

HAVE YOUR BUSINESS STUDENTS GOT GAME? SIMULATIONS AND ACTIVE LEARNING IN BUSINESS SCHOOLS

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ABSTRACT

Business leaders and the AACSB International have similar goals for learning in colleges of business. One method to reach these common goals is through more active learning by way of simulations. This symposium will provide an overview of how simulations are being integrated into the curriculum of schools of business. Experienced and expert faculty will present their applications of simulations in courses ranging from introductory level to capstone courses including homegrown, local PC based commercial, and simulations that function in the world-wide-web. The panel will encourage discussion with the audience concerning how simulations can best be integrated into business courses to achieve active learning objectives.

BACKGROUND

What Business Leaders Want

Business leaders say in discussions about their needs and today's business school graduates that they want students to come out of business schools capable in five broad competencies. (See [6] and [4] for a discussion of competency-based curriculum architecture and work-related competencies.) Michigan State's Collegiate Employment Research Institute conducts a national survey of employers that consistently outline these five competencies desired in new business school graduates. These competences include, but are not limited to:

- Analytical Thinking
- Team Building
- Multitasking
- Doing Successful Problem Solving Under Duress
- Meeting hard deadlines

What AACSB Wants

Similarly, the American Association to Advance Collegiate Schools of Business International (AACSB) encourages colleges of business to pursue active learning approaches and have set up requirements to guide that process. These requirements include:

- Requiring closed loop learning for accreditation
- Colleges of business are also required to demonstrate how they are actively teaching and measuring learning outcomes
- Active learning requires the context of real organizational settings, in which a particular problem or challenge is dealt with in real time for a real organizational “client”
- Using case analysis and simulations as an active learning technique

Statement of the Challenge

The challenge for schools of business is to answer the call to engage students in active, action, or experiential course content in a way that ensures they learn how to convert their knowledge from textbooks and classroom instruction into effective business decisions.

An Important Solution - Simulations

Many Professors in schools of business incorporate various levels of course content to get their students actively involved in the learning process. The course activities involve passive activities such as reading textbooks and taking attendant quizzes to measure knowledge and understanding. Typically, cases, projects, simulations, and internships are used to put knowledge and understanding into action. The key element in all of these course elements is whether or not they are integrated (work together) and lead to learning rather than just going through the motions.

Simulations have been utilized in business classrooms for some time [1]. But the results from exams have yielded mixed results [2]. Thompson and Thompson [8] found that computer-based simulations were found by students to provide more learning than traditional group projects. Others [7] have found that simulations either have a neutral effect on or a positive effect on student performance and course evaluations, relative to traditional passive instructional techniques. Both of these studies involve simulations running for the whole course carried out by groups of students.

THE PROMISE OF SIMULATIONS

Consistent with what business leaders and the AACSB want, simulations promise to offer:

- To be useful for learning principles of the discipline involved
- To be useful for applying those principles
- Ease of use for students to navigate the simulation
- Useful help from personnel at the simulation website
- A self-paced demo helpful in using the simulation
- Assignments that help the student learn and understand discipline principles
- Easy to learn interface and way to access and use the simulation
- To add excitement in the class leading to more involvement and participation
- Metrics to indicate how well individual or teams of students perform in the simulation

Aziel, Erthal , and Starr [3] have argued that simulations do three things:

- Motivate active participation in the learning process
- Encourage teamwork
- Provide a way to review business theories and vocabulary

These authors note that these enhancements of the learning experience can be obtained in even large sized and very diverse classes.

The largest advantage of using business simulations is their impact on students [5]. The design of a business simulation is aimed at offering students immediate insight and feedback on their strengths and weaknesses by putting key business issues in sharp focus. In looking at the impact of active and passive course design on student outcomes, Wingfield and Black [9] found students perceive active courses to be more useful to their future than passive courses, but course design had no impact on student grades, satisfaction, or course evaluations.

Ensuring Learning Instead of Gaming

There are many questions related to the use of simulations and their role in active learning. However, one problem with simulations is many students say they are unprepared to interact with the simulation in a constructive fashion. Ensuring they learn in the process how to apply business theories and principles instead of gaming is a key factor in the value of simulations. Wolfe and Luethge [10] have argued that “knowing little” may lead to less involvement in the simulation and poor performance. They concluded that business simulations increase involvement and lead to planned decision-making practices integrating strategy and tactics that ultimately lead to high performance and learning.

SYMPOSIUM PURPOSE

This Symposium explored how faculty with experience using simulations as learning tools foster learning instead of gaming in simulations. In the process the questions below were also explored as well as questions raised by the audience

Types of Simulations Discussed During the Symposium

The following are descriptions of the simulations used by panel members, the objectives these simulations are to address, and the method of assessing impact.

PharmaSim (Interpretive.com)

PharmaSim is used in the Marketing Major Capstone Course at Coastal Carolina University titled Marketing Strategy. The relevant course objectives addressed by PharmaSim are:

- To illustrate the process of devising and implementing Marketing Strategy in a dynamic global marketplace.
- To illustrate the use of strategic planning models to organize marketing decision-making.
- To distinguish segments of a marketplace and devise a targeted marketing effort to reach organizational goals.
- To compare and contrast the decision-making process of individuals and organizations in the marketplace.

