Akhtar (2008 p252) have added - the possibility of regular repetition - to this list, which they argue leads to "accelerated learning."

Business and Management simulations share these characteristics and we can conclude that in a business context a simulation game can provide real-world experiences, that would generally not be available to students, without the risk of failure and associated consequences. Business simulations can have different emphases such as entrepreneurial (Costin, Brien and Slattery, 2018), ERP systems (Shen, Nicholson and Nicholson, 2015) and supply chain (Siddiqui, Khan and Akhtar, 2008), or more general business simulations. This study is based on the latter generic simulation game scenario and is focused on the running of a business and coordination of the various functions within the subject organization.

From a pedagogical perspective this form of "learning by doing" (Ben-Zvi, 2010) has great potential as a constructivist learning experience, facilitating student access to the higher learning levels in Blooms Taxonomy. Students experience strong motivation in the tangible link that can be made between what they learn in the simulation and its application in their work and as a result of the stimulus prompted by the 'playfulness' experienced in the simulation which serves in the development of soft skills such as teamwork and engagement (Tao *et al.*, 2009). Today, thanks to advances in technology and students' increasing familiarity with the use of such resources, it is now possible to create ever more realistic scenarios in a virtual environment in which students can learn and hone their skills.

The University of Liverpool Online Programmes introduced a generic Business Consulting Simulation game in the online MBA in May of 2018. This module is an MBA elective in which student teams manage a multi-million-dollar company that manufactures and sells electronic equipment. The team members must collaborate with each other and make HR, finance, marketing, production and Research & Development decisions that will enable them to compete in the market with rival student teams. Participation of the students in this module is therefore key. Close collaboration and teamwork are required for consensual decision making, and for the whole-class discussions that follow each round of the game.

The launch of the module was preceded by a pilot released a few months earlier, in which volunteers from faculty played the role of students in an abridged delivery of the course. The pilot was used to inform the design and delivery of the module using the CAPSIM platform. Module development was influenced in the approach adopted to team composition, the assessment of the module and in the understanding of the role of debriefing in an online business simulation.

The global spread of our professional adult student population was acknowledged and particularly the challenges for them to be able to meet at convenient times that would suit all team members; and further, when they met, to be able to negotiate effectively and come to an agreement on their approach. In the pilot release, faculty, who like the students, were also scattered around the globe, were formed into teams and asked to feedback their experiences following each test round of the simulation. Their comments helped us understand that the simulation should offer an authentic setting but, at the same time, allowing:

> "…… a strong sense of a 'safe environment' where the participants do not feel threatened to make mistakes and where mistakes are used as opportunities for teachable moments rather than embarrassing the learners" (Wang, 2011, pp675-676)

In fact, a steep initial learning curve saw a number of faculty volunteers departing in the early days of the pilot. These departures, and the views of those that remained, influenced our decision not to assess the results of the simulation itself. We came to this conclusion following recognition of the challenges posed by the work conducted in teams and the realization that the simulation would become a less than a risk-free environment if assessment was associated with student team performance. If students became anxious that the results of the simulation would directly affect their assessed performance, we concluded they may be less willing to experiment and take chances which could lead to a possible negative impact on student learning (Savoldelli *et al.*, 2005).

Assessment was therefore based on the online discussions that took place, in which students justified their actions and shared their experiences in the game. The use of the discussion forum, to enable exchanges and reflection, forms the backbone of the learning experience in all of our online modules, so students were already acclimatized to this approach. Fanning and Gaba (2007 p121) have emphasized the importance of this kind of team debriefing in a simulation experience; seeing it as "essential" and "crucial to the learning process".

Consequently, the challenges students faced working in teams are partly reflected in the commentaries that students provided in the debrief discussions, However, we are also able to measure them using a tool know as 'Teammate' – an application packaged with CAPSIM. This tool is designed to assess teamwork on five dimensions: (1) confidence (2) cooperation

(3) coordination (4) cohesion (5) conflict (Rubin, 2017). Results from each round of the simulation game generated results with reference to teamwork based on this 'five C's model' and could guide the instructor's monitoring of the class; prompting her/his intervention and support where necessary.

Hernández-Lara and Serradell-López (2018) provide evidence from their study that teamwork and the related processes of communication, information processing and decision making were the most prominent learning experiences mentioned by students in business simulation games. We were therefore intrigued to find out more about the degree to which students believed that the online simulation game had contributed to the development of their 'soft' teamwork skills and the extent to which these skills were transferable to the workplace.

While the effectiveness of business simulation games, and their impact on student learning have been examined before, one aspect of the uniqueness of this research is that it is set in the context of a fully online programme. Here, the students who undertake this simulation game collaborate with each other in a purely virtual environment, availing themselves of a range of online facilities to support engagement.

Therefore, findings in this area would be useful to inform us on the efficacy of an online business simulation game for practical management education for the development of teamworking and team leadership competencies. Further questions on the make-up of the teams will help enlighten instructors for optimal team formation and provide further direction on how simulations might help inform us about the composition of teams in online learning environments.

From the discussion above we have formulated three research questions:

RQ1 – What do students learn in an online master's level business simulation game?

RQ2 – What elements of the business simulation game impact learning?

RQ3 – Are any acquired knowledge and/or skills useful outside of the theoretical context of the classroom?

Methodology

We propose the use of an interpretivist approach (Collis and Hussey, 2014) in order to understand the subjective phenomena of learning, skills development and students' interpretation of any practical application of skills acquired, in appropriate depth. Thematic analysis of data drawn directly from student interactions and submissions in Simulation classes, that have run across a period of approximately one year, will provide important context. This will involve a particular focus on student reflections presented in the final week of the module, in students' Professional Development Plans, and in student evaluations of the module. This will be cross referenced with analysis of the five Cs model data generated by Teammate.

A survey instrument, using open questions and informed by the analysis of the above secondary data will be then be designed to follow-up on emerging issues. The survey will include a request for students' participation in semi-structure interviews of approximately 30 minutes length. A subset of the survey respondents will then be interviewed where any

needed clarifications will be sought as to the impact of team compositions and interactions as well as the learning that was experienced as a result of engagement with the simulation.

Further thematic analysis of interview data, together with the other data sources, will form a full picture of student perceptions of the efficacy of the simulation for learning and skill development and the application of these skills.

Conclusion

The research will make an important contribution to our understanding of the potential of a business simulation game to assist in skills development in a purely online environment at Master's level, and with a highly diverse and professional student demographic.

Once appropriate ethical approvals are in place, we will commence data collection in the above areas with the objective of further developing this paper and preparing initial data analysis for discussion at the BAM conference in September 2019.

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