Teaching Experiential Learning: Adoption of an Innovative Course in an MBA Marketing Curriculum

Tiger Li, Barnett A. Greenberg, and J. A. F. Nicholls

Colleges of business administration are under continuing pressure to develop innovative courses to meet demands from the business community. At the same time, faculty members are facing increasing challenges in adopting innovative technologies because of the amount of risk and effort involved. This article examines the adoption of Marketplace, a purely experiential learning course, in an MBA curriculum. The investigation shows that group dynamics and product characteristics were two key factors in the success of the innovation adoption. Findings from an empirical study demonstrate that the students perceived the simulation course as a viable alternative to the lecture-based pedagogy.

Keywords: *experiential learning; innovation diffusion; simulation*

Experiential learning is "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984, p. 41). Because of its innovative style, it alters the social behavior of adopters. In business and marketing education, experiential learning transforms the behavior of both faculty and students. "The professor's role evolves from that of a knowledge fact provider to a knowledge theorist and manager," and the student changes from a passive knowledge acquirer to an active learner (Celsi & Wolfinbarger, 2002, p. 69).

Today, experiential learning receives greater attention as colleges of business are facing pressure from main stakeholder groups. On one hand, corporations are increasingly demanding better skills from students in MBA programs where the traditional lecture approach has been the dominant teaching mode for decades. "In relatively few instances in established business schools is there much clinical training or learning by doing—experiential learning where concrete experience is the basis for observation and reflection" (Pfeffer & Fong, 2002, p. 85). On the other hand, the current generation of business students, growing up in a social environment that is progressively interactive and communication intensive, expects a more stimulating educational experience to maintain interest, concentration level, and motivation (Ueltschy, 2001).

The adoption of experiential learning is challenging because of the amount of effort required. Experiential learning typically involves dialectical modes of experiencing, reflecting, thinking, and acting (Kolb, 1984; Kolb, Boyatzis, & Mainemelis, 2001). However, grasping a technology that allows students to go through the entire cycle can easily add hours to a faculty member's workload, and one or two semesters, if not years, are needed before an adopter feels comfortable with the tool. Furthermore, technology implementation is only part of the requisite. For a successful adoption, greater effort is required in curriculum development because the pedagogy is not hereditary but a drastic departure from the traditional lecture-based approach (Daly, 2001).

The adoption also involves risks. As a result of the accelerated life cycle of product innovation in the past decade, many innovative technologies in business education became transient in nature. For example, in a study of computer-based marketing simulations, Fritzsche and Burns (2001) observed high attrition rates during technology platform shifts. From 1991 to 1994, among the dozens of marketing simulation programs, only three survived the platform shift from mainframe to MS-DOS environment; when the shift to the Windows environment was completed in the late 1990s, only two simulations were able to make the transition. When technology attrition occurred, the support services for transient technologies were often terminated, inevitably forcing the adopters to abort the projects in the middle of the adoption. Consequently,

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few adopters were able to advance through the entire adoption process from trial to acceptance and diffusion.

The goal of this article is to introduce and analyze the adoption of a teaching innovation, a purely experiential marketing strategy course, in an MBA curriculum. To achieve this goal, we first describe the simulation game selected as the experiential device, our innovative pedagogy, and the three-stage adoption process we went through. Then, based on theories of social groups and diffusion of innovations, we examine the contributing factors in the adoption process. In the next section, we present an exploratory study to evaluate the effectiveness of the new pedagogy. The article concludes with a discussion of implications and future research directions. The information in this study is based on more than a decade of successful experience of the faculty in the marketing department at a large Southeastern public university.

INNOVATION AND ADOPTION PROCESS

Innovation and Role Change

The innovative technology we have adopted is Marketplace, a computer network–based program provided by Innovative Learning Solutions, Inc. (ILS). The program allows a class to simulate the inception of a global industry and its development through growth to early maturity. In the virtual business world, students establish their own companies, assume the role of executives, and make strategic decisions in new product development, customer and competitor analysis, market entry, advertising, and sales management.

In our simulation course, the learning behavior of students is distinctive from that in a lecture-based class as it fits the experiential learning model developed by Kolb (1984). Known in the literature as the Kolb cycle, the model comprises four phases: concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). In the CE phase, our students take on a prescribed role (e.g., a marketing executive) and participate in functional activities, such as consumer research and product design. In the next phase of RO, they observe the consequences of their activities and ask questions such as "What happens to our products in the market?" and "How do customers respond to our product features?" During the AC phase, they develop explanations and assumptions about customers' responses and product performances. In the final phase of AE, they apply their assumptions in the next round of decision making with an objective to improve product performances. Because the course is typically structured in 12 quarters of decision making (equivalent to a 3-year business calendar), our students are able to participate in multiple cycles of learning.

