

STUDENT REACTIONS TO THE USE OF A COMPUTER-BASED SIMULATION AS AN INTEGRATING MECHANISM FOR A MBA CURRICULUM

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ABSTRACT

A new curriculum was designed, piloted, and implemented for fully employed MBA students. A simulation was used as an integrating mechanism. This paper describes student reactions to the multiple uses of a simulation and the faculty requirements to support the Integration Modules. Overall, student reactions have been positive.

Keywords: experiential learning; business simulation; integrated curriculum

INTRODUCTION

The purpose of this paper is to describe student feedback and reactions to the multiple uses of a simulation throughout the revised curriculum for fully employed MBA students. Prior papers that describe the use of interventions and subject matter professors' involvement will be summarized (Green, McQuaid and Snow, 2002; Green and McQuaid, 2003). Issues of implementation in six educational centers in southern California are covered including student requirements, faculty requirements and scheduling.

Business schools are challenged to provide a curriculum that is both theoretically sound and relevant; however, the challenge facing business schools is to integrate subject matter between courses. Within a specific discipline, such as accounting, finance or marketing, there may be prerequisites for advance courses, but even then, there may be little integration of the subject matter. Students may successfully complete each course with limited understanding of the interrelationship between the various courses and disciplines.

This is not a new problem for academia. In 1988 Porter and McKibben discussed the need for more integration in the curricula of MBA programs. Their study, funded by AACSB, reported on the "static, narrowly focused, skills and technical orientation" of their curricula and the concern for the short-term career interests of students. It is clear to the business community that operating in discipline-specific areas (silos) is not appropriate in today's business environment.

DeConinck and Steiner (1999) reported that the business community has placed demands on universities to develop students who are able to think and act holistically. Many universities currently are addressing MBA program curriculum

integration. Baylor promotes a program that uses three "lockstep" semesters and one summer semester. They divide their program into specific segments that focus on the business cycle of planning, implementation, and evaluation (Wilson, 1999). In order to provide some level of integration of courses, interdisciplinary team teaching has been used (Hill, 1990). For example, DeConinck and Steiner (1999) report on the development of an integrated finance and marketing MBA core course.

The University of Denver uses seven team-taught, interdisciplinary courses to address integration as well as to respond to the accusation that business faculty are methodologically obsessed (Slater, et al, 1995). Real curriculum integration requires significant resource commitment, faculty flexibility and commitment, and a strong understanding of the curriculum from all aspects of its application.

A majority of business schools use simulations as part of their curricula, and more than 60% of large businesses use them as part of their education programs (Faria, 1998). However, the use of simulations is not applied uniformly.

PROGRAM DEVELOPMENT

The new curriculum model includes two "integration modules" following the fourth and eighth core courses. The modules focus on the four courses just taken and students are required to successfully complete each integration module before completing additional course work. Upon completion of the second module, students enter "concentrations" of three electives and the strategy course. Based on extensive experience with simulation in the strategy course, the faculty decided to use the simulation as a "back bone" to the Integration Modules. The simulation serves several purposes:

1. It serves as the only business operation the students use in the two integration modules and the strategy course. The repetitive use and familiarity that the students experience with the simulation allow them to focus more aggressively on the external interventions while maintaining focus on running the business.
2. The faculty teams become familiar with the operation of the simulation, its advantages, and its shortcomings.

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3. It allows the faculty to develop external interventions for which the results can be operationalized within the confines of the simulation, i.e., the faculty can reward a student team with a strong marketing plan by increasing their advertising effectiveness.
4. Faculty is able to assess competencies of students and function as coaches in the integration process.

The remainder of this paper discusses the integration modules and ways in which the various disciplines are integrated within the realm of the simulation. The paper concludes with a descriptive analysis of students' reactions.

