E-hancing the Master of Business Administration (MBA) Managerial Accounting Course

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VIEWPOINT

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ABSTRACT. Professional education, including managerial accounting education, at independent colleges and universities faces two challenges: (a) meeting shifting demand with static or declining resources and (b) ensuring that graduates gain the technological knowledge and skills that they need to succeed in their future careers. For many schools, the decision to adopt distance learning in place of traditional classroom instruction has generated more problems than solutions; some distance learning programs have been described as sterile, lonely, and unfulfilling experiences. However, there are a number of alternative approaches that may enhance MBA programs without creating these drawbacks. In this article, the authors describe 1 alternative: using technology-enhanced learning modules that draw on the best of both distance and on-site learning.

Keywords: accounting education, distance learning, managerial accounting, master of business administration (MBA), technology enhanced learning

It is no secret that global higher education in the first decade of the 21st century is facing a series of far-reaching crises. Educational institutions everywhere find themselves forced to cope with the explosion in knowledge and information brought by the growth of the Internet, a shift in the roles of public and private educational systems, declining financial support from cash-strapped public sources, increasingly rapid development of information and communications technology that renders technological innovations obsolete almost as fast as they can be installed, a global surge in the demand for higher education and life-long learning, and a growing emphasis on new content delivery approaches (McIntosh, 2005).

In this article, we will focus on just one of these problem areas: the changes in content delivery approaches and the efforts needed to meet this challenge. The issues are framed in the story of the early plans underway to restructure the traditional delivery of an MBA managerial accounting course at a small liberal arts university in the Pacific Northwest. There are a number of hurdles to surmount in the content module design process, as the following comment illustrates:

> Delivering MBA … [content] in the online environment presents significant challenges to education and students alike because of the complexity of content, difficulty in assessing learning outcomes, and faculty availability and technological expertise. (Grandzol, 2004, p. 237)

Forces Driving Change

The face-to-face interaction of student and teacher in the classroom has been the traditional way of assisting students to develop the knowledge and skills that they need to succeed in business. Today, however, educators strive to forge new ways to achieve these same results by experimenting with ways to augment traditional mechanisms for content delivery. For some, the solution lies in the increased use of technology in the classroom. For others, the search involves replacing some or a majority of traditional classroom instruction with technology-enhanced e-learning that takes place outside of the classroom. For both approaches, classroom instructors are required to gain greater proficiency in the use of complex information and communication systems—the same technological forces that are increasingly driving businesses in the global economy.

There are several reasons for this redirected emphasis in pedagogy. One reason is the rapidly increasing cost of delivering instructional content through traditional means. The high cost of constructing new facilities to meet growing demand—particularly by adult and professional students—has placed severe

limits on adding new classroom space to meet that demand. A second reason is the declining number of qualified instructional staff—and the pernicious cost of finding replacement faculty for the large numbers of retiring professors. A third reason is the declining share of public funds earmarked for higher education. Tuition increases are rapidly reaching the point where they cannot keep up with the declines in federal, state, and local financial support.

Developments in the capacity, functionality, and cost of information and communications technology (ICT) have had two diametrically opposed effects upon higher education. On the negative side, the costs have drained university budgets of funds needed to meet other academic needs. However, on the positive side, the increased capacities of ICT hardware and software have greatly increased access to information for everyone (Dirr, 2001). Moreover, technology enhancements can be an effective medium for delivering instructional content. ICT and the Internet have helped professors develop pedagogy that is "constructivist, interactive, collaborative, learner centered, and just in time" (Wonacott, 2001, p. 1).

Higher Education and the Internet

The Internet has revitalized business and changed how government delivers services. However, higher education has been somewhat slower at recognizing the benefits that can accrue from implementing Internet-based pedagogies (Jukes, Dosaj, & Macdonald, 2000; Rosenberg, 2001). This resistance to change is rapidly giving way to adoption of Internet-enhanced systems for educational content delivery. More than 200 U.S. colleges and universities currently offer MBA degrees with some degree of online participation. This is more than 10 times the 19 schools that offered such programs in 1999 (Arbaugh, 2005; Endres, Hurtubis-Sahlen, Chowdhury, & Frye, 2003), and this number is growing; recent advances in the delivery of e-learning content that have occurred since the 1990s now make it possible to reach a large and as yet untapped market for

MBA education. The difficulty is determining the most efficient and effective means of meeting the educational needs of this market.