In the curriculum we developed for teaching Marketplace, the instructor's role changes from one of providing knowledge fact to that of managing students' learning processes through various functions in the simulated industry (Celsi & Wolfinbarger, 2002). A key position of the instructor in Marketplace is the board chairman of the firm. In that capacity, the instructor meets each student team at least once per decision period and acts as an advisor to them in setting strategies and tactics and overseeing actions and decisions. The instructor also works as the editor of the industry's "association newsletter" and "newsreel," analyzing and reporting class competition and performance on a quarterly basis. These media sensitize the participants to the virtual reality and facilitate the learning process. Furthermore, as business disputes are a part of the competition, the instructor assumes the role of an arbitrator, such as the commissioner of the Federal Trade Commission (FTC), who handles complaints and claims in deceptive advertising disputes. In addition, the instructor organizes critical events in the class, including venture capital fairs, research and development (R&D) strategic alliance formation, and industry conferences featuring team presentations.

Organizational Adoption Process

The innovation adoption process is a sequence of stages through which a potential adopter passes in the acceptance (or rejection) of a new product, method, or service (Rogers, 1962). With respect to organizational adoption, three main stages are identified: initiation, integration, and diffusion (Frambach & Schillewaert, 2002). For initiation, an innovative technology is used and assessed on an experimental basis. For integration, the innovation is adapted and integrated into an organization's work routine and infrastructure. Diffusion refers to the accumulated level of users of the innovation in an organization. From time to time, an adopter is not able to go through all stages. For example, an adoption may be abandoned after a trial, as seen in the 1980s when experiential learning courses were taught as an experiment in many business colleges but were often discontinued after a brief period of trials.

Initiation. We started teaching the simulation course using the Marketplace game in spring 1990. At that point the game was titled *The Market Place: A Strategic Marketing Simulation.* It was tentatively offered to senior undergraduate marketing students as a special experimental class. Several features characterized the initiation. In regard to the adoption decision mode, our experience fits the bottom-up approach in which an individual, often known as an innovation champion in one unit of the organization, takes the first step in the adoption process (Frambach & Schillewaert, 2002). One faculty member in the marketing department took the initiative of making the adoption decision and teaching this new course with a motivation to improve the marketing strategy course. Cognitively, it was a learning period in which the instructor attempted to familiarize himself with the content of Marketplace and identify a match between the course material and its target students. As the instructor recalled, "Although the students were wildly

enthusiastic about the class, I found the material rich and sophisticated enough to be graduate rather than undergraduate matter." Pedagogically, the instructor was focused on developing a participation format to accommodate the early version of Marketplace. He described his efforts as challenging:

> In this version of the game, teams were not vertically integrated; rather, half of the teams were manufacturers and the other half were distributors. As a consequence, a large fraction of the course involved negotiations between the groups, with alliances made and dissolved, contracts drawn up, and so forth.

Integration. The simulation course was accepted into the MBA curriculum in fall 1992. From 1992 to 1996, it became a core course regularly offered to MBA students in both spring and fall semesters, with a second faculty member joining the teaching team. The integration phase was marked by curriculum adaptation in which the instructors developed a full range of class activities to make Marketplace suitable for a semester course. For example, every week students were required to write a quarterly report analyzing sales, market demand, and competition. During the 5th week of the course, students spent the week preparing a business plan, presenting it to venture capitalists, and negotiating for equity investment. From the 6th to 7th week, they focused their attention on forming strategic alliances and negotiating for joint development of new products. These activities both enriched students' participation experience and allowed them to gain skills needed in the real business world.

The integration phase was also part of the academic governance process in which the teaching faculty in the marketing department evaluated the experimental course, prepared the course proposal, and guided the proposal through the curriculum approval procedure of the curriculum committees of the college faculty council and the university faculty senate (Kovac, Ledic, & Rafajac, 2003). Persuasive communication played an important role in this phase. Because of the unconventional nature of the course, faculty outside the adopting unit were unfamiliar with its methodology. To facilitate the acceptance process, it was necessary to convey the course benefits and advocate its value as an MBA core course. The marketing faculty took every opportunity to communicate with colleagues in other departments to facilitate the course approval. For example, at an annual faculty meeting organized by the MBA office, the simulation course instructor gave a presentation explaining its objective, scope, and pedagogy. In the college curriculum committee, the representative from the marketing department explained the aims and benefits of the simulation to members from other departments before submitting the course curriculum for approval.

