ABSTRACT

The educational impact of using a simulation in a principles of marketing course is often diminished because of an over emphasis on "winning the game." In addition, the application nature of simulations normally requires content knowledge present only at the end of the semester. In order to overcome these problems, a framework was developed for integrating a simulation into the principles course by using the game to both teach and apply the course content. The impact of this experiential method is enhanced by combining previously learned tools with newly developed problem solving techniques. Finally, by emphasizing learning rather than winning, students tend to focus more on trying to understand marketing relationships and discover the keys to a successful marketing strategy.

THE ISSUES

The educational goals and teaching methodology associated with most introductory marketing courses makes it difficult to utilize computer simulations as part of the educational process. The emphasis on cognitive skills combined with a lecture-discussion delivery, often precludes the effective use of the more application oriented simulation. The basic question posed in this paper is, How does one apply an advanced course methodology to an introductory course environment? Its purpose is to examine the problems of utilizing a simulation in a principles of marketing class and to provide a framework for obtaining maximum value from this form of experiential learning.

Simulations are an established method of instruction that offers several well-documented advantages as a teaching technique. Simulation games provide students with an opportunity to understand the usefulness of basic principles; to become active seekers of knowledge rather than passive absorbers; to see immediate results from their actions; to experience real-world situations without real-world costs; and to gain experience in analysis, goal setting, decision making, and group dynamics.

If we view learning as a two-stage, acquisition-and-application process, we can see that the traditional lecture-discussion teaching methods are used to help students acquire knowledge while simulations are one of those methods used to teach the applications of that knowledge. The typical introductory marketing course is a content-laden, high-enrollment, lecture-discussion offering designed to promote an understanding of descriptive material. In contrast to this, the intermediate or advanced course is an application-oriented, lower-enrollment, experiential process designed to develop analytical and problem-solving skills.

A current simulation's instructor manual states that while many facts about business can be taught, the role of the simulation is to develop decision-making abilities through actual decision-making experience (Faria and Dickinson 1987). A current simulation's student manual says the key objective of the simulation is to optimise (Smith and Golden 1985). In other words, the object is to win. Both of these accurately characterise the simulation as a method of instruction oriented toward analysis and problem solving and one where performance is evaluated on the basis of end-results criteria. As such, this method lends itself to the educational goals of the intermediate and advanced marketing course.

Complaints about business graduates are encouraging a reassessment of educational goals and learning outcomes. The employment community has repeatedly expressed its concern about the inadequacy of oral and written communication skills, analytical and problem-solving skills, and interpersonal skills among marketing graduates. In addition, Standard V of the American Assembly of Collegiate Schools of Business (AACSB), encourages greater use of experiential techniques and an introduction of computer technology (AACSB 1980). Since the tone for any educational process is set at the beginning of that process, the place to start developing these additional learning outcomes is in the beginning courses rather than delaying them until students are enrolled in advanced courses.

All of this points to the adoption of an expanded set of educational goals for introductory marketing courses which include skills from the affective as well as the cognitive domain of educational taxonomy. In addition to teaching an understanding of basic principles and concepts, the beginning course would now require students to gain an understanding of interrelationships and applications, and to develop their communication, analytical, and problem solving capabilities. The simulation, an advanced course methodology, is a natural means for accomplishing these additional educational goals.

THE INTRODUCTORY COURSE ENVIRONMENT

The introductory course environment contains several unique characteristics. First among these is the volume of content covered. The typical first course in any discipline tends to be content intensive and its goal is to teach cognitive skills. While the material tends to be descriptive in nature, the sheer volume of content lends itself to the most efficient, lecture-discussion methodology. For example, one of the current principles of marketing texts lists 564 terms which students are asked to learn in the course of one semester (Berkowitz, Kerin and Rudelius 1989).

A second characteristic of this environment is the profile of the typical student. The typical student is a novice with little or no knowledge of the discipline. In addition, the motivation for many students taking this course is the requirements imposed by their curriculum rather than any personal interest in the topic. While many of these students have completed some additional "tools" courses, such as basic accounting, economics, or computer concepts, they typically possess only a layman's understanding of marketing.

A third environmental consideration for an introductory course is student enrollment. The historical enrollment in introductory marketing courses can easily average 40-50 students. Many schools offer their introductory marketing courses in large lecture halls with enrollments ranging from 150-300 students. In either case, the student-faculty ratio makes it difficult to employ anything other than a lecture-discussion methodology.

Finally, one must consider the educational goals involved. Historically, the educational goals of an introductory course have been in the cognitive domain of educational taxonomy. Students are expected to gain an understanding
of the basic terminology and the underlying principles and concepts of the discipline involved. They are expected to absorb a wide range of descriptive content and are subjected to content-oriented evaluations. The amount of content retained, the level of understanding achieved, and their ability to discriminate are the basic criteria used to measure their performance.

