

Business Simulation and Competences' Development in a Bachelor of Commerce Course

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1. Introduction

In addition to content-based, the focus on competence-development has become a trend on curriculum creation in post-secondary education. The Bologna Agreement in Europe makes clear the need for specifying learning-outcomes and the consequent competences developed by them which facilitate standardization of programs aiming students' exchange and credit transfers among countries. The Canadian educational system, albeit managed in the provincial level, follows the same trend. The challenge however, is to assess whether the promised competences are in fact delivered to the students. This paper is part of a joint effort of post-secondary institutions in Spain, Ireland, Portugal, Canada and Brazil to assess the competences developed by business simulations present in some of their courses. We present here the Canadian case.

2. Business Simulation and Competences Development

Goleman [1], we think, helps to shift a paradigm arguing in favor of a more holistic view of human beings in organizations and society. The author's view of an Emotional Intelligence brings a more complete perspective of individuals. Such argument is refined by, among others, Boyatzis [2] work on competence development in leaders.

Yet, the literature on managerial simulations primarily considers the organizations bottom line (e.g. profit, market share growth or return on investment) for the decision taken in the game's market ([3], [4], [5], [6]). However, it lacks a direct analysis of the

competencies developed by the business simulation. Faria and Wellington [3] tries to evaluate the usage of business simulation through a survey of one thousand game-users, former-users, and never-users. When the authors ask (p.191): "Can You Identify the Most Important Reasons Why You First Adopted a Business Game?" the more frequent responses are: (1) To give students decision-making experience, with 38,7% of responses; (2) To allow for theory application, 30,1%; (3) To have students integrate business concepts, 22,6%; and, (4) To encourage teamwork, with 11,3%. In our understanding, Faria and Wellington were indirectly describing a clear intention to develop some competences such as decision-making, conceptualization or teamwork through the use of business simulations. Such intentions were just not highlighted.

At our School of Business, we have been following this educational trend by adding to the content of courses, learning outcomes and competences or professional skills. A distinctive feature of our Bachelor of Commerce degree is the embedding of seven professional skills across the curriculum:

- case study analysis (CSA)
- ethical practice (EP)
- group work (GW)
- presentation skill (PS)
- research skills (RS)
- using technology (UT)
- writing skills (WS)

Academic reviewers and in special the Campus Alberta Quality Council were favourably impressed with this "work readiness" strategy and considered this to be a notable and significant distinguishing feature. This strategy of considering content as well as

specifying which competencies are the core ones from which others are developed has been receiving a positive impression on students and faculty, and noticed by the employers of our graduates. We do have motives to celebrate this strategy; however, we have decided to take a more conservative position. Although all courses in the Bachelor of Commerce address which particular skills are being developed, the program is still trying to assess whether the competencies that are intended to be delivered are actually being delivered. Our study will focus on the BUSN 450 Strategic Management course. It is unique course because it synthesizes content from different courses within a software atmosphere that simulates a real managerial ambience (i.e. a business simulation). As such, we may see that other courses indirectly benefit from this research and future research may also emanate from this study.

In summary, our main research objective is to describe which competences are developed by our business simulation and compare them to the professional skills we intend to develop. Additionally we compare these competences with the ones developed by the Bachelor of commerce as a whole (the non-players).

3. Research Question and Methodology

The way the research questions are posed will determine what materials and activities will bear on the problem and on what the researcher will discover [7] (p. 265). Our main research question is: “Which professional skills are developed by our business simulation?” Secondly, we want to know in which sense our simulation differs from the general skills developed by our Bachelor of commerce. In order to answer that question and assess professional skills’ development, we build a *bricolage* [8]. We use a validated comprehensive questionnaire of competencies developed by Deusto University [9] and apply it on a qualitatively sampled group of students, for the matter of internal validity [10]. Later, our findings will be compared to the ones of our partners in other countries, for the matter of consistency [11].

3.1. Methodological design

The comprehensive questionnaire of professional skills [9] used consists of 72 questions five-point Likert scale divided into 11 sets of skills (i.e., cognitive instrumental; methodological instrumental; technological instrumental; linguistic instrumental; individual; interpersonal/social; entrepreneurial capacity; organizational capacity; leadership capacity;

achievement capacity; and, specific). For secondary analysis, we will use the variables on demographic characteristics of the students, including information about: occupation or studies; country; age; highest level of education attained; previous participation in teams; previous participation in simulations; and, gender.

