

Managing to Learn: An Overview of a Competency-Based, Interactive Management Major Curriculum

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Business literature is rife with references about the nontraditional skills managers need to succeed in dynamic business environments. In 1996, Hartwick College's management department initiated a new curriculum to better prepare our students for this challenge. The curriculum is innovative in its combined use of computer simulations, self-instruction, student teams and instructor coaching teams as the primary instructional delivery system for all junior and senior management courses. Core courses have been transformed into seven simulated "job" experiences that enable students to make their own connections between theory, application, and nontraditional management skills. We want Hartwick students to learn more by doing more—to become responsible for managing across business functions, and perhaps more critically, to become responsible for managing their own learning processes. This article summarizes our new curriculum and its results.

Innovative Changes

Hartwick's new management curriculum is characterized by changes in course sequence and design, student and faculty roles, and interrelationships with other groups outside of the department.

Curriculum Design and Rationale

Rather than progressing through a sequence of courses that each focus on a separate management discipline, our majors now participate in a sequence of eight simulations that integrate functional disciplines, enabling students to "manage" and learn from these experiences (see Figure 1). We embraced this realistic, collaborative, active learning format to increase student

learning (Glatthorn, 1994; Bonwell & Sutherland, 1996) and maximize students' abilities to apply concepts in the world of work (Stinson & Milter, 1996). We limit traditional lectures where students are passive "spectators" (Holter, 1994); lectures do not model the types of learning situations students are likely to encounter during the rest of their lives (Butler, 1992). Simulations had been shown to be effective to help undergraduates explore strategic alternatives and their consequences (Walters, Coalter, & Rasheed, 1997), plus students reported higher interest, motivation, effort, and levels of learning from computer simulations than from other forms of group projects (Tompson & Tompson, 1995). Our department had consistent observations when we tested simulations on a smaller scale during 1995-1996.

The sequence of eight management courses commences in a student's junior year after basic management, accounting and economics prerequisites. As Figure 2 illustrates, the first six courses of the management sequence (MGMT I through VI) are each approximately six weeks long, for a total of two management course credits per semester. Each course is designed around an off-the-shelf, PC-based management simulation program. During a senior's final semester, he or she takes the last simulation course (MGMT VII) concurrently with thesis work (MGMT VIII). The curriculum sequence is designed to increase in complexity and scope from MGMT I through MGMT VII.

Course Design and Student/Faculty Roles

On a course by course basis, the overall design has been fairly consistent. In the first week of most simulation courses, the class is divided into separate, competing com-

pany teams of three to six students each. Student teams then assume the role of the given management function for their "firm," and within each team, students are expected to collaborate to make specified simulation decisions. Team decision making usually starts by the third class period, enabling the students to complete at least eight decision periods (typically two simulated years) in each course.

For most simulation courses, students report to the "office" twice a week (Tuesdays and Thursdays) for a three and a half hour "work day" each session. The department has five dedicated workstations in small, separate "offices" for team meetings, as well as PC-equipped classrooms which are scheduled as necessary. Many students also bring their own college-issued laptops. During this time, teams often meet with faculty to discuss their company performance or make formal presentations. Teams usually make two simulated decision periods each week. Results are posted quickly so that teams can begin preparing immediately for their next set of decisions and see where they stand relative to their "competitors" on various performance dimensions.

To support and enable decision making, students are provided with self-instruction called Competency Handouts ("CHOs"). CHOs are written by faculty to help students learn critical competencies, enabling us to bridge the "inherent tension between covering content and using active learning strategies" (Meyers & Jones, 1993). Students must complete CHOs by specified dates, and they are expected to demonstrate competence through various assessment means. Throughout the course, faculty analyze assessment results to determine trends in student achievement and needs for in-class remediation or subsequent CHO revision. The Internet, PC-based decision support systems and spreadsheet, presentation, and word processing applications are also integrated into every course.

A student's final course grade is a weighted average of various inputs including quiz and exam scores, team and individual projects, presentations, and simulation results. Approximately half of each student's final grade is based on individual performance, and half is based on team activities and results.

"Old Curriculum" (8 course units, junior/senior courses)	"New Curriculum" (8 course units, junior/senior sequence)
Technical Courses (3 courses): <ul style="list-style-type: none"> - Marketing Management - Financial Management I - Operations 	MGMT I - BRANDS™: A Marketing Game (Chapman, 1994)
Policy Courses (2 courses): <ul style="list-style-type: none"> - Case Studies in Leadership - Policy Formation & Administration 	MGMT II - AIRLINE: A Strategic Management Simulation (Smith & Golden, 1994a)
Additional Management Course (1 course), either: <ul style="list-style-type: none"> - Leadership (Outward Bound) - Internship 	MGMT III - PROSIM III: A Production Management Simulation (Chu, Hottenstein & Greenlaw, 1996)
Additional Economics Course (1 course), either: <ul style="list-style-type: none"> - Microeconomic Theory - The International Economy - Comparative Economic Systems - Banking and Financial Markets - Macroeconomic Theory 	MGMT IV - Human Resources Management Simulation (Smith & Golden, 1994b)
Senior Thesis (1 course unit)	MGMT V - PC FinGame: The Financial Management Decision Game (Brooks, 1996)
	MGMT VI - The Multinational Management Game (Keys, Edge & Wells, 1994)
	MGMT VII - The Business Strategy Game (Thompson & Stappenbeck, 1997)
	MGMT VIII - Senior Thesis

Figure 1: Comparison of old and new curriculum requirements.

