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# Teaching Intermediate Financial Accounting Using a Business Activity Model

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**ABSTRACT:** This paper describes a creative approach to the instruction of intermediate financial accounting that relies primarily on a business activity model (BAM). Initially funded by an Accounting Education Change Commission (AECC) grant, this curriculum revision is designed to (1) motivate students for their chosen profession, (2) promote their technical competency, and (3) develop in them an expanded set of educational objectives including critical-thinking, communication, and research skills. The BAM emphasizes financial disclosure and technical research as well as those topics commonly found in "traditional" intermediate accounting courses. Working in professional service teams, students mimic the accounting and financial-reporting processes found in the "real world" by conducting analytical reviews, soliciting information from clients, preparing adjusting and correcting entries, and drafting financial statements and notes for a fictitious client company.

## INTRODUCTION

During the past decade, accounting practitioners have expressed concern over the academic preparation of accountants. Professional groups and educators alike have called for educational reform that provides students with the skills, knowledge, and attitudes for success in the 21st century.<sup>1</sup> To date, attention

<sup>1</sup> The primary calls for substantive and fundamental curriculum change during the past 15 years can be found in: AAA (1986), AICPA (1988), *Perspectives* (1989), and AECC (1990).

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(particularly in the accounting education literature) has been directed primarily to introductory accounting courses, with much less focus on intermediate financial accounting.<sup>2</sup> Recently, Jennings (1998, 835) has proposed revising the intermediate course to develop in students a stronger conceptual understanding of accounting fundamentals, while enhancing problem-solving and critical-thinking abilities. This goal is achieved by teaching accounting *concepts* before rules.<sup>3</sup> This paper extends the accounting education literature by describing a creative approach to the instruction of intermediate accounting, an approach that relies primarily on a business activity model (BAM).

In the early 1990s, the Accounting Education Change Commission (AECC) funded curriculum change projects at a number of colleges and universities, including the University of Virginia's McIntire School of Commerce (hereafter McIntire). To incorporate many of the AECC's recommendations for change, McIntire completely restructured the undergraduate intermediate accounting two-course sequence. The resulting innovation is referred to as the "BAM approach" to teaching intermediate accounting and is described in the balance of this paper. In 1997, the American Accounting Association (AAA) recognized this approach by awarding it the Innovations in Accounting Education Award, and during the past year, five other universities have adopted the BAM for intermediate financial accounting.

The remainder of this paper consists of five sections: (1) a brief description of McIntire's accounting program and the motivation for change; (2) a detailed account of the intermediate accounting curriculum change, including its goals, structure, and use; (3) a discussion of the BAM's evolution, including important

implementation and administration issues; (4) a review of informal feedback to date and of future assessment plans regarding this innovation, and (5) a concluding summary.

## ACCOUNTING INSTRUCTION AT THE UNIVERSITY OF VIRGINIA

### Background

Albrecht et al. (1994, 402) suggest that faculty considering substantive curriculum change must assess the institutional environment in which such changes will take place. Therefore, this paper begins by providing insight into the educational context in which the intermediate course revision occurred.

The McIntire School of Commerce is a highly competitive, two-year (upper-level), undergraduate business program with its own admissions process that enrolls approximately 630 students. During the last four years, mean high-school GPAs and SAT scores have exceeded 3.24 and 1,200, respectively, for new admissions. Students enter McIntire in their third year, generally select a concentration or major during the next semester, and receive a Bachelor of Science degree after their fourth year. Accounting students have the option of continuing their

<sup>2</sup> For example, the inaugural volume of *Advances in Accounting Education* (Schwartz and Stout 1998) contains a collection of five papers pertaining to various aspects of the introductory accounting course sequence.

<sup>3</sup> Building on Jennings' (1998) approach, the business activity model (BAM) discussed in this paper motivates in students an appreciation for accounting theory by simulating the decisions and tasks confronted by accounting professionals in daily practice. Only after discussing the various accounting and financial-reporting alternatives available to a fictitious client's business, do students address the mechanics and rules of financial accounting. In short, the BAM pairs theory with application in a client-service setting.

education an additional year and receiving a Master of Science degree. Historically, the McIntire accounting program graduates approximately 100 students per year, most of whom accept entry-level positions with Big 5 accounting firms.

### **Motivation for Curriculum Change**

Prior to adoption of the BAM, McIntire's accounting faculty taught intermediate accounting using a fairly traditional approach. The first semester began with a review of introductory accounting, followed by a study of the asset side of the balance sheet, starting with cash and ending with intangible assets. The second intermediate course addressed the rest of the balance sheet. This procedural focus, coupled with the increasingly large volume of accounting pronouncements, left little time to discuss financial statement note disclosures or many of the other significant and topical financial measurement and reporting issues that confront today's accounting practitioner (e.g., derivatives, segment reporting, asset impairment). It also left little or no room in the course for embracing an expanded set of educational objectives, such as those espoused by the AAA, AECC, and the AICPA.

McIntire's three-person intermediate accounting faculty had historically relied almost exclusively on lecture for information dissemination. Instructors assigned homework problems and provided solutions in class. The learning environment contained little uncertainty. To succeed, students needed only to read the text, work assigned problems, and perform adequately on examinations that reflected the course's procedural emphasis. Group work was not encouraged

and collaboration often was considered "cheating," despite the fact that accounting (and other business) professionals increasingly work in teams. Moreover, intermediate accounting instruction was not integrated with any other courses, accounting or otherwise. Yet, by most traditional measures the accounting program was a success. Almost all accounting majors received employment offers prior to graduation and over 60 percent ultimately accepted positions with Big 5 firms in major U.S. cities.

