

# Insights into Experiential Pedagogy, Volume 6, 1979

## THE CAP-STONE OPPORTUNITY: COMBINING BUSINESS SIMULATION AND EXPERIENTIAL LEARNING

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### ABSTRACT

The cap-stone course often has a number of objectives addressed to measuring accumulated earlier learning, evaluating the School of Business Program, and perfecting the student's ability to identify and solve business related problems. Recognizing the limitations of the various delivery modes in terms of constraints and effectiveness, it appears that multiple interactions between specialized classes, when combined with a good business simulation, enhances the total learning experience. Student reaction is highly favorable. Faculty participation is at least mildly enthusiastic once they are shown why such interactive participation is mutually beneficial.

### INTRODUCTION

Teaching the cap-stone course presents an opportunity for experimentation with both content and delivery mode perhaps unequaled by any other course. The present trend to emphasize the strategic nature of decisions as well as to maintain a perspective of the contribution of policy highlights the need to make the course dynamic in nature. These considerations along with the many and somewhat diverse objectives of the course make it difficult to adopt a relatively simple approach. A sample list of such objectives might be as follows:

1. To provide an opportunity for every student to apply his or her acquired knowledge from his/her college experiences and particularly all of his/ her business courses, and gain some operating experience in a specialty area near the top of an organization.
2. Learn to integrate this knowledge in problem-solving situations.
3. To sensitize the students to those areas that they need to strengthen before graduation.
4. provide a learning environment which forces students to organize themselves and to depend on each other to provide the expertise he or she has been trained to contribute to the overall welfare of their firm.
5. Produce written documentation of their endeavors of a credible and at an acceptable literate level.
6. Provide an opportunity for students to make business decisions which they must live with and learn to rectify.
7. Teach students that alternative strategies may be simultaneously successful.
8. Evaluate the School of Business program as to its ability to inculcate those things we wish the student to learn and feed back to each department the results of this examination.

Note that these may be divided into several different categories; those dealing with furthering the students' education, those measuring previous education and experience, and one evaluating the Business curriculum and teaching effectiveness of prior educational exposures. The teaching methodology must satisfy those as well as a number of other criteria.

The cap-stone course is also rather unique in that it is by nature, much broader in its coverage than other courses. Because of this characteristic, in order to do a good job the instructor must be something of a generalist. To do a superb job, he would have to be extremely well informed and up-to-date in all functional areas. Team teaching with representation from the major functional areas is one alternative. Given the constraints of teaching loads, student-faculty ratios, scheduling and budgets, it is obvious that this would be extremely difficult to implement. Hence, we are back to square one with one teacher per classroom. The instructor can supplement his efforts with guest speakers on selected topics, but after a few visits, this wears rather thin when speakers are invited to make repeat performances. Since the capstone course is basically an applied experience, didactics seem somewhat out of place. The heuristics approach, where students learn by experimentation, seems a more satisfactory learning experience.

In recent years two such approaches have been used with varying degrees of success, the case study and the business simulation. They are usually used separately but occasionally combined in a single course. There are basic problems with both which will be discussed briefly below.

### CASES VS. SIMULATIONS

The case approach goes quite a way in providing broad exposure to a wide variety of business problems and permits the inclusion of not-for-profit (private) and non-profit (public problems). The case approach can satisfy the inclusion of the international flavor required by A.A.C.S.B. It falls sadly short in that case analysis is static and the recommendations cannot be tested by implementation. Even continuing cases test only what management did in fact do and not other plausible alternatives. Cases could be presented to a panel of faculty members representing the various disciplines, but this encounters the same problems as team teaching. Another shortcoming of the case approach is that cases are dated and subsequent information biases the analysis of the case problems. Finally, there must be a fresh, ample supply of cases to prevent students from passing solutions between classes.

Business games as typically used as a part of a course, suffer from a lack of a long range perspective in that they are generally played for three years of operations - twelve quarters. Either a very poor initial decision or a very lucky one can have too great an impact on the formal outcome. Obviously any one simulation cannot present the variety and diversity of problems as can a wise selection of cases. Using more than one simulation in a course is difficult in as much as it takes some time to learn the rules of each as well as the time consumed in operations. Another frequently heard objection to simulations is that a complex game takes too long to learn all the rules.

While simulations cannot offer broad exposure to a variety of types of problems, they can be kept current by up-dating the game parameters frequently. The same

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approach creates different operating problems so that students can no longer pass on solutions. Certainly simulations are dynamic by their very nature. If the period of operation is extended to five years or more the element of luck is reduced and long range planning becomes far more important. Even in highly complex simulations, with reasonable-sized teams, the time spent learning the rules wouldn't be much more than studying a 20 to 40 page case, particularly if some division of labor was employed as in a real company; that is, if some team members learned the rules of the marketing function while others concentrated on manufacturing, finance, etc. The international flavor can be achieved by using Hans B. Thoreli and Robert L. Graves International Operation Simulation published by the Free Press of Glencoe in 1964. It unfortunately has very few manufacturing decision variables and lacks a stock sale option.

Of the two approaches, case studies and simulations, the latter seems to have greater flexibility and potential for experimentation.

