



# Simulation as a pedagogical tool: Measurement of impact on perceived effective learning



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## ARTICLE INFO

### Article history:

Received 7 August 2013

Received in revised form 13 May 2014

Accepted 25 June 2014

Available online 29 July 2014

### Keywords:

Simulation

Strategy simulation

Innovations in pedagogy

Business simulation

Perceived effective learning

## ABSTRACT

This paper studied the impact of simulation as a pedagogical tool on perceived effective learning. The three factors considered had differential impact on perceived effective learning measured in the form of integrated learning and decision making. Data were collected from a sample of students completing their first year of study at a b-school in India. It was found that team dynamics emerged as the most important dimension followed by instructor's role and learning process. The activities in simulation exercises which enhance team cohesiveness and effective role playing are detrimental for the perception of positive effective learning.

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## 1. Introduction

Management courses are taught across various business schools using different pedagogies like case study, lecture, role play, simulation etc. Over the years attempts have been made to refine these methods in linking the theory to practice which has become more or less compulsory in business education environment. Simulation as a pedagogical tool is being increasingly adopted by b-schools and industry all over the world (Abodor & Daneshfar, 2006). Besides offering an advantage of linking the learning environment with the actual environment, simulations fulfill the objectives of promoting integrative learning and enhancing team development. This phenomenon is also supported by the fact that many experts have been increasingly criticizing management education for not adequately preparing the students to shoulder the responsibility of a complex business world (Poisson-de Haro & Turgut, 2012). The aim of this study is to identify the impact of simulation as pedagogy on effective learning inculcated by students undergoing these simulations based exercises.

Datar, Garwin, and Cullen (2010) in their book 'Rethinking the MBA: Business education at Crossroads' have also emphasized the need for making the MBA program more application oriented. They suggest that MBA graduates require a more 'global perspective', 'leadership abilities' and 'integration skills'; besides teaching them 'organizational realities', to think creatively and innovatively, to write and speak well. Simultaneously, this popularity for simulation has created an imperative for rigorous, theory based research into the factors and dynamics affecting the effectiveness of simulation

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exercises (Abodor & Daneshfar, 2006). The two specific objectives dealt in this paper are to create dimensions of perceived effective learning<sup>3</sup> and factors influencing it and to analyze the relationship between the factors and perceived effective learning.

## 2. Literature review

Management as a field of study has been struggling in terms of combining theory and practice and ensuring that the learning is captured by doing so. The value of supplementary theoretical knowledge with hands-on real world appreciation of the subject being studied is especially relevant in the field of business studies since business students eventually have to face that very real world for which they are being trained (Parks & Lindstrom, 1995).

Business simulations or simulation exercises are widely used across business courses (Faria, 1998, 2001; Keeffe, Dyson, & Edwards, 1993), such as business strategy (Stephen, Parente, & Brown, 2002), business ethics (Wolfe & Fritzsche, 1998), and courses on cultural differences (Chatman & Barsade, 1995).

In contrast to traditional teaching methods, business simulations bridge the gap between the classroom and the world of real-life business decision making through experiential learning experiences in which students design, implement, and control business strategies. Thus, the recurring effort is to understand what ensures effective learning among students through the use of simulation as pedagogy.

A simulation is a method of teaching/learning or evaluating learning of curricular content that is based on an actual situation (Cilchot, 2001). The simulation is designed to replicate a real life situation as closely as desired; wherein the students have to assume roles as they analyze situation and make decisions. As the simulation proceeds, students respond to the changes by comprehending the consequences of their decisions and determine future actions based on that. A simulation often includes time for reflecting on the decisions and processes involved therein, and the instructor also allows students to share their experiences, assess their learning and evaluate their assessments against the intended outcomes of the simulation. In other words, 'debriefing sessions' are an important component of simulations and should be well planned, provide closure and focus on learning outcomes.

In today's business school scenario simulation has been widely accepted as a dominant teaching pedagogy across the globe. It is felt to have succeeded in reducing the detachment between theory and practice and ensuring that the learning is captured by doing so. The value of supplementary theoretical knowledge with hands-on real world appreciation of the subject being studied is especially relevant in the field of business study since business students eventually have to face that very real world for which they are being trained (Parks & Lindstrom, 1995). Management as a field of study has been struggling in terms of inculcating practical skills by means of simulating actual business environment.

Business simulations or simulation exercises are widely used across business courses (Faria, 1998, 2001; Keeffe et al., 1993), such as business strategy (Stephen et al., 2002), business ethics (Wolfe & Fritzsche, 1998), and courses on cultural differences (Chatman & Barsade, 1995). Most of the leading business schools have introduced simulation workshops or incorporated it as part of different courses offered to students (Abodor & Daneshfar, 2006). In this regard the source for these simulations are established management education institutes like Harvard Business School and professional private companies who train using specialized software and instruction resources. Crookall (1997) commented on the increasing use of simulations, "the area of business education and training has probably overtaken all other areas ... in the application of simulation/gaming" (1997: 357).

Prior research has demonstrated that there are some well-grounded advantages and benefits associated with management games and simulations. In addition, simulation as a pedagogy has been compared with other teaching pedagogies and relative contrasts have been drawn (Kayes, 2002). Broadly simulations, in management students aim to ensure effective learning as comprised of two critical skills – ability to integrate concepts and ability to make decisions. Thus students demonstrating these two abilities in an actual business scenario can be said to have 'learnt' the course effectively. However, since we are not able to observe students in their actual workplace (once they complete their course) demonstrating these skills, hence we use the term 'perceived effective learning'. The authors have accordingly developed the items under the dimensions of integrated learning and decision making. The authors decided to study both the dimensions since prior studies have not taken these two dimensions together for study. Moreover, as we shall see further in this article, the dimensions which influence perceived effective learning have been studied in a fragmented manner. The present research therefore, seeks to bridge some of the gaps in research by proposing and empirically testing the influence of three major dimensions – learning process, role of the instructor and team dynamics on the dimensions constituting perceived effective learning i.e. integrated learning and decision making.

### 2.1. Learning process

The learning process refers to the design and structure of the simulation case study. Depending on the learning outcomes and objectives desired by instructors, Wolfe and Rogé (1997) concluded that simulations provide a rich learning environment

<sup>3</sup> The authors have used the term perceived effective learning since effective learning can only be studied through longitudinal studies; hence an attempt is made to study the perceived effective learning using simulation as pedagogy.

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