Concerns About Outcomes

Educators have at least three important concerns about the outcomes produced with e-learning models. One of these involves issues that are associated with maintaining high levels of quality in the design and delivery of e-learning course content. Clearly, no Internet-enhanced instructional program can be considered a success unless it delivers what education promises—the imparting of knowledge and skills needed by society. The second major concern has to do with how to maintain the academic integrity of nontraditional delivery systems. The third concern refers to procedures and processes for protecting the privacy of students.

The problems that have limited the effectiveness of some on-line-enhanced MBA programs in the recent past must be avoided. Thus, we designed this proposal to build on the best practices that exemplify leading international MBA programs. Our goal was to identify a content-delivery system that blends the best of both the digital and the personal pedagogical approaches into one dynamic, open-ended system for enhancing the delivery of MBA content. In other words, our goal in creating this model is to e-hance the MBA program to be a mixture of the best practices of both the digital and classroom delivery systems.

Research has shown that, to be successful, adoption of a new knowledge delivery model must be a reflection of what best meets the needs of all stakeholders (MacDonald & McNabb, 2006). The system adopted also must reflect the technology available at the time and place of delivery. Thus, an important component of this delivery-design effort is identification of an instructional design that is right for MBA students, the university, the business school, the faculty, and the subsequent employers of MBA program graduates. The concerns of the course designer and instructor are to ensure that the best elements of all available approaches are imple-

mented wherever possible. A blend of onsite and offsite tools would best achieve this objective (MacDonald & MacNabb).

The discussion that follows uses a hypothetical professor at a hypothetical university as an illustrative example of the process and decisions made while blending onsite and offsite techniques to e-hance a course. How instructors actually apply these steps depends on their particular situation and is what will make their course unique.

An MBA Managerial Accounting Course

The *managerial accounting* course is not geared toward accountants but is intended to provide general managers with a basic set of quantitative decision-making tools. It has been defined as "the phase of accounting concerned with providing information to [internal management] for use in planning and controlling operations and decision making" (Garrison, Noreen, & Brewer, 2006, p. 29). This is contrasted with the definition of *financial accounting*: "the phase of accounting concerned with providing information to stockholders, creditors, and others outside the organization" (Garrison et al., p. 29). Topics covered by managerial accounting courses include principles of budgeting, cost behavior, overhead allocation, and performance measurement, as compared with understanding financial statements, which is the typical objective of an introductory financial accounting course. Managerial accounting addresses decision making from within the firm, whereas financial accounting provides information for decision makers outside of the firm. The major difference between managerial accounting and financial accounting courses is that the former focus on decision makers and teach those people the tools of decision making, and the latter focus on information and how that information can best be presented to be useful. The course objectives for a typical managerial accounting course are shown in the Appendix.

Once the course designer establishes the basic course objectives, that person is able to embark upon the six-step

process of delivery-system design. Though the steps are discussed sequentially below, some of the steps can occur simultaneously (see Figure 1). The first three steps are preparatory and form the foundation for the course design that takes place in Steps 4–6.

Step 1: Determine Stakeholders' Needs

The course designer must consider the needs and requirements of four stakeholder groups: (a) students, (b) employers, (c) the university, and (d) the instructor. What these needs are and how they are satisfied will differ depending on situation, the demographics of the student body (e.g., age, learning goals, future goals), target employers (e.g., regional, national, global, public, private, profit, not-for-profit), the size and type of university (e.g., large, small, public, private, research focus, mission), and the instructor's strengths, weaknesses, ambitions, and teaching style. The following discussion uses a representative professor from a small private college in the Pacific Northwest.

Students. We assessed student needs through small group discussions held with students currently enrolled in the school's classroom-based MBA program. Many students commented that their choice of coming to a small private university primarily because of small class sizes (between 10 and 15 students), individual attention from faculty, and the ability to interact with other students. To them, these three factors were the major reasons that they were willing to pay relatively high tuition fees and commute an average of an hour each way to attend class. They felt that the loss of any of these attributes would severely cut into the school's uniqueness and no longer differentiate the program from other MBA programs available in the area or online. One student commented that she was not "a book learner," and several others felt that they needed the incentive of class attendance to keep up with course material and stay on track. They were concerned that, without such an incentive, they would not pursue their studies as diligently.