However, in the late 1980s, the intermediate accounting faculty began to question the course's content and delivery method. McIntire's top students no longer were selecting accounting as a concentration, opting instead for finance or management information systems.

It became clear to the faculty that the intermediate accounting courses required dramatic revision. The traditional approach was viewed as too sterile and overly reliant on highly structured problems and rule memorization. While becoming technically proficient, many students could not integrate rule-based knowledge with "real-world" problems. Such an educational model was considered inadequate for preparing students for accounting practice in the future. With the AECC's financial support, McIntire began initial curriculum revision in 1991.<sup>4</sup>

<sup>4</sup> The AECC provided McIntire with \$250,000 to fund summer grants for course development in advanced accounting, auditing, cost and managerial accounting, and intermediate financial accounting (AECC 1991, 328). Twenty percent of the grant monies was devoted to the intermediate curriculum revision described in this paper. Subsequent institutional financial support consisted almost exclusively of funding research assistants used in material design and testing.

## THE INTERMEDIATE COURSE REVISION

### Project Goals and Development

The primary goal of the course revision is to help develop in students those competencies required by professional accountants today and in the future. For example, Elliott (1992, 79) suggests that the accountant of the 21st century must provide services that focus client attention on the strategic use of information throughout the organization. Specifically, accountants must be able to evaluate and improve client information systems to support activities that create stakeholder value. The new course sequence has three objectives: (1) motivate students for their chosen profession, (2)

promote technical competency, and (3) develop an expanded skill set that includes the abilities to think critically, communicate, and research. These objectives and associated action plans are summarized in Table 1.<sup>5</sup>

<sup>5</sup> In January 1998, delegates from each of the 50 states and three jurisdictions, along with representatives of several AICPA constituent committees, reviewed the summary results from all of the AICPA's Future Forums held in the fall of 1997. The top five core competencies identified were communication skills, strategic and critical-thinking skills, focus on the client and market, interpretation of converging information, and technological adeptness (AICPA 1998). The BAM's objectives are congruent with those adopted by the profession for the accountant of the 21st century.

**TABLE 1**  
**Business Activity Model (BAM) Goals**

Goals	Action Plan
Motivate students for the profession	Present accounting and consulting issues to students in realistic business contexts. Simulate the decisions and tasks confronted by accounting and business professionals in daily practice. Require the use of technology to solve client problems.
Promote technical competency	Encourage students to master the fundamentals of financial accounting and reporting by continually focusing on three central themes: balance sheet valuation, income recognition, and disclosure adequacy.
Develop student critical-thinking, communication, and research skills	<p>Encourage students to think like "experts" by requiring them to deal with subjectivity, ambiguity, and uncertainty in assignments that mirror public accounting practice.</p> <p>Require students to actively and frequently communicate in the language of business (accounting), both orally and in writing.</p> <p>Use take-home research exercises to introduce students to the accounting literature. Students must solve "real-world" problems of varying difficulty using appropriate accounting standards. Introduce technical material to students through projects requiring research of complex accounting issues.</p>



To meet these objectives, the intermediate faculty concluded that the revised course sequence must possess several key attributes. Students must be active participants in the learning process. They must be confronted with unstructured, realistic practice problems that require them to research and develop "expert-like" thinking abilities. "Learning to learn" should be emphasized and group work encouraged. Consequently, a teaching method was sought that fostered the expansion and reinforcement of basic communication, intellectual, and interpersonal skills, while not compromising coverage of technical material.

Originally, it was decided that the previous text/problems approach would be replaced by a series of accounting cases analyzed by students working in groups.<sup>6</sup> However, finance colleagues (who had a much richer experience with case usage) advocated the use of a *single* case throughout the semester that addressed a progressive set of accounting issues. They argued that such an approach would reduce the need for students to continually relearn company-specific details, allowing them instead to focus on identifying and resolving accounting issues. The intermediate faculty agreed and constructed an "active learning" model that would introduce students to traditional intermediate accounting topics in a "real-world" business context. Similar to the "Business-Events Systems Approach" employed by Brigham Young University (Albrecht et al. 1994), the revised intermediate course sequence uses a Business Activity Model (BAM) to present students with accounting issues within a simulated business setting.

### General Description of the Revised Course

During the first five weeks of the revised course sequence, students review

the fundamentals of financial accounting learned in their introductory course. This survey covers material found in the first five or six chapters of most intermediate accounting texts, and serves as a "refresher" for those students who completed their introductory accounting requirements more than a semester or two earlier. It also assists transfer students who may have attended a less-rigorous or nontechnical program of accounting study.<sup>7</sup> Traditional lectures and problem-solving are used in this part of the course to review the primary financial statements, journalizing of transactions, and the differences between accrual and cash accounting. Student work groups are formed during this period. The five-week review concludes with a comprehensive in-class examination.

