USING A BLENDED BUSINESS DECISION SIMULATION (BDS TO GAIN PRACTICAL BUSINESS EXPERIENCE

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Introduction

The world of today is facing complex and dynamic challenges, requiring a new kind of professional: one with theoretical knowledge, practical experience and significant problem-solving capabilities. Furthermore, the nature of work has also fundamentally changed in recent decades and one of the consequences in a global environment is projects becoming the dominant structural form of work organisations (Geithner & Menzel, 2016). According to Neck and Green (2011), educators have the responsibility to develop the discovery, reasoning and implementation skills of students so that they may excel in these highly uncertain environments.

However, such competencies can hardly be achieved in traditional ways of learning and a shift away from lecture-based to more active learning methods can foster knowledge generation and skills development (Geithner & Menzel, 2016). Equipping students to meet the challenges of tomorrow requires a shift to learning environments that actively involve students in problem-solving and critical thinking. Experiential learning (Bockband & McGill, 1998 as in Geithner & Menzel, 2016) is one way to address the above issues with simulations as being one mode of experiential learning. Furthermore, using a simulation to gain practical experience of real-world problems is an attempt to reduce the distance between theoretical knowledge (micro level) taught at University and what really happens in the workplace (macro level). Simulations may be particularly useful in situations where the curriculum is not able to incorporate practical business experience or internship opportunities. For the purpose of the paper, the operational definition for a simulation is derived from Hodkiewics (2015) stating that "a simulation is a dynamic, simplified and accurate model of reality that is a system used in a learning context".

Against this background, we implemented and evaluated a simulation called the Business Decision-making Simulation (BDS). BDS creates a start-up business experience, which allows for business decision-making in a secure environment and allows for enterprise growth. The blended simulation presented a concrete non-digital presentation of the business world accompanied by a high digital online component. Thus, the aim of this study was to better understand and gain insight into the perceived key learnings as well as the perceived value of taking part in the BDS as a replacement for an internship or practical experience in a small business. It is important to note that the focus of the study was not to determine if knowledge transfer occurred when using the simulation, a study done previously by Le Roux and Steyn (2007).

The participants that took in the BDS were a third year HE student group in an entrepreneurship degree. Data for this study was gathered through written reflections of their key learnings as well as the perceived value of the BDS as a tool to gain practical business experience. The main contribution of the paper was to describe the ability of BDS to allow students, who did not have business or start-up experience to apply thinking processes necessary to start and grow a business, muster resources, make decisions and solve problem in a secure business environment. Moreover, the BDS provides an opportunity to integrate theory and apply it in a simulated business environment, while developing skills and competencies also valued in the workplace. Identifying the key learnings gained from taking part in BDS as well as the perceived value as a replacement for practical in business experience or internships helped us to better understand how to address the need for practical workplace skills.

In view of the potential contribution of BDS, the following two research questions were formulated to guide the research:

- What are the key learnings students derived from taking part in the simulation?
- What are the perceived value as a replacement for practical in business experience or internships?

The rest of the paper will present theoretical evidence, research methodology, findings and discussion of findings as well as the limitation and recommendations for further research.

Literature review

Simulation as an experiential teaching method

In their future workplace, students need to work under uncertain and complex conditions for which they are not necessarily adequately prepared (Geithner & Menzel, 2016). Simulation as an educational tool provides an opportunity for interactive and experience-based learning and are valuable because it combines input, application, reflection and feedback, moving away from learning by listening to learning by doing (Geithner & Menzel, 2016). The business decision-making simulation (BDS) used in this study forces participants into decision-making processes from start-up to growth. It is a shift away from the lecture-based education to a more active learning method, theoretically grounded on Kolb's experiential learning theory (Kolb, 1984; Kolb & Kolb, 2010). Both Dewey (1938) and Kolb (1984) agreed that education is accomplished through experience and reflection and that knowledge can only be created by transforming the experience. Experiential learning as a learning theory is defined as gaining knowledge through practical experience. Experiential learning occurs within the simulation, and reflective practice becomes embedded in the experiential learning process (Le Roux & Steyn, 2007). Two major types of experiential learning exist namely field-based learning and classroom-based learning. Field-based learning includes internships, practicums, cooperatives education and service learning. Classroom based learning includes role play, games, case studies, simulations and presentations (McCarthy & McCarthy, 2006; van Oordt & Sullivan, 2017). Kolb (1984) identified four phases in this experiential learning process. The first phase namely "concrete experience", relates to the student's active participation in the start-up and growth process and