Furthermore, the students felt that the classroom environment removed them from the many distractions of the home: children making noise, cats walking across the keyboard, the "call of the refrigerator," or the plethora of other procrastination devices that are not available in the classroom. The students were not against the use of online technologies to enhance the course and had several suggestions. They wanted to continue to have face-to-face interaction with the instructor and other students but felt that this may be accomplished with simultaneous broadcasts to one or more off-campus learning centers and the recording and archiving of classroom lectures for use at a later date. The students also thought that classroom time should not be used for assessment; rather, all quizzes and tests should be completed online.

At the heart of the student suggestions were the desire to continue to interact with the instructor and the other students in the class and finding a convenient way to do that. Learning is an active process that depends on all members of the classroom.
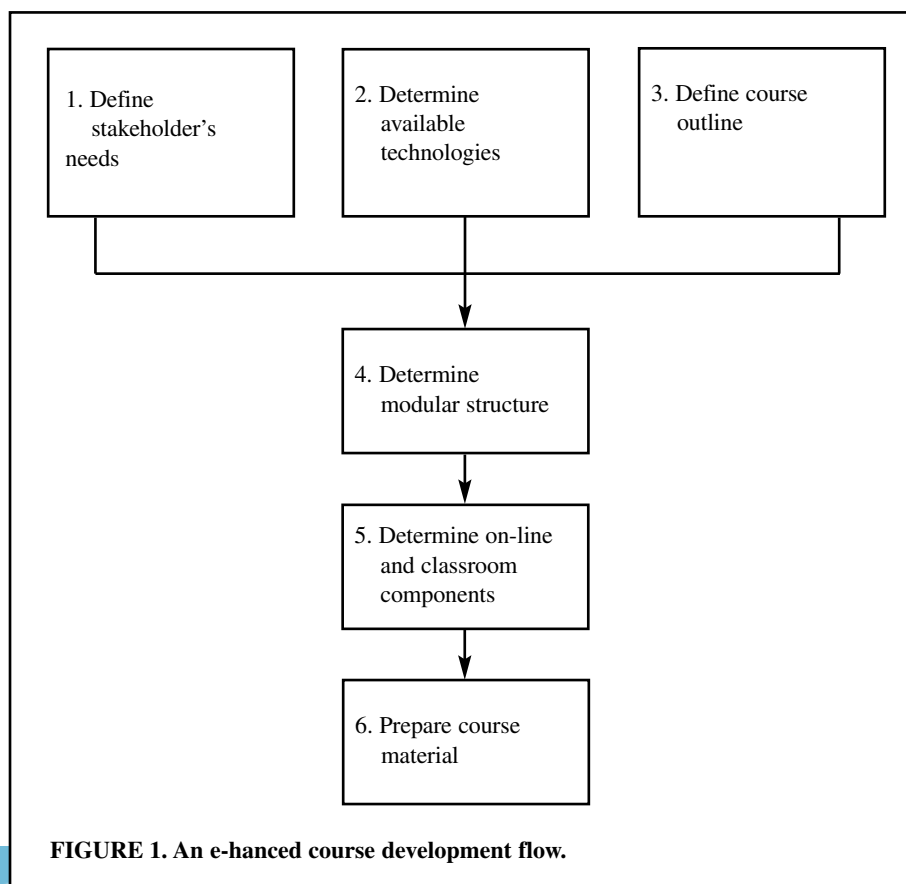

FIGURE 1. An e-hanced course development flow.

Employers. The American Institute of Certified Public Accountants (AICPA) has invested significant time and energy in establishing a core competency framework for certified public accountants. With only a few modifications, these competencies can be generalized and applied to all employers seeking professional and management personnel. At a minimum, employers seek managers with technical competencies in their given fields and disciplines (e.g., finance, accounting, marketing, research). Employers also seek managers who enhance relationships internal to the firm and work well with other employees, as well as those who strengthen relationships external to the firm (e.g., with customers and suppliers). The final competency required by employers is to find individuals with a broad-based business perspective who can "be conversant with the overall realities of the business environment including strategic and critical thinking, resources management, customer service, and technology" (AICPA, 2006). Employers want managers who both understand general business and have an expertise in at least one related discipline.