The BAM is used during the remainder of the first semester and all of the next. Four major components drive this instructional approach: (1) Hydromaint Inc., the fictitious company course materials consisting of 24 integrated requirements; (2) six research exercises; (3) a PowerPoint classroom delivery system; and (4) a daily faculty planner.<sup>8</sup> Significant class time is devoted to discussing a client's accounting issues, the potential resolution of these issues, the related financial reporting, and the effects on external parties of any resulting disclosures. The

<sup>6</sup> The case method of teaching has been proposed as a means of developing unstructured problem-solving skills and team-work abilities (Stout and Rebele 1996, 9).

<sup>7</sup> Accounting programs that have de-emphasized transaction processing in their introductory courses may find it necessary to compensate for the reduced "journal entry" focus by complementing the five-week review with distributed learning tools (e.g., CD-ROM tutorials). This issue is dealt with at greater length by Gujarathi and McQuade (1998).

<sup>8</sup> Each of these elements has been tested in the classroom and is now available on CD-ROM from Irwin McGraw-Hill Publishing.



accountant's responsibilities to various users of financial information and the role of judgment in an environment characterized by uncertainty are recurring themes in the course.

The course materials describe business transactions for the first seven years of a fictitious company's corporate life. Throughout the company's life cycle, each class is built around one of three basic themes: balance sheet valuation, income recognition, and disclosure adequacy. Classroom time is largely devoted to ensuring that students can identify accounting problems and develop tenable solutions given the appropriate technical literature. The approach repeatedly illustrates how financial accounting affects a variety of user groups—for example, banks, shareholders, and vendors. Consequently, students gain insight into the impact that financial accounting and reporting have on the financial markets and an appreciation for the important role accountants play in the operation of these markets.

Students assume the role of public accountant to provide accounting, financial, and tax services to their client, Hydromaint. Using information provided in the course requirements, student groups (working outside of class) perform analytical reviews of the company's unadjusted financial statements to determine if business transactions have been recorded and reported in accordance with generally accepted accounting principles (GAAP). These analyses are expected to yield questions that students will ask management during the next class period. These questions are carefully crafted so that all information needed to prepare correcting journal entries and a complete set of financial statements is obtainable (or accessible) in class. Requiring students to prepare and ask their client questions

about technical accounting issues allows them to develop their oral communication and professional interaction skills.

Once students have asked all of the appropriate client questions, they are provided with management's responses by the instructor. Then, student groups meet outside of class to produce correcting journal entries. Students are encouraged to use the financial accounting standards, an intermediate financial accounting reference text, and other professional literature to propose GAAP-based solutions.<sup>9</sup> In-class discussion of student-prepared correcting entries requires one or two class days, depending on the complexity of the accounting issues being addressed. Students are not permitted to merely "solve" the client's accounting problem, but must defend their solutions (in class) by addressing the valuation, recognition, cash flow, and disclosure implications of their recommendation.

Once the class reaches a consensus on the appropriate accounting treatment for each identified issue, student teams work (independently) outside of class to prepare the company's complete set of financial statements and appropriate note disclosures. Students create these statements by posting correcting entries into electronic spreadsheets of their own design. Students are encouraged to use prior-year financial statements, professional accounting disclosure checklists, and other corporate annual reports as guides in preparing their financial disclosures. During the next class period, student groups formally present their financial statements and answer questions posed by both the instructor and other students. Questions raised

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<sup>9</sup> Although students are required to purchase an intermediate financial accounting text, no readings or end-of-chapter material are generally assigned during the BAM's use. Instead, students rely on the text simply as a reference, or guide to the actual accounting standards.

commonly deal with disclosure adequacy and materiality issues. In addition to providing evidence on student writing ability, the oral presentation dimension of this financial statement exercise provides instructors with significant insight into student understanding of technical material and development of critical-thinking skills. This four-step process of analysis, inquiry, correction, and reporting is repeated seven times over the two-semester course (once for each BAM year). The repetitive nature of the accounting and financial-reporting process pursued in this approach integrates reinforcement with new learning and mimics the service processes found in today's business environment.

### Topical Coverage

Tables 2 through 4 summarize the BAM's 24 requirements and illustrate the complexity of the company's operations. Hydromaint's business begins as a service entity and later develops into a manufacturing and construction enterprise. During this transition, the company's operations address all the technical issues traditionally covered in a two-semester intermediate course. However, the BAM approach places greater emphasis on such matters as financial disclosure and technical research.

During the first semester (the first three years of the company's operations), the BAM presents students with such complex issues as income tax accounting and the calculation of earnings per share (Table 2). Additionally, students prepare three complete sets of financial statements including note disclosures. Accounting for pensions, leases, and investments are introduced during the semester as the related business events and transactions occur. In the next semester (years four through seven of the company's life), additional complexity is added to each

of these issues and the following new issues confronted: segment reporting, issuance of convertible preferred stock, construction accounting, and debt securities (Table 3). During both semesters, students must provide consulting services to address specific client questions (Table 4).

In addition to the 24 requirements that comprise the primary course materials, the BAM employs six take-home research projects designed to introduce complex accounting material and to develop "learning to learn" skills. These exercises serve as a prelude to future class discussions, and require students to access the accounting literature to solve "real-world" accounting problems of varying difficulty. The take-home research projects create efficiency gains since technical accounting topics that have traditionally consumed large amounts of classroom time now are transferred out of class. This transfer allows students to develop confidence in their ability to research complex accounting issues.