Diffusion. Among the three stages of innovation adoption, diffusion is the last one, and it can be measured by an accumulated level of users. In the field of business education, diffusion refers to the expansion of an innovative teaching technology from a single program to multiple programs. In our case, at the end of 1996, the simulation course was a required core course only in our regular MBA program. From 1997 to 2004, it was adopted as a core course in several more master's-level degree programs in the business college, including an executive MBA, a global executive MBA, an international MBA (IMBA), a master of international business (MIB), an overseas MIB, an overseas IMBA, and an overseas executive MBA. Meanwhile, the number of the faculty teaching the course increased to four.

In the diffusion stage, our faculty incorporated a number of innovative teaching activities into the course; these included video show presentations to introduce the course and specific quarterly decisions, a Venture Capital Fair (VCF) with actual venture capitalists, and an FTC hearing to adjudicate advertising disputes. These activities were intended to provide a degree of verisimilitude to the simulation. The actual features used in a particular program vary, or certain features are modified to fit schedule patterns and communication environments.

The diffusion phase was also accompanied by the faculty's continuous adoption of the accelerated software innovation. Marketplace was originally designed in Lotus 1-2-3, and complex Lotus macros were used to run the simulation. When it was replaced by the fully programmed Turbo-Pascal version in MS-DOS in late 1996, our faculty was one of the earliest groups of adopters in the nation. Then, 2 years later in 1998, when the software was updated to the Windows version with a graphic interface, our teaching program was one of the beta test centers. Finally in 2002, when Marketplace was further upgraded to the Internet version, our faculty participated as a team in several beta competitions organized by the Marketplace producer.

FACTORS IN ADOPTION PROCESS

Our successful adoption of teaching innovation can be attributed to two major factors: group dynamics and product characteristics.

Group Dynamics

According to group theories (Hollander, 1971), there are two kinds of groups—functional group and grouping. A functional group consists of people who share norms and are mutually involved in social interactions aiming at common goals. On the other hand, people who only possess common features that can be used to describe them are considered a grouping or an aggregate. An aggregate is a special category of individuals who share similar characteristics but do not take collective actions.

At colleges, faculty members are an aggregate in most teaching situations. In a department, several instructors may have similar assignments, such as teaching an identical course in different sections. But they remain a grouping when they do not interact with each other to exchange experiences.

Group dynamics are collective activities of individuals that transform a grouping into a functional group. In recent years, group dynamics have drawn increasing attention, and professors have started using them to meet challenges in teaching innovative courses (Black, 2002). Group dynamics are effective for combining talents and offering solutions to unfamiliar problems, particularly in situations where there are no established procedures. The wider base of skills and knowledge of a functional group has a distinct advantage over that of an individual.

While teaching the simulation course, we engaged regularly in hallway meetings, exchange of deliverables, and competition participation. These activities of group dynamics were crucial for us to meet challenges in our adoption practice because they created "positive network externalities," which are defined as the social environment that reduces switching cost and initial uncertainty about the performance of a new technology (Loch & Huberman, 1999, p. 162).

Hallway meetings. Characterized by informal settings and an improvised style, hallway meetings were often held in the department corridors, the stairways of the college building, or the offices of faculty members. They could be started when two Marketplace teaching staff encountered each other in the hallway during lunch hour or when one member felt a need to resolve a teaching issue and knocked on another member's office door. Theoretically, our hallway meetings fall into the category of an interpersonal communication channel, defined as "the process by which participants create and share information with one another in order to reach mutual understanding" in innovation diffusion (Rogers, 1983, p. 17).

The improvised style was valuable for teaching the simulation course, in particular when faculty faced situations that required unplanned actions. Under such circumstances, fast learning and adaptation by instructors were critical. For example, in one semester an instructor was puzzled by what happened in his class. When he walked into the boardroom to attend a team's briefing, every member on the team looked sullen and tense. To his surprise, the same scene repeated with the second team and then the third team. After discussion with them, he realized the teams were upset about their performances in the quarter: Two teams were on the brink of bankruptcy and had to borrow emergency loans at an excessively high interest rate, and the third team declared bankruptcy. Although he had teams facing financial difficulties, this time the scale of the crisis was much larger because among the four teams in his class three experienced the crisis simultaneously. This had never happened before.

When this instructor called a hallway meeting, he realized that he was not alone and that others were facing a similar situation. During the discussion, they identified the source of the problem: students' exuberant optimism with the "Web center," a new feature just incorporated into the game. The teams overspent in building Internet offices but underestimated the difficulty of attracting customers to their Web sites. At the meeting, they also worked out an emergency plan to assist each class in the next phase of the game: new product development and R&D alliance formation. Because of the financial crisis, most teams would not have the resources to develop new products and to participate in R&D partnerships. With the emergency measures, the faculty members were able to help the teams resume activities in the next phase.