University. As a basic foundation, the university requires that students learn course content and that such learning is assessable, but, over and above course content, the university requires that every student develop an integrated set of learning objectives including expression and communication, interaction and teamwork, value and respect for the traditions and cultures of diverse groups, caring for the earth and environment, and global thinking and awareness. These objectives describe a well-rounded individual who can think and communicate clearly using a variety of tools or media.

Instructor. The last stakeholder group that should be considered is the instructor. To determine what instructors' needs are, course designers must reflect on why instructors chose an academic pursuit in the first place. How instructors see themselves as academics plays a major part in how they design their courses. At one extreme are professors who view themselves as teachers and

mentors to students. For these professors, the face-to-face small class environment may be more to their liking than would a totally online course. At the other extreme are professors who view themselves as pure researchers who want to expand the realm of human knowledge and for whom teaching is not a high priority. These professors might prefer an entirely online course with little or no one-to-one interaction. It is important that instructors design courses that also meet their personal needs, or the courses are doomed to failure. The instructor or designer needs to consider the following questions:

1. How much time do I want to spend in the classroom?
2. How much time do I want to spend answering e-mails?
3. Do I have adequate programming skills, or are they available at my university?
4. Do the students all have Internet capabilities?
5. Do I want to do this? Why or why not?

The representative professor used as an illustration for this study enjoys the classroom time and face-to-face interaction with students. The instructor has good PC skills (e.g., Excel, Word, PowerPoint) but has limited programming skills. The instructor's objective in enhancing the MBA managerial accounting course is to provide more flexibility to the students and allow more time for in-depth problems and refining students' skills.

Step 2: Determine Available Technologies

Once the course designer assesses stakeholders' needs, the course designer needs to know which technologies are available in the institution and learn how the chosen technologies function. In the traditional classroom, the instructors' teaching tools were essentially the white or black boards. Then overhead projectors were introduced, followed by the introduction of computer projections, video and television, Internet access, and personal computers at each student's seat. At the hypothetical institution used as an example in this article, most classrooms have

white boards, overhead projectors, video and television, and computer projectors with Internet access at the podium. Selected classrooms have personal computers with Internet access for each student.

Online technologies readily available through campus-wide software include Internet access, e-mail, chat rooms, discussion boards and online document posting and receiving. Instructors are also able to individually develop and post interactive Web pages, online exams, and timed tests, though campus-wide funding to support these activities is limited. Table 1 summarizes the strengths and weaknesses of the common delivery tools. The concerns of the course designer and instructor are to ensure that the best elements of both in-class and online approaches are implemented wherever cost effective.

Step 3: Define Course Outline

The third and final step of the preparatory phase is to develop a course outline that will be the foundation for designing the course modules and establishing the teaching tools for each module. Professors may choose a text that fits with their outline, or the choice of text may determine the specific order for the material.

Step 4. Determine Modular Structure

There are essentially four types of modules for each course element: (a) required background knowledge, (b) course content, (c) review and practice, and (d) assessment. The amount of time dedicated to each type of module and the form of delivery will vary across courses and instructors. Figure 2 shows the modular structure for a typical managerial accounting topic, cost behavior. The topic includes determining fixed costs, variable cost, and cost drivers, making cost estimates and preparing income statements in the contribution format.

Much of the decision-making processes taught in managerial accounting are based on numerical analyses. Therefore, students should be versed in basic mathematical concepts such as the distributive law and