THE INTEGRATION MODULES

Each integration module is structured the same way. There is a two-hour orientation session led by a faculty

Integration Module "A"

- Behavior in Organizations
- Accounting Information and Control System
- Political, Regulatory, Ethical, and Legal Issues of Business
- Quantitative and Strategic Decision Analysis for the Firm

In each module, one professor serves as the simulation coordinator and other professors (subject matter professors) represent each respective discipline. The main role of the coordinator is to be very familiar with simulation operation so that the results of external interventions created by discipline professors may be appropriately reflected in the simulated environment. In addition, the coordinator administers the orientation. The role of the discipline professors is to ensure that students address the expectations of their core classes and to observe students' performance during the weekend integration module. The purpose of the simulation is to provide opportunity for the subject matter professors to test students on elements of knowledge from their courses and to observe whether the results of the interventions are reflected in the results of the simulation.

Following the orientation, each team is expected to prepare a paper that addresses the expectations and competencies for the module. The paper addresses:

1. The team's goals for the Integration Module.
2. The team's organization.
3. The team's response to the expectations

and competencies for each of the courses.

Students submit their papers to the coordinator by e-mail two weeks prior to the Integration Module weekend. The coordinator, in turn, distributes the papers to the subject matter professors for review and grading. If the subject matter professors find deficiencies in the paper, they contact the student team within one week of receiving the papers. Professors provide individual grades to the students along with pertinent comments.

The students meet on a Friday at 6:00 pm to begin the Integration Module. Instruction for the weekend is provided. Each simulation run represents one quarter, and the time allotted between decisions is approximately one hour. At 10:00 pm Friday night the students are advised that they have the evening to consider the operation of their companies for the next two to

coordinator for all students enrolled in a given module.

Approximately four to six weeks later, the teams participate in a weekend activity (Friday 6-10 pm, Saturday 8 am-5 pm) wherein they run the simulated businesses. During the orientation, students form teams of four to six members. For the first module, teams are formed on a random basis. For the second module, teams are self-selected. Students are introduced to simulation functionality by the faculty coordinator and are given the "expectations by course" for the module. For each core course in a module, the appropriate discipline has identified expectations for which the students are responsible. These expectations may be intrinsic to the simulation or they may be external interventions to which the students must respond appropriately.

Integration Module "A" occurs after completion of the first four core courses and "B" after the second four courses. The courses contained in each module include:

Integration Module "B"

- Financial Management of the Firm
- Information and Process Systems
- Price Theory and the Competitive Environment
- Marketing Management

three years. Several problems are given to students by the subject matter professors to provide frameworks for their activities on Saturday. At 8:30 am Saturday morning the decisions begin again. The students complete their work around 3:00 pm on Saturday afternoon, after which a debriefing occurs.

Faculty members from the various disciplines developed the expectations and competencies (see Green and McQuaid, 2003). Each faculty team and discipline develops interventions to assist in determining the students' ability to demonstrate their understanding of material covered in their course work.

FINAL SIMULATION

The simulation is executed late in the final trimester using a weekend format including Friday evening and all day Saturday. Teams must be organized to handle the various tasks and responsibilities of the simulation. Generally, teams are organized along functional lines in order to deal with the routine operations of the simulation such as marketing, advertising, operations, finance, research and development, sales office orders, insurance, and inventory management. In addition, team members develop their own procedures for handling the external transactions and interventions provided by the professors. Interventions by the faculty add an additional degree of reality to the simulation, provide students with a richer experience, and integrate "non-operational" MBA content.

Students participate in a number of external interventions. These interventions are used to integrate MBA content that is not a functional aspect of the simulation program. For example, one of the early interventions is negotiating labor costs by each team. Each strategy (lead) professor has the flexibility to determine the number and extent of these interventions. In addition, faculty teams change each weekend and, hence, take on a different personality through diversity. What appears to be a potential quality issue is actually an opportunity to develop and

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refine interventions through trial and error. For a description of the interventions, see Green, McQuaid and Snow, 2002.

IMPLEMENTATION

The pilot curriculum was tested for two years at one of six educational centers. At the conclusion of the pilot, the results were presented to the faculty and the faculty concluded that the new curriculum should be expanded to the other five educational centers. To implement the integration modules (simulations) in six centers requires significant scheduling issues with both students and faculty including the willingness of faculty to participate in these modules.