The hallway meetings were also instrumental for our faculty to manage students' innovation. An interesting aspect of our course is that it nurtures creative thinking. Students often bring into play their own innovative ideas and take moves beyond the boundaries specified by the Marketplace Guide. The hallway meetings provided a forum for us to exchange information about students' creativity and to find ways to encourage their innovative thinking while ensuring fairness of the game. For instance, in one semester students in one class extended their alliance activities from R&D partnerships to marketing research. Although the game menu carries instructions guiding R&D partnerships, cooperation in marketing research is not specified. At a hallway meeting, we discussed the students' initiative and the potential consequences. This meeting proved to be useful. Later, in the same class when one team intended to dissolve the partnership, the instructor already had a set of measures to handle the breakup.

Exchange of deliverables. As in a lecture course, teaching the simulation course involves disseminating information and materials. However, there is a difference in the types of materials delivered to students. In a lecture, deliverables mainly consist of lecture notes and handouts. In our class, instructors provide information in the form of industry newsletters, quarterly electronic presentations, advertising arbitration decisions, and their responses to teams' inquiries.

In our department, exchange of deliverables takes place when class materials are shared among the simulation course faculty. It is mainly conducted in two modes. In the simultaneous mode, an instructor sends the materials to his colleagues while delivering them to his class. For example, when an instructor e-mailed an FTC decision concerning a deceptive advertising claim to his class, he would copy the decision to other faculty. The exchange could also take place in a cumulative manner when an instructor copies all his multimedia presentations for quarterly briefings to a CD and shares the CD with other colleagues.

The exchange of deliverables allowed our faculty to offer each other unique perspectives on how to use the materials for motivation. A major objective of creating deliverables is to stimulate the Marketplace participants with a more realistic business setting. For this purpose, each type of deliverable has a particular function. When students read a newsletter from a computer industry association, they usually feel a sense of industry atmosphere. A decision from the FTC in regard to a deceptive advertising dispute can provide them with a litigation ambience.

However, views on deliverables can vary. Class deliverables are classified into two categories: those based on static visuals and those based on dynamic visuals (Astleitner & Wiesner, 2004). Although some faculty members prefer using static visuals, such as printed materials, others believe that dynamic visuals, such as multimedia, enhance learning and participation. One of our colleagues was particularly innovative in this respect. He created a series of quarterly presentations with multimedia technology and adapted these presentations to specific situations in a class. For example, when a team experienced a financial crisis and borrowed an emergency loan, he would use music, videos, and pictures from the movie *The Godfather* to dramatize the situation (in Marketplace, emergency loans are obtained from a loan shark named Guido). His presentations sensitized the students to the development in the competition and proved to be an effective factor in motivation. When he shared his materials with other instructors, they felt their vision on teaching Marketplace was suddenly enlarged. Consequently, our faculty adopted an integrative approach in creating class materials and designed deliverables with an assortment of static and dynamic visuals.

The exchange of deliverables was also a significant factor in enhancing new faculty's learning. A new instructor faces a steep learning curve in teaching Marketplace. In addition to mastering the intricacies of the simulation game, he or she needs to prepare a large amount of deliverables for the new course. The exchange allows the instructor to overcome the steep learning curve because he or she can use the deliverables from other faculty as building blocks and create his or her own deliverables based on the frameworks already laid out by other colleagues. From the perspective of risk management in diffusion, the exchange serves as a mechanism to reduce uncertainty for new faculty. "Uncertainty implies a lack of predictability, of structure, of information" in innovation adoption (Rogers, 1983, p. 6). Because the deliverables provide new faculty with in-depth information about teaching Marketplace, the exchange "represents the possible efficacy . . . in solving an individual's felt need or perceived problem" that caused uncertainty (Rogers, 1983, p. 13).

Competition participation. As a faculty group, we regularly participated in simulation competitions sponsored by ILS. Among the various competitions, the beta game is often organized after a new version of Marketplace is completed. The objective is to familiarize participants with new functions and features. The global competition is conducted biannually to sharpen and enhance the strategic thinking and skills of experienced players.

Our participation was similar to that of student teams. There are six functional positions in each team: the company president and the vice presidents of marketing, sales, finance, accounting, and manufacturing. As participants, each of us assumed one or two positions. Throughout the competitions, we used a Web conference board and e-mails to discuss and coordinate activities and strategies.

Our participation was beneficial because it allowed us to understand relationships among functions in a team and the importance of group communication. While assuming different positions in the game, we learned that decision making in a functional area was not isolated but dependent on inputs from executives in other positions. For example, every quarter the vice president of manufacturing needed an analysis of market demand from marketing so that he could set the factory operating capacity. On the other hand, the vice president of sales needed outcomes of the factory simulation (an internal planning tool in the team's decision template) from manufacturing to determine the size of the sales force. The functional dependence in decision making made group communication critical to a team's success; dysfunctions within a group invariably led to a team's failure. Our experiences strengthened our ability to identify sources of a student team's problems in decision making and enhanced our skills to manage a simulation class effectively.

