Chapter 3
Learning from Social Collaboration: A Paradigm Shift in Evaluating Game-Based Learning

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ABSTRACT
This chapter focuses on the challenge of evaluating game-based learning. It argues that linking game-based learning with the characteristics of a specific game or game-produced engagement is challenging. It further proposes a framework in which the game-based learning process is approached by considering (business) simulation games as Computer-Supported Collaborative Learning (CSCL) environments and presents an approach on how learning can be approached and evaluated from this perspective. In addition, it highlights how simulation game mechanics appears to be a potential way to promote learners’ socio-emotional processes and give rise to social interaction and to structure collaboration among the learners in the game context. The proposed framework of this chapter takes into account both cognitive and socio-emotional perspectives of learning. The results of the chapter will present a contemporary view on the roles of sociability, collaboration and engagement in game-based learning.

INTRODUCTION
Simulation games have been applied in business education for more than five decades (Wolfe, 1993; Faria, Hutchinson, Wellington & Gold, 2009). The use of business games in business education is justified by the argument that simulation games have a many advantages compared to traditional teaching methods. For example business games have been suggested to offer experiential learning (Petranek, 1994; Gosen DOI: 10.4018/978-1-5225-0513-6.ch003
& Washbush, 2004), cross-disciplinary learning (Klabbers, 2001), problem-based learning (Maxwell, Mergendoller & Bellisimo, 2004; Badurdeen, Marksberry, Hall & Gregory, 2010), and business process oriented learning (Tsalgatidou, Louridas, Fesakis & Schizas, 1996; Ruohomäki, 2003; Lainema, 2004). If business games are to offer the expected benefits, they should have considerable potential in delivering a relevant and modern view of business organizations and their functioning to business school students. The potential is especially relevant for tertiary education, where there is a need for higher understanding of the learning topics, in the form of a multi-disciplinary view of cause-effects and dynamicity in business organizations. This higher-level understanding is important for the future decision-makers of organizations, who will be responsible of larger systemic entities than those found in functional and lower-level organizational decision-making.

In simulation game research it has long been acknowledged that “a comprehensive theory about learning and knowing through gaming and simulation is not yet available due to competing epistemologies” (Klabbers, 2003, p. 260). Furthermore, the community of gamers seems to be more interested in the instrumentality of games (methods and techniques of game design and use; Klabbers, 2003) than how games actually promote learning. It is only with a clear hypothesis about the process of learning that one is able to choose an adequate research design to properly evaluate learning effectiveness and to draw meaningful conclusions (Herz & Merz, 1998).

The above has led to a situation, in which there is no clear, un-contradictory evidence of the benefits of the application of business simulation games (SGs). For example, Anderson & Lawton (2009) summarize that the efficacy of business simulation games in achieving cognitive learning outcomes is unclear. Gosen and Washbush (2004) have come to the same conclusion, stating that there have not been enough high-quality studies to allow us to conclude that players learn by participating in SGs. We see that the lack of business simulation game learning evidence comes partly from the fallacy on the nature of learning from simulation gaming experiences, but very much also from the fact that the researchers have tried to link directly the game characteristics with learning. In this paper our starting point is the belief that the core of the problem is that the nature of the learning from business games is 1) not factual but something else by nature (i.e. procedural and conceptual); 2) unique to the learner and very much depends on the learners’ previous knowledge, experiences and beliefs; 3) unique to the business simulation in use. All these points make it difficult to assess the learning.

The community of researchers and their efforts in seeking the answer to game-based learning can be described with the figure below. It has been believed that – by highly oversimplifying – it is the characteristics of the game (plus the debriefing activities run after the gaming session) that affect the learning (Figure 1). This perspective is clearly visible in various studies, and for example Bedwell, Pavlas, Heyne, Lazzara & Salas (2012) state that in the effort to understand the relationship between games and learning, approaching the subject in a bottom-up, basic-science fashion by examining individual attribute-outcome links will allow for a distributed scientific discovery.

Figure 1. Learning as a result of the game characteristics

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