To assist in meeting faculty requirements, two sessions were held with part-time faculty members to orient them to the new curriculum and to the integration modules. Faculty teams now consist of both full-time and part-time faculty members. This provides an opportunity for more faculty interaction and has been positive.

STUDENT REACTIONS

Prior to the Strategy course, students have completed all of their core courses and their electives. At the conclusion of the third simulation, one professor has students submit papers that respond to three questions:

1. What did I learn?
2. What did I learn that I needed to learn?
3. What do I “take-away” from this experience?

A review of these papers reveals several themes.

THEME ONE: TEAMS

Almost every student commented on the value of the team experience. Overall, students noted that an effective team was vital in running the simulation. Many related the experience of their simulation team to the teams with which they work in their jobs. Several of the comments are listed below:

- Five minds are better than one
- I have a greater appreciation for the team and our collective talents
- Group dynamics are important
- Be sure the team members are “on board” with the goals and objectives

THEME TWO: STRATEGY

Many comments related to the need to have a strategy, stick to it, and to be flexible. Comments are listed below:

- It’s important to stick to the strategy
- I became more aware of the need to track the external environment
- I recognized that it is important to have a strategy and then be flexible
- I have a better understanding of the interrelationship of the functional areas of a business in executing a strategy

THEME THREE: INTEGRATION OF COURSE MATERIAL

Students experienced using the simulation three times. The first two Integration Modules each focused on four courses. The final simulation integrated all of the course material and emphasized the external environment. Several comments were:

- This weekend integrated all functional areas of the business for me
- I was able to integrate all of the course material from the program
- I was able apply what I learned in my MBA classes
- I had the opportunity to use the skills I learned throughout the program

THEME FOUR: PERSONAL DEVELOPMENT

Students acknowledged more self-awareness about their tolerance for risk and their own competencies. Comments included:

- I discovered that I am adverse to risk
- I developed more understanding of the risk of running a business
- I developed more comfort with my abilities
- I discovered I like to lead or be in charge
- I am more of a follower than a leader

CONCLUSIONS

The use of a simulation as an integrating mechanism was used during the pilot of the new curriculum. Our experience has been positive in terms of student response and faculty integration. Prior to the curriculum redesign, students were only exposed to the simulation near the end of their capstone strategy class. Because of differing faculty capabilities in delivering the simulation and its relevance to their class objectives, the simulation experience varied substantially in breadth, depth, and value. By “standardizing” the experience through defined expectations and competencies, creating the Coordinator role, and using the simulation to integrate diverse content areas, the integration experience is much richer for the students and is comparable across the entire student population. By using the same simulation program to facilitate the integration experience, the students gain some level of familiarity and an improved understanding of ways in which the environment impacts business, how their own actions and those of their competitors can impact their business, and ways to deal with the external interventions while managing the business.

Students reported value to them after completing the final simulation. As the curriculum changed at each center, several students that were completing the earlier curriculum commented that they would have benefited from more than one integrating simulation experience.

Students have responded that they have found increased value in teams and teamwork, the importance of identifying their strategy, the assistance in integrating their course material as they operated a simulated company, and the personal

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development in terms of their own competencies and tolerance for risk.

From the faculty perspective, the simulation has created a more collegial environment. For example, a professor may now feel comfortable asking a colleague exactly what is taught in his or her class. Observing the interventions of other disciplines has made evident several opportunities for integration between disciplines that would not have otherwise been considered. For example, the impact of an environmental violation (or better yet, a potential environmental violation) has legal, ethical, accounting, and marketing overtones. By introducing one intervention, several disciplines play their angles with the student teams and push ambiguity to new levels. In addition, the interaction between finance and economics becomes very clear when teams consider financing growth and must explain their financing plans from multiple perspectives. The goal to integrate the students' experience has created an opportunity for the faculty to integrate their own knowledge and take it back to their classrooms very effectively.

The simulation has been an effective vehicle for integration chiefly because students must accept the consequences of their own decisions and actions in a simulated business environment. At the same time, the simulation is also an excellent tool to assist students to recognize the very direct impact that the typical "silo-oriented" disciplines actually have on one another.

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