Product Characteristics

In his model of innovation diffusion, Rogers (1962; Rogers & Shoemaker, 1971) identified five product characteristics as essential to innovation diffusion: relative advantage, compatibility, complexity, "trialability," and observability. Our adoption success is closely associated with how our faculty perceived Marketplace as offering the five features of innovation.

"Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes" (Rogers & Shoemaker, 1971, p. 138). In our situation, if faculty members perceived that innovative technology such as Marketplace offered a strong and recognizable advantage to existing alternatives, they would make progress in the adoption process. For example, a key advantage of Marketplace at its introduction was its ability to operate in an MS-DOS environment in contrast to the mainframe platform of other simulation programs. This feature was a major factor in our initial decision to adopt Marketplace because it allowed our faculty and students to have greater control of the program as well as better access to it.

"Compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of the receivers" (Rogers & Shoemaker, 1971, p. 145). Marketplace was introduced at a time when one of our faculty members was experimenting with experiential learning methods in his strategic marketing course. He decided to try Marketplace because the program would provide an appropriate setting for his experiment. After his positive teaching experience with Marketplace in our regular MBA curriculum, he suggested that we expand our adoption to other master's-level programs to allow all students to enjoy the benefits of experiential learning offered by the simulation.

"Complexity is the degree to which an innovation is perceived as relatively difficult to understand and use" (Rogers

& Shoemaker, 1971, p. 154). Although Marketplace is a sophisticated simulation program in logic and algorithm, our faculty and students found its usage to be simple and convenient. At the beginning, its easy data entry and well-crafted operating manual were appealing to us as they presented a sharp contrast to the cumbersome operations of other games on the mainframe. Later, when Marketplace was upgraded to an Internet-based program, we found that its easy operation was further strengthened with greater flexibility and versatility because now it allowed us to teach the course in our multiple off-campus and overseas programs.

"Trialability is the degree to which an innovation may be experimented with on a limited basis" (Rogers & Shoemaker, 1971, p. 155). In our case, our ability to participate in Marketplace program testing was a critical component in our successful adoption. During the past decade, we were offered opportunities to take part in beta testing during several stages of its product innovations—first from Lotus 1-2-3 software to a DOS-based menu-driven program, then to a Windows-based program with the "local manager," and eventually to an Internet-based product. Because these trials allowed us to have early access to new product functions and features, we were able to build on our trial experiences and roll out new curricula in a speedy manner.

"Observability is the degree to which the results of an innovation are visible to others" (Rogers & Shoemaker, 1971, p. 155). For us, the results of Marketplace teaching were observed on two levels. First, ILS sponsored an annual Training the Trainers program where participants were invited to observe how Marketplace was taught to students in the classroom. Second, in our department new faculty members were offered opportunities to audit the Marketplace course taught by experienced instructors. Our faculty's participation in both programs substantially reduced the level of uncertainty in teaching the new course and allowed new faculty members to transition smoothly into their role of teaching.

AN EXPLORATORY STUDY

The new teaching approach we have adopted over the past decade addresses several limitations of the lecture-based method and also provides a number of other benefits. We conducted an exploratory study to examine whether students perceive these advantages because relative advantages apprehended by users ultimately determine the outcome of innovation adoption (Rogers, 1983). The benefits of the new approach were evaluated by requesting students to answer a questionnaire that gauged their perceptions. The questionnaire, adapted from Droge and Spreng (1996), was designed to tap students' perceptions of the effectiveness of a new teaching method in five areas: career preparation, traditional educational goals, use of time, involvement and satisfaction, and a set of specific skill competencies.

Method

Sample. The sample consisted of 588 students at a large Southeastern public university. These students were from 19 master's-level classes in the college of business. The course was required for all the students. Among the students, 59.2% were men, and 40.8% were women. The amount of full-time work experience varied: 10.9% had 1 year of experience or less, 27.4% had 2 to 4 years, and 58.3% had 5 or more years.

Each respondent had just completed the simulation course. Respondents were asked to evaluate this course and the traditional lecture-centered method on a variety of dimensions. The lecture-centered method was verified by a survey among professors who taught the required courses at the master's-level in the college. The lecture-centered approach was employed in more than 60% of all the required courses. Because the simulation was a capstone course, each student had taken an average of eight lecture-centered classes before they took the simulation.