During 2009/2010 school year, we applied 120 questionnaires to 7 sections of our 4th year students (4 sections of simulation class and 3 of non-simulation). 57% of the students were male. 99 questionnaires were valid. From this amount about half belonged to each group, 50 students had taken the business simulation course (i.e., users) and 49 had not (i.e., non-users), responding then to their general perception about the skills developed in the Bachelor of Commerce. In the following we provide an example of a set:

C. TECHNOLOGICAL INSTRUMENTAL SKILLS: Please indicate the extent to which the business game helped you develop the following skills:

C.1. Using new technologies (e.g. IT tools, computers, etc.)

1	2	3	4	5
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C.2. Using new communication platforms (Internet forums, etc.)

1	2	3	4	5
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C.3. Solving technical, administrative and programming-related problems in the business game

1	2	3	4	5
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For the general bachelor this question is:

C. TECHNOLOGICAL INSTRUMENTAL SKILLS: Please indicate the extent to which the Bachelor of Commerce helped you develop the following skills:

The first version of the questionnaire of Deusto was originally written in Spanish. Our partners, fluent in Spanish and English, translated it to English. We reviewed the questionnaire which seemed to be accurate.

We treat the questionnaires through exploratory factor analysis [12] using SPSS software. For reliability, we controlled the Conbrach’s Alpha for all variables on both group (i.e., users and non-users). 0.73 was the cut we consider regarding this criterion of reliability which took us to discount two of the sets, linguistic instrumental and achievement capacity. It makes sense the confusion for linguist instrumental as this competence is more prevalent to be developed in Spanish, Portuguese and Canadian students than Irish and Canadians.

The method of extraction used is the principal component analysis. Some of the questions were excluded due to its low level of correlation, less than 0.3.

3.2. Findings

Our team of researchers named the resultant components, they are in the following:

- Information processing
- Conceptualizing
- Qualitative analysis
- Problem solving and decision making
- Communicating
- Independent learning
- Teamwork
- Entrepreneurship
- Continuous improvement
- Project management
- Leadership
- Managerial
- Ethics
- Strategic

Having the research question in mind (i.e., “Which professional skills are developed by our business simulation?”), we organized a panel of experts to compare the resultant components of the business simulation users with the 7 professional skills proposed.

The components found and their relationships with the skills aimed are found in table 1, below:

Table 1: Competences developed by the simulation compared to the 7 professional skills

<i>Competences developed</i>	<i>7 skills</i>
Information processing	CSA, RS
Qualitative analysis	CSA, PS, RS
Problem solving and decision making	PS, GW
Communicating	GW, PS, RS, UT
Teamwork	GW, EP
Project management	GW, CSA
Managerial	CSA, UT
Ethics	EP

For:

<i>case study analysis</i>	(CSA)
<i>group work</i>	(GW)
<i>ethical practice</i>	(EP)
<i>presentation skill</i>	(PS)
<i>research skills</i>	(RS)
<i>using technology</i>	(UT)
<i>writing skills</i>	(WS)

Writing skills were the only one 7 professional skills untouched by the simulation. Besides, the simulation developed the extra skills of conceptualization, continuous improvement, independent learning, entrepreneurship and leadership.

We name as well the components developed by the Bachelor of Commerce and compare them to the simulation. The comparison follows in table 2:

Table 2: Competences developed by the simulation compared to competences developed in the Bachelor of Commerce

<i>Developed by simulation</i>	<i>Developed by Bachelor</i>
Information processing	Information processing
Conceptualizing	
Qualitative analysis	
Problem solving and decision making	Problem solving and decision making
Communicating	Communicating
Independent learning	Independent learning
Teamwork	Teamwork
Entrepreneurship	Entrepreneurship
Continuous improvement	
Project management	Project management
Leadership	Leadership
Managerial	Managerial
Ethics	Ethics
Strategic	
	Risk management
	Time management
	Negotiation

Most of the competences developed by the business simulation and the Bachelor of Commerce are similar. Yet, in the simulation students perceive as more prominent the competences of conceptualizing, qualitative analysis, continuous improvement and strategic skills where as in the Bachelor risk and time management and, negotiation were more focused.

4. Discussion

The underlying objective of our research is to make sense of extremely intertwined constructs, viz., program content, learning outcomes and competences developed. We know that Bachelors of Commerce develop students; however, we can see through our description some of the elements present in this development, and more importantly what we are missing. Moreover, we can now argue that the care with the professional skills that are part of our pedagogical philosophy and competitive advantage become clearer to us. Interestingly some of the competences seem more prominent in the business game sections.

The future development planned is the comparison of cases of other courses taken in the Bachelor and the comparison of cases among the different countries participating in the project. As the business games used are not the same it will be interesting to analyze and

compare the competences developed by each one of them.

5. References

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