Learning through Business Games

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BUSINESS GAMES: A NEW LEARNING TOOL

Managerial business games, defined as interactive computer-based simulations for managerial education, can be considered as a relatively new tool for adults' learning. If compared with paper-based case histories, they could be less consolidated in terms of design methodologies, usage suggestions, and results measurement.

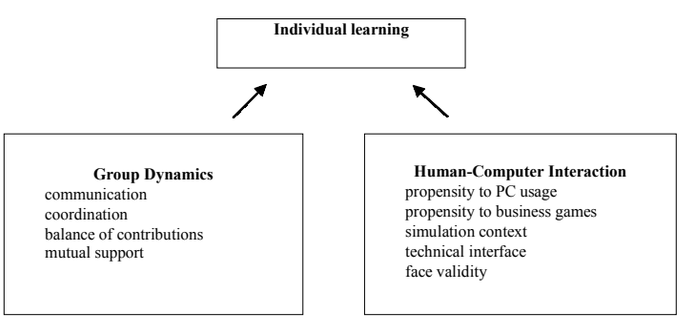
Due to the growing interest around Virtual Learning Environment (VLE), we are facing a positive trend in the adoption of business games for undergraduate and graduate education. This process can be traced back to two main factors. On the one hand, there is an increasing request for non-traditional education, side by side with an educational model based on class teaching (Alavi & Leidner, 2002). On the other hand, the rapid development of information technologies has made available specific technologies built around learning development needs (Webster & Hackley, 1997). Despite the increased interest generated by business games, many calls have still to be addressed on the design and utilization side. This contribution describes two fundamental aspects related with business games in graduate and undergraduate education: group dynamics (as current business games are almost in all instances played in groups) and human-computer interaction.

Figure 1 represents the variables that could influence individual learning in a business game context.

THE INFLUENCE OF GROUP DYNAMICS

It is widely accepted that a positive climate among subjects is fundamental to enhance the productivity of the learning process (Alavi, Wheeler, & Valacich, 1995). This is why group dynamics are believed to have a strong impact on learning within a team based context. A clear explanation of group dynamics impact on performance and learning is well developed in the teamwork quality construct (TWQ) (Hoegl & Gemuenden, 2001). Group relational dynamics are even more important when the group is asked to solve tasks requiring information exchange and social interaction (Gladstein, 1984), such as a business game. In fact, the impact of social relations is deeper when the

Figure 1. Variables influencing individual learning in a business game setting



task is complex and characterized by sequential or reciprocal interdependencies among members.

With reference to TWQ, it is possible to point out different group dynamics variables with a strong influence on individual learning in a business game environment: communication, coordination, balance of contributions, and mutual support. Instructors and business games designers should carefully consider the following variables, in order to maximize learning outcomes.

Hereafter, focusing on a business game setting, we will discuss each of these concepts and their relative impact on individual learning.

Communication

In order to develop effective group decision processes, information exchange among members should also be effective. In fact, communication is the way by which members exchange information (Pinto & Pinto, 1990), and smooth group functioning depends on communication easiness and efficacy among members (Shaw, 1981).

Moreover, individuals should be granted an environment where communication is open. A lack of openness should negatively influence the integration of knowledge and group members' experiences (Gladstein, 1984; Pinto & Pinto, 1990). These statements are confirmed by several empirical studies, showing direct and strong correlation between communication and group performance (Griffin & Hauser, 1992). According to Kolb's experiential learning theory, in a learning setting based on experiential methods (i.e., business game), it is important to provide the classroom with an in-depth debriefing in order to better understand the link between the simulation and the related theoretical assumption.

For these reason, groups with good communication dynamics tend to adopt a more participative behavior during the debriefing session, with higher quality observations. As a consequence, there is a process improvement in the acquisition, generation, analysis and elaboration of information among members (Proserpio & Magni, 2004).

Balance of Contributions

It can be defined as the level of participation of each member in the group decision process. Each member, during the decision process, brings to the group a set of knowledge and experiences that allows the group to develop a cognitive advantage over individual decision process. Thus, it is necessary that each member brings his/her contributions to the group (Seers, Petty, & Cashman, 1995) in order to improve performance, learning and satisfaction of team members (Seers, 1989). A business game setting requires a good planning and implementation of strategies in order to better face the action-reaction process with the computer. For this reason, a balanced contribution among members favors the cross fertilization and the development of effective game strategies.

Coordination

A group could be seen as a complex entity integrating the various competencies required to solve a complex task. For this reason, a good balance of members' contribution is a necessary condition, although not sufficient. The expression of the group cognitive advantage is strictly tied to the harmony and synchronicity of members' contribution, that is, the degree according to which they coordinate their individual activities (Tannenbaum, Beard, & Salas, 1992).

As for communication, individuals belonging to groups with a better coordination level show better interventions in the debriefing phases. They also offer good hints to deepen the topics included in the simulation, playing as an intellectual stimulus for each other.

Mutual Support

It can be defined as the emergence of cooperative and mutually supporting behaviors, which lead to better team effectiveness (Tjosvold, 1984). In contrast, it is important to underline that competitive behaviors within a team determine distrust and frustration.

Mutual support among participants in a business game environment could be seen as an interference between the single user and the simulation: every discussion among users on simulation interpretation distracts participants from the ongoing simulation. This is why the emergence of cooperative behaviors does not univocally lead to more effective learning processes. These relations lower users' concentration and result in obstacles in the goal achievement path.