Although the University of Virginia's honor code facilitates the use of such take-home assignments, schools without such a code can still accomplish many of the project goals by shortening the take-home assignments and covering them in class. However, modifying the take-home projects in this manner not only reduces the classroom time that can be devoted to discussion of client accounting and reporting problems, but also reduces the students' opportunity to develop their research skills. Table 5 describes the content of each of these exercises.

The BAM addresses a number of subjects traditionally not covered in most intermediate course sequences (e.g., comprehensive note disclosures and corporate tax reporting). The addition of topical material is remarkable, given that the BAM addresses most, if

**TABLE 2**  
**BAM Accounting and Reporting Issues: Semester 1**

<b>Hydromaint Fiscal Year</b>	<b>Requirement Number(s)<sup>a</sup></b>	<b>Accounting and Reporting Issues</b>
One <sup>b</sup>	1, 2	Issuance of common stock Accounting for start-up costs Capitalization vs. expense treatment Revenue recognition, including income deferral Accounting for net operating losses Earnings per share determination/disclosure Introduction to note disclosure (policies, format, structure)
Two <sup>c</sup>	8, 9	Accounting for bad debts Property depreciation (fractional and tax-depreciation methods) Introduction to deferred taxes Notes payable (amortization schedules and expense accruals) New disclosures (comparative financial statements and taxes)
Three <sup>d</sup>	10, 11	Capital lease accounting Investment securities accounting Pension accounting (defined-benefit plans) Bookkeeping errors (missed accruals) New disclosures (leases, securities, and pensions)

<sup>a</sup> Course materials consist of 24 requirements presented over two semesters (11 in the first and 13 in the second), completed by students working in groups. Only financial statement requirements (2, 9, and 11) are graded. Group performance on the remaining assignments normally has been evaluated by the level and quality of student preparation for class.

<sup>b</sup> Hydromaint, Inc. begins operations. The company attempts to secure an equipment loan, but the bank requires CPA-reviewed financial statements.

<sup>c</sup> Company operations grow, requiring equipment purchases and additional bank financing.

<sup>d</sup> The company continues to mature and to generate significant cash flow. Idle cash balances are invested. The company adopts a retirement benefits plan in order to retain good employees.



**TABLE 3**  
**BAM Accounting and Reporting Issues: Semester 2**

<b>Hydromaint Fiscal Year</b>	<b>Requirement Number(s)<sup>a</sup></b>	<b>Accounting and Reporting Issues</b>
Four <sup>b</sup>	12, 13	Accounting for repairs and maintenance Inventory accounting Equity method of accounting Change in accounting method (investment securities) Inventory cutoff errors (purchases) Introduction to corporate tax reporting New disclosures (inventories and accounting change)
Five <sup>c</sup>	15, 16	Valuation of marketable equity securities Segment reporting Inventory cutoff errors (sales) Switch from "equity method" to "available-for-sale securities classification" Issuance of convertible preferred stock Preparation of corporate tax return New disclosures (investments and earnings per share)
Six <sup>d</sup>	17, 18	Business acquisition (asset valuation and purchase accounting) Correction of an error resulting from an IRS audit Stock split Preparation of corporate tax return New disclosures (business acquisition and earnings per share)
Seven <sup>e</sup>	21, 22	Adoption of LIFO inventory method Warranty accounting Accounting for research and development costs New disclosures (accounting policies)

<sup>a</sup> Course materials consist of 24 requirements presented over two semesters (11 in the first and 13 in the second), completed by students working in groups. Only financial statement requirements (13, 16, 18, and 22) are graded. Group performance on the remaining assignments normally has been evaluated by the level and quality of student preparation for class.

<sup>b</sup> Corporate revenues continue to grow. To meet market demand, the company acquires an ownership interest in a parts dealership. Future acquisitions also are likely, but require additional financing. The company is considering a public offering of preferred stock, and now requires audited financial statements.

<sup>c</sup> Hydromaint, Inc. issues convertible preferred stock to finance the acquisition of stock in a pump, valves, and parts manufacturer.

<sup>d</sup> Corporate operations continue to increase in complexity. The company sells its interest in a previous acquisition, but acquires the net assets of another entity. Financing is provided by issuance of additional common stock. The company is audited by the IRS.

<sup>e</sup> The company is now recognized as an industry leader. Both its common and preferred shares are now publicly held. The company becomes increasingly concerned with disclosure adequacy given its new status.

**TABLE 4**  
**BAM Consulting Activities**

<u>Hydromaint Fiscal Year</u>	<u>Requirement Number(s)<sup>a</sup></u>	<u>Consulting Issues</u>
Two	3, 4, 5	Evaluation of financing alternatives (bank loan vs. dealer financing, time value of money)
Two	6, 7	Recording of asset acquisitions and addressing interest capitalization
Five	14	Assistance in dividend allocation between preferred and common shareholders
Seven	19	Determination of the effect of LIFO adoption on client financial statements and after-tax cash flows
Seven	20	Evaluation of financial accounting effects of like-kind property-exchange alternatives
Ten <sup>b</sup>	23, 24	Conversion from completed-contract to percentage-of-completion method of revenue recognition

<sup>a</sup> Course materials consist of 24 requirements presented over two semesters (11 in the first and 13 in the second), completed by students working in groups. None of the consulting requirements are graded. Group performance on these assignments normally has been evaluated by the level and quality of student preparation for class.