TABLE 1. Summary of Strengths and Weaknesses of Various Delivery Tools

Online Tool	Strength	Weakness
Taped or live broadcaste	Very low cost after initial setup Can be prepared ahead of time Can be accessed by student at any time	Hard to track student participation Can be boring Not necessarily current
E-mail	Students can ask questions at any time Instructors can respond at any time	Can be time consuming if instructor responds to each e-mail question individually
Interactive Web sites	Easily accessible from any location	Requires computer and online access for instructors and students
Videos	Inexpensive to produce (simply videotape normal lecture)	Costly and time-consuming to produce; difficult to update content in video
Asynchronous chat rooms	In many ways, close to classroom conversations; can facilitate interaction between participants and instructor	Time lag between responses Freezes out students unfamiliar with method or too timid to have thoughts reproduced for everyone to see and comment
Synchronous chat rooms	In many ways, close to classroom conversations; can facilitate interaction between participants and instructor	Freezes out students unfamiliar with method or too timid to have thoughts reproduced for everyone to see and comment upon
Simultaneous broadcasting	Technology-enhanced learning; high student interest in learning to use new technology	Generally requires assistance of specially trained support staff
Whiteboards	Flexible; ability to address new points as needed	Takes control of discussion away from students and back to instructor
Face-to-face contact with other students	Facilitates face-to-face conversation as student to instructor and student to student	Typically, students with strong personalities tend to dominate discussion
Face-to-face contact with instructor	Provides students with immediate feedback on ideas and questions	Can force digression from course structure onto irrelevant topics
Videos	Corresponds with most common way for today's students to acquire information	Can be costly to acquire and quickly become out of date; instructor has no control over content

Note. From "Content and Delivery: A Comparison and Contrast of Electronic and Traditional MBA Marketing Planning Courses," by L. Smith, 2001, *Journal of Marketing Education*, 23, p. 35–43. Copyright 2001 by Sage Publications. Adapted with permission.

the cumulative law. They must know and understand basic algebra and elementary statistical analysis including the mean, median, standard deviation, and simple regression techniques. Furthermore, they should have an understanding of basic financial concepts such as revenues, expenses, profit and loss, and assets and liabilities. Because many of the students in an MBA program have been out of school for several years, professors cannot assume that students have or remember the required background tools. Therefore, professors should refer students to remedial modules covering basic mathematics, statistics, and financial

reporting as required. Depending on the requirements of the course, other background modules covering writing and presentation skills may also be made available.

In the content modules, course topics are introduced, and their importance and use are demonstrated to the student. This is where the specifics of the course are presented, and this follows the general course outline.

During the review and practice modules, students hone their skills with the material, and the professor evaluates their mastery of these skills during the assessment module. Traditionally, practice has taken the form of home-

work assignments using textbook problems, and professors use examinations for assessment.