Measurement. Following Droge and Spreng (1996), we divided measurement into the two categories of the overall measure of evaluation and the measure of specific skills. The adoption of the two categories is based on the suggestion that teaching curriculum should be assessed on two levels: broad learning objectives and specific competence skills (Duke & Reese, 1995). Traditionally, curriculum assessment largely focused on general learning goals. Duke and Reese (1995) suggested that curriculum should also be evaluated on specific competence skills required by employers. The two categories reflect this trend in curriculum assessment. The overall measure of evaluation required the students to directly compare the simulation course with the traditional lecture-centered method. On a total of 10 measures, the respondents were asked, "Which method do you think is better overall?" Students were required to evaluate on a 7-point scale, with 1 indicating the simulation method and 7 indicating the lecture-centered method, and 4 indicating that the methods were equal.

The overall measure of evaluation covered four areas, which are shown in Table 1: career preparation, traditional educational goals, use of time, and personal involvement and satisfaction. Each area contained two to four measures.

The measure of specific skills incorporated 12 statements that asked the respondents to evaluate potential benefits of the two methods separately. A 7-point *disagree* (1)/*agree* (7) scale was adopted.

Results

The findings of two sets of evaluations, overall evaluations and evaluations of specific skills, are discussed in the following two sections.

TABLE 1
OVERALL EVALUATION OF SIMULATION COURSE VERSUS LECTURE-CENTERED COURSE

	Mean	*Standard Deviation*
Career preparation		
In developing career skills	2.27	1.54
In serving as a good surrogate for real world experience	1.79	1.22
Traditional educational goals		
In helping me understand the material	2.80	1.79
In achieving: "I learn a lot"	2.41	1.48
In improving my competences in this area	2.33	1.42
In achieving high educational value overall	2.71	1.68
Use of time		
In making good use of class time	2.80	1.85
In achieving benefits to time ratio	2.65	1.66
Personal involvement and satisfaction		
In producing a high level of involvement	1.63	1.19
In achieving overall satisfaction	2.19	1.56

NOTE: On the question of "Which method do you think is better overall?" a 7-point scale was used, with 1 indicating the simulation method and 7 indicating the lecture-centered method. The results of one-sample *t* tests show that the means of all of the items are significantly smaller than 4 (at < 1%).

Overall evaluations. The results for the 10 items focusing on overall evaluation are presented in Table 1. These 10 items involved direct comparative evaluation of the simulation and the lecture-centered methods. As shown in Table 1, the 10 items were classified into four categories. The respondents were asked to compare the two methods on each of the 10 items on a 7-point scale (1 indicating the simulation was better, 7 indicating the lecture-centered method was better, and 4 indicating the methods were equal). The results of *t* tests show that the means of all 10 items are significantly smaller than 4 (at an alpha of .01): Among the 10 items, 2 have means smaller than 2; the rest have means smaller than 3. The means of the 10 items are ranked in ascending order as follows:

1. producing high level of involvement,
2. serving as good surrogate for real-world experience,
3. achieving overall satisfaction,
4. developing career skills,
5. improving competence,
6. learning a lot,
7. achieving good benefits-to-time ratio,
8. achieving high educational value overall,
9. making good use of class time,
10. helping me understand the material.

As shown in Table 1, the simulation course was perceived to be most effective in the areas of personal involvement and satisfaction and in career preparation. The means of the two items related to personal involvement and satisfaction are 1.63 and 2.19 and are first and third in the positioning. The means of the two items pertaining to career preparation are 1.79 and 2.27 and are ranked second and fourth. These results are consistent with the literature that identifies career preparation and involvement as the two dimensions that benefit, in general, from experiential learning (Saunders, 1997).

Among the measures related to traditional educational goals, the item for improving competence has a mean score of 2.33 (fifth); the item pertaining to achieving educational value averages 2.71 (eighth). Both scores are significantly smaller than 4, indicating students perceived that the simulation course provided better educational value.

The two items evaluating use of time cover making good use of class time and achieving good benefits-to-time ratio. The simulation course was relatively demanding in terms of workload: On average, students reported spending 8 to 12 hours per week in making decisions, with more energetic students spending 20 hours per week. In view of the time requirement, students' evaluations were encouraging. The item measuring achieving good benefits-to-time ratio has a mean score of 2.65, indicating students' positive perception of the benefits in spite of the heavy workload. The item pertaining to making good use of class time receives a score of 2.80, reflecting students' experience with the new class format, which included team briefings, venture capital negotiations, and presentations at different stages of the game.

Evaluations of specific skills. The results of the 12 specific skills are presented in Table 2. The students evaluated the simulation and lecture-centered methods on each of the 12 skills using a 7-point *disagree/agree* scale, with 7 indicating *agree*. The results of paired sample *t* tests show the simulation course is significantly different (at .01) from the lecture-centered method for 10 of the 12 skills.