<sup>b</sup> Although the BAM primarily uses seven years of business activity to introduce accounting issues, limited transaction data is provided for a tenth year to explore construction accounting. It was necessary to move three years forward to allow Hydromaint time to enter the refinery and plant construction business.

**TABLE 5**  
**BAM Student Take-Home Research Projects<sup>a</sup>**

<u>Topic</u>	<u>Description</u>
<b>Semester I</b>	
Leases	Students are required to read SFAS No. 13 and related standards. They then prepare written responses to technical questions on the assigned readings. This project provides background information for future classroom exercises and introduces students to research tools and databases available to practicing professionals.
Income Taxes	A tutorial introduces income tax accounting. The exercise discusses permanent and temporary differences and requires students to calculate current and deferred tax liabilities, as well as income tax expense. Students also must analyze and explain changes in these amounts and related effective tax rates.
Investments	This project requires students to record and report on stock transactions (purchase, sale, and dividends). The equity method of accounting is introduced and students must prepare entries and disclosures for a change in accounting principle from SFAS No. 12 to SFAS No. 115.

*(continued on next page)*



TABLE 5 (Continued)

Topic	Description
<b>Semester II</b>	
Financial Instruments	A tutorial introduces the accounting and reporting of an interest rate swap. In addition to recording and reporting the derivative transaction, students learn about <i>interest rate risk</i> and how it can be managed.
Asset Impairment	This exercise addresses interest capitalization and asset impairment for a large manufacturing facility. Students are asked to determine if impairment has occurred in several economic scenarios, to record write-downs if necessary, and to prepare appropriate financial statement and note disclosures.
Long-Term Debt	Students prepare responses to questions about bond transactions. Issues addressed include recording bond issuance with a discount or premium, calculating interest accruals and payments, and preparing and using debt-amortization schedules. Students also must evaluate a series of refinancing alternatives and discuss related reporting issues.

<sup>a</sup> Each of these projects constitutes approximately 5 percent of a student's total semester grade.

not all, of the major financial accounting and reporting issues discussed in today's intermediate texts.

### Classroom Delivery and Support Tools

To actively engage students in the learning process and to promote critical thinking, we rely heavily on the Socratic method during most class sessions.<sup>10</sup> An *Instructor's Guide* has been developed to assist faculty in planning classes and facilitating discussion when using the Socratic approach. The *Guide* provides detailed outlines, summaries of key accounting issues, sample questions to stimulate student discussion, and detailed solutions to each of the 24 course requirements.

The course also uses technology to facilitate class administration and discussion. Since Hydromaint's 24 requirements and six take-home research

<sup>10</sup> The educational literature supports the use of the Socratic method to advance critical thinking. Costa (1981, 29) indicates that in classes that use this approach, students feel free to take the initiative to risk, challenge, question, guess, invent, and test. By providing the opportunity and encouragement for students to engage in thinking, teachers create more receptivity to, and motivation for, learning specific thinking skills and strategies. Such classrooms also nurture student attitudes and behaviors supportive of thinking (Beyer 1987, 67). Consequently, the Socratic approach seemingly promotes critical thinking. Taba (1967, 25) stresses the importance of asking structured hierarchies of questions similar to those used in the BAM. For example, Taba (1967) noted the importance of first asking questions requiring recall of information, followed by questions requiring the processing of that information (by classifying, comparing, contrasting, or judging it), and finally by questions requiring students to apply what they were learning to develop generalizations or similar kinds of knowledge. Hoyle (1996, 37) illustrates how the Socratic method can be used in an intermediate financial accounting course.

projects are preserved in electronic text and spreadsheet files, they can be released to students either through electronic mail, computer network bulletin boards, the Internet, by diskette, or in hard copy. Student requirements also have been integrated into a computerized, PowerPoint instructor delivery package for classroom use in guiding discussions and presentations. To use these instructional tools, no special hardware or software is needed. The minimum requirements for both students and the instructor are access to a personal computer with a standard set of office software (e.g., Microsoft Word and Excel). Consequently, educational institutions need not possess extensive computer lab resources to implement this innovation.

#### **Other Course Considerations**

The revised course sequence has been offered in sections that vary in size from 15 to 45 students. However, instructors have found that class sizes of 25 to 35 work best. This number of students tends to promote spirited discussions and facilitate instructor evaluation of student participation.

Seventy-five percent of each student's grade in each course is based on individual performance (60 percent on in-class examinations and 15 percent on take-home research projects), 15 percent is based on group-prepared financial statements, while the remaining 10 percent is based on classroom discussion and participation. Historically, the requirements for which students prepare questions and correcting entries have not been graded exercises. Instead, instructors have normally evaluated group preparation by the level and quality of student class participation.<sup>11</sup> The format for the in-class exams has been similar to that used in traditional interme-

mediate accounting courses, consisting generally of a mix of problems, essays, and multiple-choice questions. The intermediate faculty at the University of Virginia adopted this testing and grading scheme to insure that technical knowledge would not be sacrificed in the revised course-delivery format: such a trade-off was not considered acceptable. Moreover, this grading policy is intended to discourage "free riding" during group assignments.<sup>12</sup>

Although students still are required to purchase an intermediate accounting text, no readings or end-of-chapter materials are assigned once the BAM is initiated. Instructors may select any intermediate textbook, since the text no longer "drives" the course's objectives, content, or delivery. Students use the text simply as a reference, and are encouraged to rely primarily on the original standards and other pronouncements as technical authorities, since these sources are commonly used by practicing accountants and finance professionals.