Step 5. Determine Online and Classroom Components

In this step, the designer establishes which portions of the course are best suited for delivery in a traditional classroom environment and which are best with an e-learning approach. Underlying considerations include (a) background segments not required by all students need not be conducted in the classroom and (b) new concepts are best introduced to all students at the same time so that
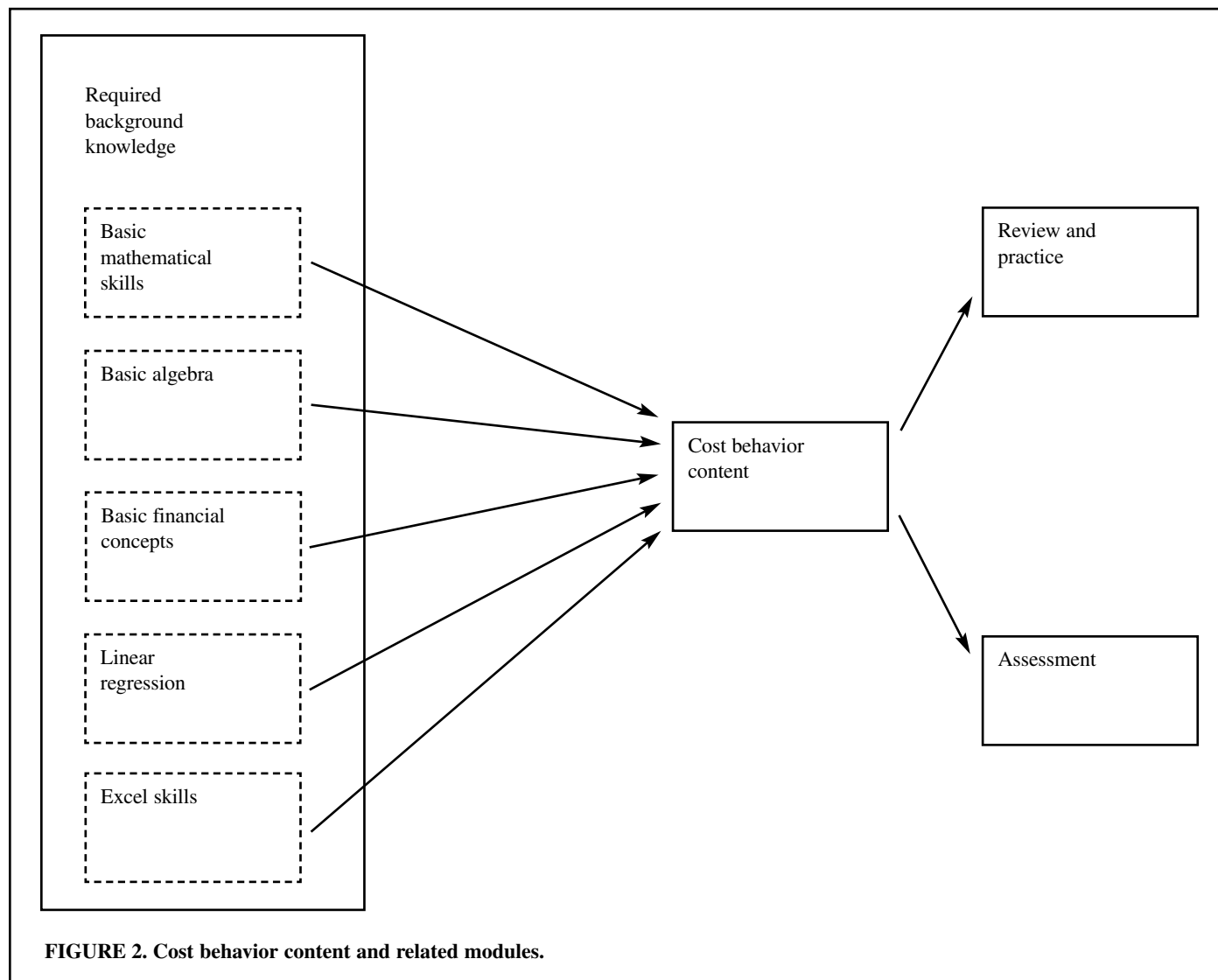
FIGURE 2. Cost behavior content and related modules.

students can interact spontaneously with the professor and with each other.

Because the background modules are not required by all students to the same degree, professors should provide them to students online and outside the classroom environment. Required background modules are not course content specific but reflect general knowledge and skills. These can be shared by different content modules within the course or with other instructors who require similar background knowledge from their students. Therefore, the costs of development need not be borne by one course or program, but can be shared by several different disciplines. For example, a managerial accounting professor can share a background module on the equation and attributes (i.e., slope and intercept) of a line with members of the finance

department for their discussion of the capital asset pricing model.

Instructors or designers can choose to develop a content module that ranges from 100% online to 0% online according to their requirements and aligns with the other stakeholders' needs. For example, the expressed student requirements for some classroom time and the instructor's enjoyment of the classroom environment are considerations for the development of the online and classroom mixture. For the MBA managerial accounting course, a professor can make real-life testimonials demonstrating how the concepts of cost behavior are used to improve profitability available online for the students to review before attending class. The testimonials are not designed to teach the student how to solve a problem, but are designed to demonstrate

the importance of knowing how to solve the problem.

In addition, the students are asked to prepare and submit a short description of a cost-related issue faced by the employer. Both of these serve as discussion points for the in-class content module where the specific skills and solutions for the real-life examples are presented to the students.

The major component of the content module, presenting the new material, is class-room based using classroom-based technologies such as the white board, the computer projector, and other tools available in the classroom. The session is interactive with the instructor moderating class discussion and using questions to direct the students to discover the tools and applications as a group. The professor can record the session and make it avail-

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able to students online. The exciting aspect for the student is that the class is very spontaneous, the lecture sequence and pace are influenced by student participation, and students can practice their communication skills. The exciting aspect for professors is that each class is different and they must remain flexible.

Review and practice (i.e., homework) are traditionally performed by students out of the classroom and at a time of their choosing. In the example discussed in this article, the professor provides homework problems and solutions for the students to access online. The students can contact the instructor with questions using e-mail or a chat room on the course Web site. The former tool may be preferred by some students who do not like to have their questions publicly aired, but it has the disadvantage of being time consuming for the professor who usually responds to each individual e-mail. Chat rooms have the advantage that students may be able to resolve a question among themselves with only guidance from the instructor. Practice may take the form of small case studies that require the student to define the problem, develop an approach, gather the appropriate data, and prepare a memo presenting and describing the solution.