The two exceptions are found in learning principles and concepts and in using written communication. For learning principles and concepts, the two methods receive mean scores of 5.29 and 5.23, respectively; for using written communication, the scores average at 4.91 and 4.99, respectively. These means are not significantly different. One possible explanation

TABLE 2
EVALUATION OF SIMULATION COURSE VERSUS LECTURE-CENTERED COURSE ON SPECIFIC SKILLS

	Simulation		*Lecture*	
	Mean	*Standard Deviation*	*Mean*	*Standard Deviation*
Increases my competence in				
Problem solving	5.69	1.48	3.80	1.63
Running a meeting	5.62	1.57	2.94	1.53
Examining diverse solutions	5.91	1.39	3.95	2.35
Thinking on my feet	5.78	1.47	3.66	2.66
Managing operations	5.82	1.49	3.39	1.62
Risk taking	6.02	1.52	2.87	1.70
Team work	6.27	3.29	3.57	1.75
Strategic planning	6.01	1.41	3.88	1.61
Interpersonal skills	5.87	1.48	3.58	1.67
Learning principles and concepts	5.29	1.45	5.23	1.67
Oral communication	5.58	1.50	4.31	1.66
Written communication	4.91	1.48	4.99	1.71

NOTE: Except for learning principles and concepts and written communications, the results of paired samples t tests show that the means of all the aforementioned items are significantly different (at < 1%).

is that both methods develop competence in these two skill areas.

When the rest of the skills are analyzed, it is not surprising that the simulation is rated highly for the items related to managing businesses because the lecture-centered class would scarcely include these skills for students to practice. These items include managing operations, taking risks, using strategic planning, and examining diverse solutions. The mean differences in scores between the two methods were in the range of 2.0 to 3.0 points.

Somewhat interesting were students' responses to items such as developing teamwork, developing interpersonal skills, and running a meeting. For developing teamwork, the simulation receives a mean score of 6.27 while the score of the lecture method averages 3.57. For developing interpersonal skills, the simulation has a mean of 5.87 compared with a 3.58 mean score for the lecture-centered method. The rather low ratings of the lecture approach suggest that students still receive insufficient training in these skill areas, although some professors attempt to incorporate them in their lecture classes.

Summary of Exploratory Study

The results of our empirical study show that students perceive the simulation course as superior to the lecture-centered method. On the overall dimensions, the simulation course was seen as a better vehicle in helping students make career preparations, achieve educational goals, and utilize time. It was also advantageous in providing a high level of involvement and satisfaction. In addition, the simulation course was viewed as superior in teaching specific skills ranging from managing operations and taking risks to using strategic planning and examining diverse solutions. In summary, our survey results demonstrate the relative advantage of the simulation course over the lecture method as perceived by the students. The demonstration is important because relative advantage perceived by users is a significant condition for success in innovation diffusion (Rogers, 1983).

IMPLICATIONS AND FUTURE RESEARCH

Currently, faculty members at business colleges are facing challenges of a third wave of innovation adoption, "which is characterized by unique applications that result in extending the classroom in ways that result in a more current, active, and interactive learning environment" (Celsi & Wolfinbarger, 2002, p. 64). In this research, we examine the instance of such an adoption in an MBA curriculum through a three-stage process model. Our investigation shows that group dynamics and product characteristics were two key factors instrumental for the success of our innovation adoption. In an exploratory study, we compared the new approach with the lecture-based method to assess its effectiveness.

Our findings demonstrate why marketing educators may consider our pedagogical approach in experiential learning as a viable alternative. In discussing criteria for innovation assessment, Rogers (1983) suggested that "the receivers' perceptions of the attributes of innovations" (p. 213) be used as the determinants of innovation outcomes. In our empirical study, as the final receivers of our innovative teaching, the students evaluated the effectiveness of the new approach on two sets of measures that contain some of the attributes about which they are most concerned (Duke & Reese, 1995). On both sets of measures, the students viewed the simulation course as more advantageous, demonstrating their perception of this approach as a competent substitute for the lecture-based pedagogy.

Our experience has implications for faculty involved in an adoption process. Innovation adoption is a demanding endeavor for individual instructors due to the amount of effort required and persistent "uncertainty in the minds of potential adopters" (Rogers, 1983, p. 13). In our research, we illustrate how coordinating activities in group dynamics provided an effective mechanism for meeting challenges and coping with uncertainty. For example, the hallway meetings created an interpersonal communication channel through which we shared information and took improvised actions in the process of unexpected events. Our participation in competitions using beta games allowed us to familiarize ourselves with new functions and features, thus reducing the uncertainty associated with the release of each new version of the simulation. Faculty members facing similar situations in their work can use our group's experience as guidance in developing their own adoption strategies.