### ADDING EXPERIENTIAL LEARNING

To be effective as a major focal point of the capstone course, a simulation must be complex enough to force the division and specialization of labor within each simulated firm. It must be continued long enough to eliminate the element of luck. It must be intensive enough to engender relatively high emotional involvement. Finally, the instructor must have direct and continuous control of in-put costs that may be used to keep the industry up to date; such variables as interest rates, material prices, labor costs, etc. Keep in mind that while the simulation is serving as the focal point, it actually consumes fewer man-hours than the collective task assignments that coordinate with it or arise because of it.

In order to introduce experiential learning, it is mandatory that Teams be fairly sizable, five to seven members, so that they may be doing various tasks simultaneously. Ideally they are assigned so many tasks to perform that a smaller group would find it impossible to meet all the scheduled requirements.

While it is not unusual for instructors to have their simulated companies identify goals and objectives, strategies and policies, an opportunity exists to place much greater emphasis on this organizational aspect by creation of a manual to include procedures and problem-solving models as well. As this manual is to be a viable document it should be freely revised with older material retained. In addition to instructor evaluation of manuals they can be tested as to their practicality by having another class such as the Introduction to Business class actually use them in trying to make decisions.

Considerable interest can be aroused in the participation of Intro class by making several computer nuts just for them to see how they do. The achievements of the cap-stone course for the same operational periods can be used as a measure of the performance of the Intro class. After the completion of the test runs each firm in the Intro class should be required to write an evaluation of the usability of the manuals written by the cap-stone teams.

Further evaluation of the organizations in the capstone class should be done through a management audit. Instead of the instructor performing the audit in each company, he should arrange for another class to act as auditors under the guidance and direction of

its professor. Both classes gain practical experience in the audit situation and the instructor of the cap-stone course acquires another rating source of the materials prepared by his class.

Personnel as a function can be utilized effectively in several ways. Given firms of five to seven members, a salary structure should be established by the personnel director of each firm and the members 'paid'. Since performance appraisals are a way of life in most companies today it seems reasonable that they should be mandatory in the simulated companies. Therefore, as a matter of policy each company must perform an appraisal on each member at least once each year of operations. This achieves two objectives. First, it lays the groundwork for salary reviews internally. Second and more important, it prepares the team members mentally for the evaluation they do on each other at the end of the course for the instructor as to their contribution to their company's success. Needless to say, any salary increases that they award themselves are programmed back into the simulation as increased administrative costs.

Labor negotiations should be a real experience and can be. By providing a union contract written expressly for the simulated industry with some built-in problems, the basis is laid for negotiations that will have a significant impact on the future operations of the simulated companies. The union's role should be played by a class in Industrial or Labor relations, a class that is currently studying such subjects and is therefore well prepared as an antagonist. They, as well as management, are provided with copies of the contract early in the course. Some specific date, about two-thirds of the way through the course, should be selected for contract termination giving both groups ample time to prepare. Since both sides have a problem relating simulated time to real time, a calendar must be prepared that ties them together at the point of contract termination. By so doing, it is now possible to relate real world events such as the effective dates of minimum wage rates and anti-inflationary guidelines to simulated events. In large cities it is possible to get members of the Federal Mediation and Conciliation service to serve as either mediators or arbitrators. Another alternative is to obtain the services of knowledgeable faculty other than those already involved. In either case, impartial judges may render decisions that are binding. The economic effects are of course inputted into the simulation in terms of labor costs so that management has to live with the results of their bargaining efforts.

The financial function offers another opportunity for inter-active negotiations between classes. Most simulations allow for the acquisition of funds through the floatation of stock and bond issues. An advanced finance class in investments can be the market to which the companies must 'sell' their paper. Depending upon how elaborate one wishes to get, all sorts of requirements may be imposed on the companies such as preparing a prospectus, pro forma statements and the like. These activities are real in-as-much--as the degree of success in obtaining funds to operate their respective companies is at least in part dependent upon how well they do these things. Using the finance course has particular advantages in that they are current in terms of the stock market and they are at 'arms length' eliminating possible instructor bias.

While the accounting function is reasonably well taken care of in most simulations by the computer printouts, it can be enhanced by having each operating team operate more than one product division. For simulations

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with only one product, this can be achieved rather easily by setting up a second industry and having every company operate in both simultaneously. This then necessitates consolidated statements which must be a part of company records.

One of the more difficult areas to integrate into the cap-stone experiences is that of contract violation. If the simulation has two alternate sources of supply at different prices and different probabilities of maintaining delivery schedules, one source can be used to default on its delivery and thus be in violation of its sales agreement. A Law II class can supply a courtroom with lawyers and a judge to decide the case and assign damages. Due to the nature of the ancillary functions, Thorelli's International Operations Simulation cited above is good in this area.

### CONCLUS IONS

The net effect of using a simulation and enriching it with interactive experiences as suggested above is a cap-stone course that much more approximates the real company environment that most students find themselves in after graduation how-be-it at a much lower organizational level. The variety and complexity of the experience is limited only by the imagination of the instructor and his ability to show other faculty members why such participation is mutually beneficial.

The problems of scheduling, teaching loads, and budgets associated with team teaching are, for the most part, solved. Those instructors who are interacting get a first hand view of how well seniors apply in the capstone course, those subjects the students learned in previous courses. Ideally, this technique of direct observation by members of other departments triggers course and curriculum revisions in the business program as needed.