is a representation of a real-world system constructed to study some aspects of the system or the system as a whole (Cooper & Schindler, 2003). The second phase "reflective observation" refers to the student's experience reflecting on the process and application of new knowledge acquired. The third phase "abstract conceptualisation" refers to the students realising, absorbing and reaching conclusions on the outcomes of the reflection phase. The fourth phase "active experimentation" refers to implementing what the student has learned from the previous experience within a new experience (van Oordt & Sullivan, 2017). In addition to Kolb's (1984), Bell, Kanar, and Kozolowski (2008) identified four structural features of simulations in relation to the learning process namely content, interactivity, communication and immersion. *Content* refers to the information available in the simulation, it allows for low risk participation and feedback on performance. *Interactivity* allows for competing, collaboration and interactive features to engage learners in the learning process in an attempt to gain their attention and interest. *Communication* refers to the degree of interaction with the community around the table. *Immersion* refers to what extend the students are involved in the learning process. Being emotionally involved in the simulation experience has shown increased learning (Lovelace et al, 2016). These benefits have a positive effect on learning and the students' reaction to the training (Bell et al., 2008; Lovelace et al., 2016). In the revised classification of Bloom's taxonomy (Krathwol, 2002) a two- dimensional framework, *knowledge* and *cognitive* domains emerged which forms a very useful taxonomy table to classify objectives, activities and assessments. However, referring to Krathwoul's (2002) *affective domain* where a person's affect towards an object passes from a general awareness level to a point where the affect is internalised and consistently guides and controls the persons' behaviour (Seels & Glasglow, 1990; p.28) is relevant to the outcome of a simulation.

Educational games and simulations have a long history in management education (Hodkiewicz, 2015; p.456). The use of games and simulations in education supports a constructivist view in which learners develop their own sense of the world and actively participate in the discovery of solutions (Hodkiewicz, 2015; p.456). Simulations are a valuable game educational tool that encompasses an inter-active, experienced-based learning and a valuable educational tool (Geithner & Menzel, 2016). However, games and simulations are often treated as similar activities or conceptual distinctions are made between a game and a simulation based on learning rather than actual concepts of the game (Saive, Renaud, Kaufman, & Marquis, 2007). The definition of a game is a fictitious, whimsical or artificial situation in which players play in a position of conflict. Rules govern the games, which gives structure to their actions in view of the objective or purpose to win. The definition of a simulation states that it is a dynamic, simplified and accurate model of reality that is a system used in a learning context. These attributes of a simulation are essential to its use in addressing educational objectives and allowing learners to study complex and real phenomena (Saive, Renaud, Kaufman, & Marquis, 2007). Thus, the BDS used in the third-year entrepreneurship is a simulation and not a game based on the following attributes: It is a simplified, dynamic and accurate model of a real start-up and growth experience and allows for decision-making in a secure practical learning environment. Simulations have many benefits. Students are more involved, the simulation offers a space of freedom where mistakes can be made without negative consequences; it is a

hands-on approach which allows for problem-solving, decision- making, critical thinking and taking personal responsibility for the outcome (Palmunen, Pelto, Paalumaki, & Lainema, 2013; Geithner & Menzel, 2016).

In South Africa, training for a professional qualification such as engineers, accountants and doctors requires practical and pervasive competencies. However, in a general business degree it is limited due to the time constraints of the degree. Furthermore, class-room based case studies do not put the student in real time practical experience allows the student to make immediate decisions. Using a blended simulation exercise opportunities of real-time experiences, involving decision-making and problem-solving are presented. Therefore, Garrison and Kanuka's (2004) approach to blended learning that focuses on the thoughtful integration of classroom face-to-face experiences with online experiences remain valid. Their emphasis is on the successful integration of the activities from the two main delivery modes, face-to-face and online. According to Paechter, Maier, and Macher (2010), students preferred the online environment for practicing the skills of their subject and monitoring their own learning processes and preferred the face to face environment for acquiring new skills and concepts and application of knowledge.

Methodology

Aligning course outcomes with real-world experience called for an open and creative research approach. A pragmatic epistemology using qualitative research methods presented a suitable method as it solves problems, uses what is useful and focuses on improve learning outcomes (Anderson, 2013).

Context

The study was conducted in an Entrepreneurship module in the B.Comm degree at the University of Pretoria. Thirty-one students were enrolled in the module. The simulation ran over a one-day period in a training facility on the university campus with two facilitators that guide the participants. An attempt was made to give the students a practical real-world business experience in order to bridge the gap between theory and practice and to enable a better understand of all the contingencies that may occur in a normal business cycle. A business start-up simulation called Business Decision-Making simulation (BDS) provided the opportunity to start businesses (one or many) in a business community of five people and grow their businesses (bigger or more). The blended format of the simulation includes face-to-face participation with an online component to secure information on complex constructs such as positioning to compare offerings of well-known businesses, banks and fast food outlets. The simulation was therefore a concrete non-digital presentation with a high digital component. The BDS creates an environment where the learning process started by having an experience within the simulation arrangement, underpinned by theoretical inputs as and when required, the opportunity to apply the newly acquired knowledge and continues with reflection on experiences during and after (adapted from Geithel & Menzel, 2016). These learning activities aimed to apply, invent, generate new ideas, diagnose and solve problems (Biggs & Tand, 2007).