### **IMPLEMENTATION AND ADMINISTRATION ISSUES**

#### **Evolution of the Business Activity Model**

As might be expected, there have been a number of challenges to implementing and delivering this revised course. First, all course materials had to be developed and reviewed for

<sup>11</sup> Instructors may find it useful to collect group questions and correcting entries in the early BAM years to evaluate the level of class preparation by each group. This also allows the instructor to provide feedback to those students that may be struggling with this new learning model.

<sup>12</sup> Given the significant amount of work that students perform on the 24 course requirements, instructors may wish to assign more weight to the final grade (beyond the 10 percent assigned to class participation) for completing these assignments.



technical accuracy. Next, the BAM had to be tested to refine the materials and teaching approach. Although the BAM has been used for five years during both the regular academic year and in summer sessions, course modifications are continuous and are motivated principally by feedback received from students, alumni, and actual classroom experience.

Initially, students received all course materials as classroom handouts. This proved unwieldy and time-consuming. Hydromaint's business information now is distributed electronically through either computer bulletin boards, the Internet, or by CD-ROM.<sup>13</sup> As each of the 24 course requirements is completed, its solution is disseminated to students in the same way. Hydromaint's financial data also has been expanded to include detailed ledgers and journals to support client-prepared financial statements. This new information facilitates student analysis of the underlying client transactions and more closely resembles the financial records students will encounter on the job. To assist students in developing good working paper technique, the BAM materials now include *pro forma* schedules that can be used for calculating depreciation, pension, and tax expenses, as well as for reconciling net income to operating cash flow.

As the BAM was being developed (1991 to 1994), instructors used overhead and chalkboard presentations to promote class discussion. However, this did not permit the instructor to efficiently navigate between client financial statements, supporting ledgers, journals, and schedules when conducting class discussions. For example, when discussing the correcting entries for taxes payable, student groups frequently forget that three quarterly payments

have already been made and recorded by the client. This deficiency motivated the development of PowerPoint presentations for the BAM. Now, by merely clicking on a hyperlink, the instructor can quickly refer to the earlier journal entries, making the required correction clearly evident to the groups.

### Implementation Considerations

Despite the possible benefits associated with BAM usage, potential adopters must consider several student, faculty, and resource issues prior to implementation. First, some proponents of more traditional intermediate curricula have argued that the BAM's success is due to the high quality of the University of Virginia's student population. They suggest that its benefits may not be transferable to programs whose students are less academically qualified. Similarly, other critics maintain that the BAM may be more appropriate for a master's program.

During the first semester of BAM, some undergraduate students are likely to complain about course rigor. Students are particularly frustrated that they must identify client accounting problems on their own and then research them with little or no instructor guidance. A perceived lack of course structure, given the absence of assigned readings or homework problems, compounds their sense of frustration.

Others claim that they are not "learning" anything from the BAM, because there are no formal lectures and they have not been asked to memorize any facts. While this negativism declines substantially in the second semester as student comfort with the

<sup>13</sup> The CD-ROM also includes a variety of reference materials (audit and tax text extracts), technical tutorials, and sample forms and worksheets to assist students in solving course requirements.

BAM approach increases, potential adopters can address these concerns by tailoring the ambiguity permitted in the course. For example, instructors can choose to provide their students with more detailed guidance to assist in the identification and resolution of complex technical issues. Students also can be assigned specific readings prior to encountering accounting issues, rather than allowing them to find the appropriate literature on their own. As for use at the graduate level, the BAM is currently being used in a specially tailored Master of Science program offered to nonaccountant consulting professionals of a Big 5 firm.

Skeptics of the innovation (e.g., Jensen 1998, 8) also suggest that the BAM's apparent success may be heavily reliant on the skills and dedication of the faculty. Unquestionably, this innovation requires an acceptance or buy-in by all accounting faculty, not just those participating in its implementation. For example, it is recommended that either all or none of the intermediate sections adopt the BAM. Experience with the model reveals that first-semester intermediate students initially resist this teaching approach because of the uncertainty it introduces into their learning environment. Some students also find the BAM to be discomforting since they are frequently called upon to justify and support their accounting and reporting decisions.<sup>14</sup> Consequently, allowing "traditional" intermediate courses to coexist may reduce enrollments in BAM classes as students opt for teaching methods to which they are more accustomed.

Potential adopters also must consider the impact of their introductory accounting courses on BAM implementation. Recently, some accounting programs have replaced their traditional

transaction-oriented, debit-credit introductory courses with more conceptual, introduction-to-business information classes. This transition may require that in the first intermediate accounting course additional emphasis be placed on transaction processing during the initial five-week review period. Additionally, accounting faculty who teach succeeding courses may find it necessary to adjust their classes to avoid duplication of material, given the BAM's increased topical coverage, and to capitalize on the new research skills developed by students. To illustrate, this innovation discusses in detail the equity method of accounting, the proof of cash, the corporate tax return, and detailed financial note disclosures—topics historically found in advanced, audit, tax, and capstone courses, respectively.<sup>15</sup> An easy way to develop in other faculty an appreciation for the BAM's content and active-learning techniques is to permit them to visit classes, particularly once the revised course has been successfully installed.