PREPARING TO ADAPT

The first step was to determine what could and could not be changed. Three factors were immediately identified as uncontrolables in the short run: the class size, the student profiles, and the course content. The "cash-cow" position of most business schools makes it difficult to lower class size and student-faculty ratios. The student profiles and the course content are dictated by admission standards and established curriculum. Because these were accepted as givens, the emphasis was placed on how to respond to rather than how to change these constraints. The greatest potential for change was in the educational goals involved and in the methodology itself. Thus, the answer to the basic adaptation question was sought in these two areas.

Since marketing educators are being encouraged to adopt a more experientially-based pedagogy in order to produce graduates capable of demonstrating both the possession and the application of knowledge; and, since simulations are a proven way to teach these capabilities; the adoption of new goals and the change in methodology seemed logical. However, this additive approach is like trying to increase the capacity of a full cup by adding water. How could these additional goals be achieved without sacrificing the original cognitive goals in the process? The answer was to alter the application of the methodology itself.

THE ADAPTATION

Instead of using the simulation to teach the application of content, the simulation was used to teach the content itself. This necessitated some changes in the basic methodology. Normally, when this method is used, the students' command of the content is assumed and teaching focuses on the development of analytical, problem-solving, and application skills. In order to change the focus toward the teaching of content, the following elements had to be altered.

1. **Timing:** The simulation must be introduced early in the term rather than using it as a culminating experience.

2. **Sequencing:** The course content must be rearranged in order to teach the strategic marketing process as an introduction to the simulation.

3. **Augmenting:** Students must be taught such tools as strategic decision making, problem solving, and forecasting techniques.

4. **Integrating:** An effort must be made to tie previous learning and course content to the simulation. Use the lecture to introduce and define a concept and use the simulation to promote an understanding of the concept and to illustrate its application.

5. **Evaluating:** Evaluations should be based more on what the students learned than on how well their firms performed. Ends criteria should be used only to motivate and means criteria to evaluate the process.

The plan developed to affect these changes focused on integrating course content with the simulation instead of dealing with each separately. The basic design reduced, but did not eliminate, the importance of "winning." Its primary goal was the teaching of content and process. Although the framework described below was developed around a specific simulation, the concept can be easily adapted to other simulations appropriate for a principles of marketing class (Mason and Perrault 1987).

**Step 1 - Tools/Techniques Modules**

Before introducing the simulation, several "integration" modules were developed to provide students with a background for the game. These modules sought to connect previous course material with marketing and, at the same time, introduce new tools or techniques which would eventually be used in the simulation.

Basic accounting and economics are commonly completed prior to enrolling in the first course in marketing. Unfortunately, the "knowledge evaporation effect" for both these subjects is very high. As a result, a brief review of these topics, combined with an introduction to forecasting and cases, provides the proper backdrop for beginning the simulation. The following is a brief description of the modules used.

1. **Economic Applications in Marketing** - Using diagnostic quizzes and a series of exercises as focal points, a remedial review and discussion of basic economic principles was conducted.

2. **Impact of Marketing on the Financial Statement** - This module discusses, through a set of short exercises, such math concepts as turnover, markups, and markdowns. It also deals with the basic elements of the financial statement and the impact of marketing on a firm's net profit.

3. **Time Series Forecasting Techniques** - The role of forecasting in most simulations is very critical and most students have little or no background in the application of quantitative forecasting techniques. Given the school's access to computer facilities, software package is used to introduce students to four forecasting techniques. Little attempt is made to describe in detail the mechanics of these techniques. Instead, emphasis is placed on the conditions under which a technique is useful and an understanding of the output generated.

4. **Introduction to Case Analysis** - Case analysis can teach students the problem-solving process. Several simple cases are analysed and discussed to demonstrate the concepts of situation analysis, problem definition, and the development of alternative plans of action.

Much of the content needed for these modules can be found in most basic marketing texts. But, since the information is scattered throughout the text, it must be rearranged for presentation early in the course. Although inconvenient, experience has shown this to be a minor problem. Other modules may be utilized, depending on the nature of the simulation to be used.