Simulation Design

BDS used in this study, was first designed for teaching entrepreneurial skills in high schools. The success of BDS then accumulated and was used in training start-ups to enable real-time decision-making experiences through the venture life cycle from start-up to growth. BDS creates a safe environment that allow for the complexities of starting a business, mustering of available resources as well as growth the business. The reasons for using simulations are vast, ranging from actively involving the student, helping them to apply theory to practice and to create a social context to operate in. The simulation catered for exposure of participants to all the questions and decisions associated with a business start-up. It challenged the thinking underlying the start-up process (Le Roux & Steyn, 2007).

The BDS allowed for a focus on practical start-up experience with continual decision- making opportunities. It models start-up and growth of a venture taking the participants through the venture life cycle stages while focusing on learning by doing. The BDS resembles a monopoly type board and participants could move their pieces around the start-up opportunity lane of the board, as well as through the trade lane, using the throw of a dice to determine how far each piece may move at a time.

The aim was to start a business or businesses and trade to generate profit. The students also had a balance sheet exercise to determine each participant's liquidity led twice during the simulation. During play, an income and expense statement was kept to record all transactions. The player with the premier balance sheet (measured by net asset value and return on investment) at the end of the game was the best performer.

At the start of the simulation, each player receives limited resources in the form of cash, a pension, credit (home loan) and randomly dealt market share cards. The markets share cards were colour coded to relate to the same colour business. There were three different businesses, each representing different turnover rates and profit margins. A complete business that can move to the trading lane and make sales consisted of a concept (idea/opportunity), facility, equipment, distribution channel and expertise. Each card represents one element of what was necessary in the real world to be able to start a business.

During the start-up phase and once participants have started trading, the simulation followed a real-world scenario with strikes, liquidity issues, competition and several other contingencies. When questions arise on issues such as market share, strategic issues, cash flow and leverage of resources, the play was halted and a short interactive lecture is given on the theory which supported the issue. Once feedback and reflection on an issue were completed, the game resumes until another important issue arise. Thus, through trial and error, the participants received hands-on experience supported by theory. This allowed for a much deeper learning experience than a standard lecture or stand-alone simulation (without a facilitator) might have provided. These interactive sessions and immediate opportunity for feedback and reflection lead to opportunities to alter chosen decisions, behaviour and strategies after reflection on the new information given by the facilitators. As the simulation progresses issues that were more complex, were introduced. Students were required to go online to determine, positioning,

marketing issues as well as evaluating their offerings to what was currently already available in the market. The simulation ended off with a debrief that was largely dependent on questions seeking a reflective response. This is in line with the views of both Kolb (1984) and Bell et al. (2011) discussed previously.

Data

Students reflected individually on their perceived key learnings and the perceived value gained from the intervention. The data was collected after completion of the blended simulation. Participants reflected on the first open-ended question namely: what is the key learnings gained from taking part in the simulation? The written reflections for the key learnings were transcribed and grouped. The first round was inductive, allocating codes, the second cycle consisted of creating code families, where related groups were code according to emerging themes. To ascertain transparency and validity the codes were checked first by the author, then reviewed by two experts' researchers. Minor changes to the naming of the themes were made. The second question namely: hat was the practical value gained from taking part in the blended simulation? The responses were also transcribed and grouped to determine if the participants perceived the simulation as a way to gain practical real world experience.

Findings and discussion of findings

The findings report on the perceived key learnings derived from taking part in the simulation as well as the value of BDS to simulate real world or practical business experience. Five themes were identified as the perceived key learnings from taking part in BDS and three themes for BDS as a replacement for in business or internship experience. The five themes emerged during the coding process for key learning gained from BDS: *money matters* receiving 37 responses, *affective awareness* 34, *operational issues* 21, *collective measures* 20 and *negotiation skills* receiving 17 responses.

Money matters

Money matters, which consist of money issues focusing on the inflow and outflow of money, spending cash flow and costs. Students reported that, "keeping an eye on money flowing in and out of your business is very important. You need to spend money to make money. Cash is king in a business but you need to borrow to grow".