If not accustomed to the Socratic method of instruction, faculty may need extra time to prepare for class. Leading students through a thinking

<sup>14</sup> Similar to Hoyle's (1996, 41) experiences, some students view this technique as a "cross examination" and are intimidated. However, as students become more familiar with the Socratic approach, our experience is that their apprehension will decline.

<sup>15</sup> The BAM also provides a foundation for programs wishing to merge advanced financial accounting into the intermediate course. This revised curriculum currently includes extensive coverage of segment reporting, the equity method of accounting, and earnings per share. Additionally, a business acquisition occurs in year six of Hydromaint's life. This transaction could easily be expanded to more completely address purchase accounting and pooling-of-interest rules, and a foreign subsidiary could be added to introduce foreign currency issues.

process that helps them construct arguments to support alternative accounting treatments and disclosures is more difficult than explaining a rule and applying it to a structured problem. Yet, once the shift to the Socratic approach has been accomplished, the BAM requires little additional time to deliver relative to the traditional intermediate course. After the instructor has completed the BAM sequence once and gained expertise in the application of supporting classroom tools, incremental class preparation time is minimal.<sup>16</sup> However, the issuance of new accounting pronouncements may affect Hydromaint's financial statements, and therefore require some additional course preparation time.

Faculty who implement this revised course are encouraged to meet at least weekly to ensure the consistency and uniformity of course delivery and grading across multiple sections. With multiple course sections, it is imperative that all classes progress at the same rate to prevent leakage of requirements and solutions between sections. These meetings also are useful to address unexpected issues and interpretations raised by students, new accounting standards or exposure drafts that affect the course materials, questions about delivery of course materials, and other administrative concerns.<sup>17</sup> This coordination also reduces the potential for faculty resistance to adopting this nontraditional approach. Faculty not involved with the BAM should also be updated frequently on its implementation. This may mitigate departmental fears that can arise if negative student comments surface during the BAM's first semester.

Finally, accounting programs must provide faculty with incentives to motivate their adoption of the BAM, as well as resources to implement, moni-

tor, refine, and maintain the revised course. For example, faculty may require release time and/or summer support to facilitate the teaching style change from lecture to the Socratic method. Travel funding may be necessary to allow interested faculty to view the approach in action at another university at which BAM has been implemented or to receive training by instructors experienced in delivering the BAM. Although the BAM's publisher plans to provide updates that address new accounting pronouncements, adopters may wish to make their own changes to the course materials to reflect their own unique institutional needs and/or personal preferences. Such activity also may require financial support on an ongoing basis.

### **BAM Administration**

In addition to the previously noted course implementation and coordination issues, potential BAM adopters also must address a number of critical class-administration issues. For example, early in the first semester of the revised intermediate course, and periodically thereafter, students must be informed that they will be introduced to a much different learning model from the one to which they are likely accustomed (read, memorize, and test). Particular emphasis should be placed

<sup>16</sup> Some adopters may not *completely* agree with accounting treatments or the level of disclosure in the BAM's recommended solutions. For example, some accounting faculty may find the recommended statement of cash flows to be "too detailed," preferring instead to aggregate certain financial statement line items. In these instances, instructors may decide to spend additional time preparing their own "solutions."

<sup>17</sup> When adopting the BAM for the first time, instructors may find it useful to schedule the intermediate sections so as to permit a luncheon meeting among all instructors to monitor and control the daily implementation across sections.

on the reasons the BAM is being used, its time-consuming nature, and rigor, and its emphasis on active learning, research skills development, and group work. The importance of time-management skills also should be emphasized, particularly in light of other time demands in the student's life. Students must continually be reminded during both intermediate semesters that the BAM's objectives are not limited to simply imparting technical accounting knowledge. These warnings are necessary to calm student fears about the BAM that may arise from students or relatives who have taken a more traditional intermediate accounting.

Faculties considering adoption of this approach also must resolve classroom scheduling and room layout issues to accommodate its delivery. The BAM's current configuration requires that it be offered in two 75-minute classes per week during a 14-week semester. Since this teaching approach relies heavily on the Socratic method to promote critical thinking, shorter 50-minute classes may prove inadequate for stimulating active and constructive class discussions. However, the intermediate faculty's BAM experience in summer courses suggests that it can be successfully offered in longer class periods that meet daily over a compressed four-week semester.<sup>18</sup>

Program administrators also must insure that, during their BAM semesters, accounting students are not overloaded with classes that employ a group-learning approach. Too many of these courses in one semester creates unmanageable time pressures for students as they attempt to schedule multiple group meetings (with different groups) around their other classes, work, and extracurricular activities. This is particularly important for those institutions where students reside primarily off-campus.

Finally, some colleagues have expressed concern that the usefulness of the approach may diminish over time as the numerical solutions to the requirements become known to students. However, this fear is predicated on the assumption that getting the "right answer" is key to the course. Fortunately, calculating accurate numerical answers for course requirements is only the starting point. Of most importance is the ability to identify and discuss accounting issues in a business context. Knowing the right number simply puts the student "in play" to justify the relevance of a particular question, to discuss alternative treatments, and to describe in detail how a particular number is calculated. Therefore, having the right numerical answer without the underlying theoretical justification is useless.