- To illustrate marketing mix manipulation in a competitive marketplace (Product, Price, Promotion, and Place/Access).
- To prepare students to conduct themselves as informed consumers and marketing managers in a dynamic global marketplace.

Following a 2 week practice period, students are positioned to treat each week as one year in the life of the simulation (10 years total). The simulation typically runs for at least 12 weeks over the life of semester. Student assessment of PharmaSim is done as follows:

Please evaluate the use of PharmaSim (the online computer simulation) used in the delivery of the Marketing Strategy course using the scale provided.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PharmaSim was useful for applying Marketing Strategy models.	1	2	3	4	5
PharmaSim was easy to access.	1	2	3	4	5
PharmaSim was easy to learn.	1	2	3	4	5
PharmaSim was easy to use.	1	2	3	4	5
I got useful help from personnel at Interpretive.com (the provider of PharmaSim).	1	2	3	4	5
PharmaSim provided the opportunity to apply the concepts discussed in class and in our textbook.	1	2	3	4	5
The PharmaSim in-class assignments helped me to learn about Marketing Strategy.	1	2	3	4	5
The OTC Consumer Study helped me to learn about Marketing Strategy.	1	2	3	4	5
PharmaSim added excitement to the Marketing Strategy course.	1	2	3	4	5
The use of PharmaSim increased my level of satisfaction with the Marketing Strategy course.	1	2	3	4	5

The Professor continues to work to more fully integrate the simulation with the remainder of the class, believing the data that follows reflects an important need for active learning.

Mike's Bikes Advanced (SmartSims)

Mike's Bikes Advanced is used in Strategic and International Issues in Management MBA course at Coastal Carolina University. It is fit into the course by discussing applications of course materials as those sections arise in the textbook.

Related Course Objectives include the following:

- To identify and explain feasible courses of action based upon a integration of functional skills (e.g., accounting, human resource management, finance, marketing, MIS, etc.).
- To differentiate between strategies at the functional, business, corporate, and international levels and to analyze the appropriateness of these different strategies for particular organization, given the environment in which the organization operates and the resources of the respective organization.
- To apply analytical skills toward the integration of course material and real world business problems in both simulated and real decision situations.
- To demonstrate the connection between formulation and implementation of strategic plans.
- To devise and evaluate comprehensive work plans in teams.
- To design, organize, and prepare formal presentations of strategic analysis and plans of action in both written and oral form.

A description of Simulation Assignment/Assessment of Learning is as follows:

Throughout the course, students compete in teams in a simulation involving strategic, functional, and organizational decision making. While many of the other components of the course focus on formulation of business strategy, this component emphasizes the integration of both formulation and implementation. Three segments will comprise the grade for this component:

- Simulation Preliminary Strategic Plan and Performance
- Final Simulation Strategic Plan
- Presentation of Final Simulation Strategic Plan

Better Business Game (BT Group plc, UK)

This stakeholder game is used in the Management Major Capstone Course on Strategic Management at Coastal Carolina University. It is played twice by each student individually with no competition involved. There are two years of the stakeholder game, one at the start of the course and one at the end of the course. To make good decisions, a player needs to devote at least an hour to study the available information and select good options. A written report with the final results page is required.

The course objective related to the simulation is:

- To adopt a stakeholder analytic perspective when applying analytical skills toward the integration of course material and to real world business problems.

The simulation has some relationship to first chapter in the text with a section titled "Strategy and Ethics: Passing the Test of Moral Scrutiny." Ideas are also revisited in Chapter 10 titled "Strategy, Ethics and Social Responsibility." More importantly, however, stress is placed on the stakeholder impact in all major course assignments. Stakeholder theory is a central theme of the course, and the Better Business

game provides great reinforcement. Students often comment on how they gained a greater appreciation for the CEO's job in having to make stakeholder decisions

BROADEC The Broadcast Economic Computer Simulation Game (Louis Mancuso)

BROADEC is used in both an Advertising Management class and Marketing Strategy class for Juniors and Seniors at Xavier University of LA. It is a stand-alone simulation, but can be used with a variety of textbooks in advertising and marketing strategy. The courses are designed to teach management functions of an advertising campaign including planning, direction, organization, control, and feedback.

The courses consist of 'live' case studies, textbook material, lectures, and the simulation.

The simulation helps the student develop and understand:

- The strategic planning and management of a media buy campaign.
- The integration of various business disciplines (including accounting, economics, management, finance, and marketing) to enhance the students' skills in decision making.
- How to prepare and implement a strategic plan and modify the strategic plan overtime to meet the competition.
- How to learn to work in teams and make both formal and informal presentations using such programs as Power Point.
- The effects of economics on various managerial decisions.
- The effects of natural forces, such as, hurricanes on the decision making process.

The students must pass in their senior year the ETS Comprehensive Examination in Business with sections in Accounting, Marketing, Economics, Finance, and Management. The simulation prepares students for these exams.