Many text book publishers provide online homework and grading so that students get immediate feedback and corrections to their work, and the instructor can see which students have completed an assignment, how they have performed, and whether there are any consistent problems. Furthermore, the number of times a Web site is accessed and by whom can be tracked and made available to the professor.

Many students need to have an assessment component associated with practice and review as an incentive to do homework. Besides the grading of online homework assignments, online examinations can be used for periodic assessment during and following the course.

One of the biggest drawbacks to online examinations is the potential for student dishonesty. Strategies for reducing academic dishonesty include making timed exams, varying the questions on individual student papers, designing

tests to be open book and using honor statements (Christe, 2003; Olt, 2002).

The process described above for the Cost Behavior portion of the course is repeated for each content module in the course outline. Content modules are very course specific and need to be designed by an individual instructor for a particular course. Background modules are not specific to a particular course and can be shared across the university. The review and practice, and the assessment modules are also course specific but can benefit greatly from software and tools available on the Internet or provided by textbook publishers. An instructor or designer may alter the percentage of each module that is conducted online versus in the classroom, which allows for great flexibility in course design.

Step 6. Prepare Course Material

After the online and classroom modules have been determined, the instructor or designer prepares the course material. Background modules may come from a university-wide library of such modules that have been prepared at other times. The use of online background modules, practice and review modules, and assessment modules reduced the actual classroom time for the example course by approximately one third over the classroom-based course while maintaining the small school personal feel that the students requested.

DISCUSSION

The above discussion presents one approach to developing a unique, individualized course that mixes both online and classroom pedagogies. No one combination will be appropriate for all instructors and all students. Delivery combinations also vary with the degree that technology is incorporated into courses. The online–classroom blend reflects choices made by the instructor and reflects that professor's own skills and requirements.

The fast pace of technological change is very exciting and very daunting at the same time. People constantly develop new ways of presenting instructional material, and educators must keep up

with the changes. Instructors must learn to use new technologies, incorporate them into existing courses, and design new courses around those technologies. At the same time, they must keep up with their respective disciplines, including being conversant with the ways that technology changes the profession. At times, it can appear to be overwhelming, but it need not be so.

The approach we describe in this article allows the gradual e-hancement of a course; it does not require the instructor to have all modules designed and implemented at the same time. Rather, the instructor may take an evolutionary approach, starting with an existing classroom-based course and modifying different modules in a way that is best for both instructor and students, or the instructor may start by implementing the review and practice modules for several of the course elements to see how students react to the changes. How instructors combine the technologies will make their courses distinctive and personal, and that is what makes higher education exciting.

NOTE

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APPENDIX
Objectives of Managerial Accounting Course

The overall goal of the managerial accounting course is to provide a business manager with a set of tools that can be applied to a variety of business and personal decisions. This course is complementary to the basic accounting course in that it uses concepts and relationships developed in the earlier course.

The student should leave the course knowing what kind of information and data need to be gathered and which tool to apply to make an informed decision. At the end of the course, the student will be able to:

1. Prepare an operating budget and use the budget in performance and responsibility measurement, including comparison of the budget to actual experience, and the development of plans for corrective action in response to actual conditions.
2. Understand basic economic concepts of cost behaviors and be able to separate costs into fixed and variable components to apply them in a variety of long- and short-term decisions such as make versus buy, constrained resources, business segment analysis, and special orders.
3. Use the concepts of the time value of money (discounted cash flows, net present value, internal rate of return, payback) to analyze decisions that affect multiple future periods.
4. Develop and analyze product cost information (direct material, direct labor, overhead allocation) for use in product pricing decisions.
5. Make a presentation with recommendation to an organization's management about a decision facing the organization.

Note. From *Institute of Management Accountant's Learning Outcome Statements for the Certified Management Accountant Exam,* 2006. Copyright 2006 by Institute of Management Accounting. Retrieved June 6, 2006, from http://www.imanet.org/certification.asp. Adapted with permission.