**Step 2 - Introduction of the Simulation**

During this introduction, students learn the mechanics and logistics of the game, become more familiar with the output generated, and begin to get a feel for some of the marketing relationships at work in the game. Student teams are formed and each team is asked to complete a brief situation analysis by identifying their firm's strengths, weaknesses, opportunities, and threats. This builds on the case analysis module previously completed. The simulation is started and 3 to 4 time periods are run.
Step 3 - Formulation of a Marketing Plan

At this point, the simulation is stopped and a debriefing takes place to discuss the principles at work and the application of module learnings. The importance of forecasting, the impact of decisions on the financial statements, budgeting constraints, and demand analysis are discussed using the simulation to illustrate. By now, depending on the simulation used, it is possible to show how the simulation demonstrates such marketing concepts as market segmentation, product differentiation, target marketing, marketing mix, market share, promotion mix, consumer information, pricing strategies, brand familiarity, distribution strategies, and the role of market research information.

Before resuming play, each team is required to develop a written marketing plan and establish a set of company objectives. Students are encouraged to establish a variety of objectives in addition to the traditional profit, volume, or market share goals. For example, one objective might relate to forecasting accuracy while another one may deal with promotional effectiveness. This emphasizes an understanding of a variety of tools, techniques, and cause-and-effect relationships.

The advantage of a short debriefing is that students now have a better feel for what is transpiring. The result is a better formulated marketing plan, more realistic objectives, and, most important of all, a better understanding of the concepts and principles being used. Students begin to see the integration of marketing functions. Instead of memorising a list of abstract marketing principles, students learn the function, role, and relationships among the marketing elements and begin to develop the broad concept of an integrated marketing plan.

Step 4 - Play the Simulation Game

Once the simulation is restarted, students are expected to implement their strategy and make decisions which move them toward their stated objectives. A log book is kept which explains and justifies each set of decisions. Students are asked to make competitive assessments, justify their decisions, monitor their progress toward their stated goals, analyse their results, and identify the marketing principles at work. By stressing these cause-and-effect relationships, students will learn more than if they simply are asked to maximise market share or profit. The log book becomes the basis for the team’s final report.

Step 5 - Final Debriefing and Evaluation

When the simulation is completed, each team is responsible for preparing a final report which contains the following:

1. Original marketing plan and objectives.
2. Any changes which occurred in the original strategy and objectives along with an explanation as to why they were changed.
3. Actual results compared to objectives.
4. A description of the marketing relationships discovered, including "marketing mistakes". This is written as advice for the next management team taking over the firm.

The focus of the debriefing is on marketing relationships. Particularly important is the advice to be given to the new management team. Here, the emphasis is placed on the knowledge the students have gained by applying, in the game, the principles and concepts learned in the lectures.

Actual comparative results are revealed and recognition is given for a variety of accomplishments, especially those relating to the achievement of goals.

The final evaluation and grades for the simulation are determined by a combination of both objective and subjective measures. One third of the grade is based on objective factors such as forecasting accuracy, growth in market share and profit, and a comparison of objectives with actual results. The remaining portion of the grade is determined by an evaluation of the final report. This is graded in a manner similar to a case analysis with the instructor looking for evidence of the student’s understanding of content and relationships. By placing two-thirds of the grade on this dimension, students tend to stress, students tend explaining what happened and more on why it happened.

CONCLUDING OBSERVATIONS

The advantages of utilising the technique described in this paper are apparent to those who have implemented its design. When asked to compare this experience with other introductory level simulations, the emphasis on learning rather than winning was cited as a strong motivating factor. When only objectively defined "winners" receive high grades, the learning experience of the majority of students is diminished.

A major advantage of simulations is the ability to integrate the concepts learned. Understanding comes when students can see the integration of economic, accounting, and marketing principles into a realistic plan of action. Suddenly, the concept of a target market, an advertising budget, a market research report, a distribution strategy, a pricing change, or a differentiated product begin to make sense. Abstract ideas like brand loyalty, cannibalism, elastic demand, product positioning, niches, and risk take on new meanings. From a collection of isolated facts, a system of cause-and-effect relationships begins to emerge.

The purpose of this approach is not to teach content per se but to develop a deeper understanding of the content taught. Given this context, there appears to be a greater degree of retention when this technique is used. Rather than being a temporary learning experience, student seem to be internalising the information on a more permanent basis. Written feedback from the students themselves have identified the simulation as the single most important element in enhancing their understanding of marketing. Students returning to take more advanced courses from the same instructors tend to remember more than those who were not exposed to the method described. In addition, a comparison of the students’ written work early in the semester with that turned in at the end of the simulation, shows some observable improvement in their reasoning, analytical, and conceptual abilities. These preliminary indicators lead one to conclude that the use of this method is both possible and productive.

Finally, the use of this advanced-course methodology in an introductory-course environment builds an excitement for the discipline of marketing. Students entering the course often look forward to the competition and learning associated with the simulation. If the technique does nothing more than provide a positive exposure to our discipline, it can be considered a success.

REFERENCES