Certain limitations of our study provide opportunities for future research. First, the research design in our experimental study is a compromise imposed by our specific situation. In many social studies, "Research design represents a compromise dictated by the many practical considerations that go into social research" (Miller, 1991, p. 58). In our situation, the main consideration is the level of comparison. Because of the integrative nature of Marketplace, we are not able to find an exactly comparable lecture course in marketing that also covers similar materials and skills in finance, accounting, and operations management. To answer the real question about whether students prefer a pure experiential course to the alternative, it is necessary to improve the research design in the future. For example, recent introductions of marketing principle simulations, such as MarketShare, make such a design possible. Because these simulations cover specific marketing concepts (e.g., MarketShare involves students in learning segmentation and positioning strategies), a design of direct comparison with a lecture course can be achieved.

Second, our experience represents only one approach to innovation adoption. Our adoption experiment was initiated by one professor, and the practice was gradually taken up by other members of the department who shared the same passion, commitment, and goals until the simulation course was accepted as a core course for master's-level programs in the business college. In research on leadership and organization development (Gregory, 1996), our approach is viewed as the bottom-up method. Because the other passage to innovation, termed the *top-down method*, is not covered in our study, our findings only depict "half of the picture." In the top-down method, the innovation adoption is normally commenced by efforts from leaders at the university and college levels and is incrementally "trickled down" to the department level. The investigation of the top-down method offers an opportunity for future research on experiential learning. Specifically, researchers may focus on specific issues, such as what transformational changes in institutional structure, policies, and routines are required to implement the top-down method and to what extent these changes contribute to a successful adoption. Investigation into these issues can be fruitful and can help reveal the other half of the picture.

REFERENCES

Astleitner, H., & Wiesner, C. (2004). An integrated model of multimedia learning and motivation. *Journal of Educational Multimedia and Hypermedia, 13*, 3-21.

Black, R. (2002). Building strategic technology alliances for teaching and learning. *International Journal of Value-Based Management, 15*, 265-285.

Celsi, R., & Wolfinbarger, M. (2002). Discontinuous classroom innovation: Waves of change for marketing education. *Journal of Marketing Education, 24*, 64-72.

Daly, S. P. (2001). Student-operated Internet businesses: True experiential learning in entrepreneurship and retail management. *Journal of Marketing Education, 23*, 204-215.

Droge, C., & Spreng, R. (1996). Enhancing involvement and skills with a student-led method of case analysis. *Journal of Marketing Education, 18*, 25-34.

Duke, C. R., & Reese, R. M. (1995). A case study in curriculum evaluation using strategic and tactical assessments. *Journal of Education for Business, 70*, 344-353.

Frambach, R. T., & Schillewaert, N. (2002). Organizational innovation adoption: A multi-level framework of determinants and opportunities for future research. *Journal of Business Research, 55*, 163-176.

Fritzsche, D. J., & Burns, A. C. (2001). The role of ABSEL in the development of marketing simulations in college education. *Simulation and Gaming, 32*, 85-96.

Gregory, M. (1996). Developing effective college leadership for the management of educational change. *Leadership and Organization Development Journal, 17*(4), 46-51.

Hollander, E. P. (1971). *Principles and methods of social psychology*. New York: Oxford University Press.

Kolb, D. A. (1984). *Experiential learning: Experience as a source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2001). Experiential learning theory: Previous research and new directions. In R. J. Sternberg & L. F. Zhang (Eds.), *Perspectives on thinking, learning, and cognitive styles* (pp. 227-247). Mahwah, NJ: Lawrence Erlbaum.

Kovac, V., Ledic J., & Rafajac, B. (2003). Academic staff participation in university governance: Internal response to external quality demands. *Tertiary Education and Management, 9*, 215-226.

Loch, C. H., & Huberman, B. A. (1999). A punctuated-equilibrium model of technology diffusion. *Management Science, 45*, 160-177.

Miller, D. C. (1991). *Handbook of research design and social measurement*. Newbury Park, CA: Sage.

Pfeffer, J., & Fong, C. T. (2002). The end of business schools? Less success than meets the eye. *Academy of Management Learning and Education, 1*, 78-95.

Rogers, E. M. (1962). *Diffusion of innovations*. New York: Free Press.

Rogers, E. M. (1983). *Diffusion of innovations*. New York: Free Press.

Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of innovation: A cross-cultural approach*. New York: Free Press.

Saunders, P. M. (1997). Experiential learning, cases, and simulations in business communication. *Business Communication Quarterly, 60*, 97-114.

Ueltschy, L. C. (2001). An exploratory study of integration interactive technology into the marketing curriculum. *Journal of Marketing Education, 23*, 63-72.