Foundation Simulation (CapSim)

The Foundation Simulation is used in the Capstone Course of the MBA program at Charleston Southern University which examines the strategic planning process from an executive level of management. The course is designed to teach the student to understand, integrate, and apply strategic planning and management concepts from the MBA business core in the solution of domestic and global business problems. The course consists of written case studies, computerized management simulation, reading assignments, and group Discussion Board activities. This course is an on-line version taught regularly during the Fall and Spring semesters.

- To develop an understanding of the strategic planning and management concepts in a variety of domestic and global situations.
- To integrate various business disciplines with the strategic management process and enhance students' skills in decision-making.
- To acquaint students with strategic management concepts, including formulation and implementation of these concepts in practice.
- To give students practical experience in preparing and implementing a strategic plan for a business or an organization.
- To provide students with opportunities to work in teams, make formal and informal presentations through presentation software such as PowerPoint.
- To understand the impact of the world economy in which the manager operates.

Students take the Comp-XM evaluation exam at the end of the course which compares their knowledge and expertise with students from all over the world. This procedure first used this year is a test procedure to support a probable recommendation that this evaluation be done with each class.

MarketShare (Interpretive)

MarketShare is modeled from an OTC brand management perspective, but the issues raised apply to marketers in any industry. In the introductory course for Marketing Principles designed as a foundation for the Marketing Major, MarketShare is an active learning tool. MarketShare is an online Simulation that focuses on the process of creating and delivering marketing value: learning about customers and how to create, communicate, and deliver value. Students develop a sound understanding of the Four P's of Marketing: Pricing, Promotion, Product and Place (distribution). This includes an introduction to segmentation, marketing research, consumer behavior, integrated marketing communications, distribution, and channel management. In MarketShare, students take the role of the Brand Management Team in the over-the-counter pharmaceutical industry and manage 'Allstar Brands' the leading multi-symptom cold medicine, for up to 6 simulated years. As a member of this marketing team, students manage the marketing mix for their products, along with reformulating their brand, introducing a line extension, and launching a new product. For the Marketing Team Project, the class is divided into teams of approximately 4 to 5 persons per team. Once teams are formed, they do not change in composition. Each team member is assigned a role, e.g., Product Manager, R&D Director, VP Marketing, etc. (The number and sizes of teams will vary depending on the final class size). Although weekly class times may be given to meet, the team must meet on their own time. Teams must select a team leader who will be responsible for coordinating meetings and the team playing of MarketShare. The team project using the MarketShare simulation will be assigned early and each team will be expected to start early and pace itself. This realistic simulation offers the advantages of an opportunity for hands-on learning at an accelerated pace when compared with "real life". Teams will form through a collaborative process, and each team will be responsible for a number of homework assignments and for running their firm. The assignments will help teams prepare to run a firm effectively, and give direct experience with some of the concepts discussed in class. Each student firm will start at the same starting point and will compete against the other computer-run teams. At the end of the simulation, each team prepares a marketing plan and a presentation to management.

A "Balanced Scorecard" approach to relative performance is used to evaluate team performance and is based on each firm's weighted rank at the end of the simulation, assessed as follows:

- The firm's stock price - 35%
- The firm's cumulative net income - 35%
- The firm's overall market share (at retail in \$) in the last period - 30%

Both the simulation impact and the working in teams environment are assessed at the end of the simulation as follows:

MARKET SHARE SIMULATION EVALUATION		<i>Strongly Agree</i>			<i>Strongly Disagree</i>	
1	The simulation was useful for learning marketing principles	5	4	3	2	1
2	The simulation was useful for applying marketing principles	5	4	3	2	1
3	The MarketShare simulation was easy to use	5	4	3	2	1
4	My team got useful help from personnel at Interpretive.com	5	4	3	2	1
5	The self-paced demo was helpful in using the simulation	5	4	3	2	1
6	The MarketShare assignments helped me learn and understand marketing principles	5	4	3	2	1
7	The simulation was easy to learn how to access and use	5	4	3	2	1
8	The simulation added excitement to this class	5	4	3	2	1
9	The MarketShare simulation experienced could be improved by:					

WORKING IN TEAMS EVALUATION		<i>Strongly Agree</i>			<i>Strongly Disagree</i>	
1	My team was well organized	5	4	3	2	1
2	My team worked together to make decisions	5	4	3	2	1
3	My team members were prepared to work together	5	4	3	2	1
4	If I were looking for a job, I would want to work with my team	5	4	3	2	1
5	The team experience was valuable	5	4	3	2	1
6	My team members attended meetings regularly	5	4	3	2	1
7	The team experience could be improved by:					

Additional questions and issues related to simulations that were addressed in the symposium include:

- How do Professors foster application of business theories and principles instead of gaming?
- What are the perils and pitfalls of using simulations in the classroom?
- Should simulations be group or individual activities?
- What role should simulations have in reaching the goals of business leaders and AACSB?
- How should that role be fulfilled through passive and active learning methods?
- How can we measure the effect of adopting a simulation in the classroom?

- What role do simulations and active learning processes play in developing a business decision perspective?
- What role do textbooks, cases, and other assignments play in fostering a business decision perspective in the classroom?
- What kind of performance metrics should be used to define student outcomes?

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