Affective awareness

Affective awareness is a retrospective process and consists of soft issues such as how to handle pressure, builds relationships, perseverance and dealing with competitors. Students reported that, "you need a tough skin to handle the disappointment in the simulation. People will hurt you and your business for their own benefit by luring away your expertise. The simulation taught me patience, perseverance and dealing with frustration".

Operational issues

Operational issues consist of decision-making, sales, the importance of market share, the concept positioning and many more. Students reported that, "informed decision-making is key

to business success and is very complex. You need to understand the importance of market share in your business – without people buying from you, you are not making sales".

Collective measures

Collective measures consist of knowing your competition, networks and economic opportunities. This is an important economic principle insight. Students reported that "forming networks are important and beneficial to your business. Knowing the competition is beneficial for the business".

Negotiation skills

Negotiation skills consists of forming networks and the ability to negotiate Students reported that "forming networks is important and beneficial for your business. I practised my negotiation skills in the simulation and it made me realise how important it is in a work environment".

The following three themes emerged during the coding process for BDS as a replacement for in business experience or internships: *business experience* received 31 responses, *strategic thinking* 27 and *entrepreneurial thinking* received18 responses.

Business experience

Business experience consists of in-business experience, insight into the day-to-day running, between practice and theory; standing in the shoes of the business owner and feeling the consequences of your decisions. Students reported that, "it was a practical hands-on business experience and helped us to see how theory plays out in a real business. I believe I gained practical experience of how a business works, what issues are at play and how my decisions affect the business".

Strategic thinking

Strategic thinking consists of operational planning, strategic issues, overcoming obstacles to success and experience planning to grow. Students reported that "it forced us to think about different strategies to overcome obstacles and mistakes. The 'one fits all principle', worked. It is a fun way of learning what is important in a business, market share, target market as well as strategic positioning and how quickly things can change".

Entrepreneurial thinking

Entrepreneurial thinking consists of different thinking, owner versus employee, textbook versus practice and thinking out of the box. Students reported that "they think differently about business after the simulation. The simulation forced you to be innovative, find information online and read the market. I thought like a real entrepreneur because it was a realistic business simulation. I had to negotiate, make decision and dealt with the mistakes I made".

It is evident that BDS incorporates not only Kolb (1984) phases of experiential learning but also the four structural features of Bell et al. (2002). BDS created opportunities for a concrete experience, knowledge reflections and change the way the students do business, by understanding new and complex concepts such as market share and positioning. Students were

allowed to implement new knowledge and during the learning process. Furthermore, students used the available information and sourced new information online, collaborated with the players around the table to form a business community, negotiated with the other businesses for resources and possible partnerships. Thereby causing the students to be emotionally involved in the process. Having to deal with mistakes, failed partnerships, negotiations as well as decision not necessarily having the perceived effect, is valuable on the knowledge, cognitive and emotional domains (Krakwohl, 2002). Students learned from their mistakes, reflected on the mistakes and decisions that allowed for critical thinking and the formation of new concepts. Furthermore, on an emotional level, they need to deal with people, work on soft issues like trust and accept failure. Working face-to-face, taking into account the economy developing round the table, having to negotiate for resources, find information online to distinguish their business from others was perceived as the most important feature of BDS. BDS helped to increase comprehension of the complexities of the business and the various processes, transactions and operations involved (Palmunen et al., 2013).

Conclusions

The paper set out to determine the key business learning derived from taking part in BDS as well as the value of BDS as a practical tool instead of an internship. BDS as a simulation allows participants to take control over their learning process, get the opportunity for hands-on decision-making with real-time information, increase engagement in the learning process and acknowledge the positive and negative experience of decision-making in a realistic context. To answer the main research question, BDS can be used as a tool to replace replacement in-business experience or internships if the latter are not available to students. BDS is acknowledged as an effective tool for teaching content, knowledge and achieving learning goals set out by the lecturer (Lovelace et al, 2016). It is a method of instruction that incorporates practice, feedback and play over a period, in a secure environment which positively affects performance outcomes (Johnson & Rubin, 2011). Students needed to make a series of decisions within a dynamic complex environment that is represented in the simulated context. Furthermore, BDS provided a live exercise conducted in a real time in a safe environment (Balci, Authur, & Ormsby, 2011). As one of the male students reported:

> *"BDS is the first hands-on real business experience I was involved in during my three years at university. It was practical and I gained insight in the processes and activities of a business. Far better than learning from a case-study."*

The study has implications for both educators and practitioners. Involving students in a real-time business simulation, such as BDS, gives students an opportunity to experience business through the life cycle from start-up to growth. It helps students not only to master theory but experience the decision-making and issues of a real business. The study, therefore, confirms the notion that where internships are not an available option BDS can assist in providing students realistic workplace skills.

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