

Learning from games

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Dr Elysabeth Leigh¹, at her workshop on 'Learning through simulations and games' organized by the SSAGSg² on March 31, 2007, reflected on the expectation of a facilitator of a simulation game used in learning being akin to Lao Tzu's ideal of a teacher. He said in Daode Jing, that 'Therefore, the sage goes about doing nothing, teaching no-talking'.³

Since last year, Singapore schools, under the initiation of the Ministry of Education, have embarked on the journey of *'Teach less, Learn more'* to focus on the quality engagement of students during the learning process. Simulation games should have more significant roles to play in the education scenes in and out of Singapore classrooms.

There are many forms of simulations games ranging from centuries-old board games like *'chess'*, *'go'* and *'snake and ladder'* to modern video and computer games like the *'World of Warcraft'*. A game incorporates rules and instills a mood of contest. A simulation represents an actual dynamic situation drawn from real-life or imaginative world and is operational, developing into different consequences upon the interaction between players and the built-in simulation mechanism. Simulation generates scenarios to challenge players to drive the game forward. Simulation games are usually played in a number of consecutive periods.

eLearning simulations games include technical simulations, business simulations, and situational simulations that are computerized to provide in-context gaming scenarios for training. They take the learners through the simulated process they will face in specific real-life work or social situations to experience dealing with the problems and learn through the consequences of their actions.

Among the many eLearning simulations games, business or management games perhaps enjoy the most sustained interests and widespread academic discussions. The first widely known computerized management game, called the *Top Management*, by American Management Association (AMA) was developed in 1956. Since then, many games teaching entrepreneurial skills, inventory management, and specific job skills such as personnel administration, collective bargaining, and financial concepts and general leadership skills have been developed and used by companies to conduct training for their staff as well as education institutes to supplement lessons in their undergraduate and post graduate management studies.

Management games can be broadly categorized into either total enterprise game or functional game. Total enterprise game covers a wider scope of the business planning and decision making process. It is a representation of the firm as a whole and the decision variables covers the major functions of the company, namely, sales, finance, production and human resource. Players are required to make decisions at the top management level. Majority of management games used for educational purposes are of this type. In functional management games, the emphasis is on a smaller scope and the decisions normally demand a more in depth understanding or specialized knowledge of certain function of a company, e.g., marketing.

Studies published in research journals have reported effective teaching using management games⁴. The type of learning through participation in such a game can be categorized as *cognitive*, when basic concepts are learned, *affective*, when participants reflect a positive attitude in what they have learnt, and *behavioral*, when participants could actually formulate or apply corrective actions at new but similar decision situations. Although the degree of success in using such games varies and a number of factors have been identified as important towards the success, these games are recognized as a powerful teaching tool. With computerization, using these games can enhance the assessment of learners due to the advantages of objective scoring and ease of administration that are usually built-in together with the gaming systems⁵.

With computerization and Internet technologies, some management games have also advanced together with the development of new business operating concepts introduced into the modern training curriculum. The dependency on information systems, the utilization of business intelligence including the powerful data visualization and decision support models, and the emphasis on instant access of knowledge put into demanding management games to provide practices in making *informed* or *knowledge-based* decisions. *MAGNUS*⁶, for example, incorporates balanced scorecard in its latest version.

Management games provide a dramatic, interactive way of learning as compared to the passive, narrative mode of teaching employed in traditional classrooms. Enriched with multimedia scenarios delivered over infocomm networks, they allow trainers to engage students in hands-on, discovery learning on their own and themselves, the trainers, saying just a few wise words only when necessary during the entire process.

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Society of Simulations and Gaming of Singapore (SSAGSg: <http://www.ssagsg.org>).

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<道德经>第二章：是以圣人处无为之事，行不言之教。

⁴ See, for example,
A J Faria, "The Changing Nature of Business Simulation/Gaming Research: A Brief History", Simulation & Gaming, Vol. 32, No.1, March 2001, 97-110,
and,
J Wolfe, "The Effectiveness of Business Games in Strategic Management Course Work", Simulation and Gaming, Vol. 28, No. 4, December 1997, 360-376.

⁵ See, for example,
P Thavikulwat, "Developing Computerized Business Gaming Simulations", Simulation & Gaming, Vol. 30, No.3, September 1999, 361-366.

⁶
MAGNUS (<http://www.magnus.comp.nus.edu.sg/>) was born in 1987 but started as Version 2, giving recognition to its predecessor simulation, simply called The Management Game, that had been used in yearly AIESEC contests among the higher institutions from the late 60's to 70's. The current MAGNUS version 5.0 is web-delivered and available in more than one languages.

⁷ <http://www.decisionwaresim.com>