During the first two years of this new curriculum, the team concept also redefined the nature of our teaching and the role of the course instructor. Two to four faculty members team taught each course, with responsibilities including reinforcing and expanding important content, coaching student teams and facilitating students' discovery learning. Faculty also roleplayed "top management" for more formal meetings with student companies. Behind the scenes, we wrote course materials, ran the simulations, and met daily to discuss student progress and the effectiveness of the courses.

Other groups at our institution also helped us improve the overall experience provided to our majors. The career placement group, for example, worked with us to design a sequence of extracurricular

events that management majors are expected to complete before graduation. Events ranged from internships to a series of outdoor "experience learning" sessions. Also, the campus center for pluralism, was involved in planning and implementing aspects of our curriculum dealing with stereotypes and ethnic diversity.

Results

Results from our first year of implementation were encouraging. While students did complain somewhat about the increased workload, they rose to the challenge and demonstrated more learning, especially in the area of non-traditional competencies like decision making, team problem solving, and other interpersonal and leadership learning outcomes. Plus, the simulation context enabled and motivated students to

integrate learning from across management disciplines in every course, reinforcing important concepts and interrelationships throughout the curriculum. Since students were immersed into their “jobs” and competitive industries quickly, they were eager to learn as much as possible in order to succeed. As students became more comfortable with the simulation, they began to ask more strategic questions and inquire how and if the simulation experience can really be transferred to the real world, opening doors for additional cases and more advanced learning.

Our various end-of-course surveys indicated that students liked competitive simulations, working in teams, making their own decisions and the helpful role of instructors as coaches. And as expected, some student ratings did appear to be negatively influenced by the students’ discomfort (and even resistance!) to a more active learning format and significant faculty learning curves (Bonwell & Eison, 1991; Sutherland, 1996). Most ratings improved as students and faculty gained more experience with the new pedagogy and as faculty better facilitated student adjustment.

In 1997-1998, the curriculum continued to be well received, with year-to-year comparisons of enrollment showing a 15% increase in management majors (119 to 137), a rate of growth faster than the college overall. Student satisfaction with most courses continued to be positive, and we expect even better ratings next year.

In 1998-1999, we plan to evolve the curriculum in several respects. First, we will no longer use teaching teams in every course, though faculty will continue to collaborate at the curricular level. We have realized many benefits from team teaching, including the development of common expectations and methods, improved collaborative relationships, and even “cross-training” to an extent, and after two years, we expect to resume individual teaching and its associated efficiencies without negatively impacting our new pedagogy. We will also continue to experiment with different student team organizations. Second, variations in course sequencing will be piloted to balance instructor workload more evenly throughout each semester. Finally, with grant support, we are piloting the use of electronic student portfolios to give our majors the opportunity to reflect about their

		“New Curriculum”
JUNIORS:		
Fall	(Break)	MGMT I - BRANDS™
Fall		MGMT II - AIRLINE
Spring	(Break)	MGMT III - PROSIM
Spring		MGMT IV - Human Resource Management
SENIORS:		
Fall	(Break)	MGMT V - PC FinGame
Fall		MGMT VI - Multinational Management
Spring		MGMT VII - Business Strategy
Spring		MGMT VIII - Senior Thesis

Figure 2: Curriculum sequence schedule.

own development as managers and give us additional assessment information about the program. ■

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Special Issue of the *Journal of Operations Management*: Configurations in Operations Management: Taxonomies and Typologies

THE OBJECTIVE OF THIS SPECIAL ISSUE IS TO ENCOURAGE RESEARCHERS to examine operations configurations in a multivariate manner. Both theoretical descriptions of ideal configurations (typologies) and empirical examinations of actual operating configurations (taxonomies) are welcomed. Many of the fundamental principles that are taught in operations management classes are based on configurational research. For example, the product-process matrix characterizes companies as possessing one of five general process types (project, job shop, batch, line or continuous flow). Similarly, several methods of classifying service operations have been proposed and taught in the classroom, but not empirically validated.

Configurations are particularly useful when the research goal is to determine dominant patterns in organizations, or when the relationships between individual variables are either poorly understood or too complex to be modeled using traditional approaches. Configurations are widely used in the field of business strategy, as evidenced by a special issue of the *Academy of Management Journal* (1993) dedicated exclusively to this topic area. Examples of configurations in the operations literature include Hayes and Wheelwright's (1984) product-process matrix, Hill's (1987)

manufacturing types and Schmenner's (1986) service process matrix. Yet, the relative dearth of configuration based studies on operations management inhibits the field's ability to accurately and concisely describe the complex relationships that exist within organizations.

The deadline for submission is February 1, 1999. Submitted papers will undergo a rigorous review process by a panel of reviewers. Feedback from the reviewers will be provided to the authors, but the final decision regarding suitability for the special issue rests with the editors.

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