## **MODEL FEEDBACK AND ASSESSMENT**

### **Reaction of Interested Parties**

The BAM approach has not yet been evaluated using a formal plan to determine whether the model accomplishes its goals or how the innovation affects learning and future professional success. However, positive, less-formal feedback has been received from an important group of stakeholders: students and faculty colleagues.

Student evaluations collected during the testing and redesign phases of the BAM's development (i.e., 1995 to 1997) suggest that the teaching approach is quite demanding, both in terms of time

<sup>18</sup> Classes in McIntire's summer sessions are two hours and 15 minutes in length. By incorporating some of the group work performed outside of class (during the fall and spring semesters) into the summer classes, the BAM can still be used effectively. In fact, introducing group work into the longer summer class periods actually reduces much of the boredom inherent in a two-hour-plus accounting class.



and cognitive complexity. Yet students indicate that Hydromaint's requirements are among the "best" features of the course. Participants generally have agreed that the BAM increases their learning, particularly in technical areas, such as pensions and taxes. Students seem to appreciate the practical application of financial accounting to a "real-world" scenario.<sup>19</sup> Selected comments of students who have experienced the revised BAM materials are presented in Table 6.

BAM students who have graduated are enthusiastic about the model's impact on their early career performance. They report that their training in intermediate accounting has placed them well ahead of their contemporaries in introductory staff-training courses. Faculty who recently have adopted the BAM for their intermediate accounting courses appear to enjoy using this new teaching approach. Several of their unsolicited comments are presented in Table 7.

Intermediate accounting precedes more advanced accounting courses. Therefore, we wanted other accounting faculty members to provide feedback on the preparation of BAM students transitioning into other accounting courses. Colleagues who teach corporate taxation and auditing (traditionally senior-level courses) have indicated that the BAM has allowed them to increase the rigor of their courses. They report that BAM students possess such a thorough understanding of technical financial-accounting issues that new topical areas can now be explored. For example, tax instructors no longer spend considerable time re-explaining temporary and permanent differences, as they did when students experienced the traditional intermediate model. Tax professors value the revised course particularly for its illustration of the importance of

tax issues in a business context. Additionally, students now begin the auditing course with an appreciation for the various assurance services and an understanding of the analytical review process. Other business faculty have commended the class for its focus on using accounting information for business decision making. However, the BAM's most significant validation to date occurred in 1997, when it received the Ernst & Young LLP Innovations in Accounting Education Award from the American Accounting Association.

### Assessment

Rigorous assessment is necessary to promote widespread acceptance of such a dramatically different teaching approach. Until the past year, however, the BAM was evolving, thereby making scholarly evaluation difficult, if not impossible. Recently, the American Accounting Association and the Carnegie Foundation through its Academy for the Scholarship of Teaching and Learning jointly provided funding to begin a formal assessment of the BAM.

The overall goal of this research project is to collect data that ultimately improves the delivery of financial accounting education while improving student learning. Adopting such a "value-added" perspective is important

<sup>19</sup> Jensen (1998, 17-18) suggests that these favorable reviews may be due to meta-level processes in the students' brains. Specifically, he notes that students tend to give higher course evaluations to courses that they believe make learning complex material easier, more fun, and less frustrating. He cautions that the use of emerging technologies may promote feelings of knowing in students who are dysfunctional later in life. However, Jensen (1998, 20) acknowledges the difficulty of applying and measuring metacognitive and metamemory criteria in higher education since learning performance cannot be evaluated prior to graduation or even in the earliest years of post-graduate work and study.

because it encourages the objectivity needed to evaluate educational innovations. Consequently, this future investigation must necessarily capture two evaluative dimensions: *outcomes assessment* and *classroom assessment*.<sup>20</sup> Determining whether a particular program of study “adds value” is not an easy task. In fact, the difficulty of performing pre- and post-testing discouraged early assessment system designers (Hutchings and Marchese 1990). Therefore, it is not surprising that few data exist on the degree to which various assessment techniques have been used. However, the most useful assessment measures are likely to be those that have external validation (Kimmell et al. 1998). Consequently, our planned-for assessment will rely heavily on several external assessment methods to evaluate educational outcomes. These

include: job-placement data, alumni, and employer satisfaction surveys, graduate and professional school admission test scores, and certification exam results. For classroom assessment, several internally focused tools will be used: student and instructor attitude surveys, and focus group interviews with both students and faculty.

<sup>20</sup> *Outcomes assessment* refers to the use of outcome data to improve education programs and student learning. *Classroom assessment*, on the other hand, evaluates learning in specific contexts to improve teaching effectiveness. Despite the importance of these issues, few assessment studies exist in the accounting education literature; in this regard, Rebele et al. (1998, 211) suggest that outcomes assessment is an area in particular need of examination in the accounting education literature. Apostolou (1999, 177) and Harwood and Cohen (1999, 691) also highlight the relevance of assessment to accounting and provide a useful summary of published works on the topic.

**TABLE 6**  
**Selected Student Comments on the BAM**

The structure...is innovative and effective. Hydromaint is a surprisingly excellent way to really “get” the concepts of intermediate accounting.

Hydromaint forced us to apply concepts to practical applications.

Ability to cover, in a logical manner, concepts of accounting important to so many other fields (i.e., management, finance).

The case...taught concepts well in group work.

We learned all of the material using a real-life example so we can know what to expect when working on the job.

The course really taught you to think...not just memorization, actual THINKING...learned so much.

Challenged students to find the answers on their own.

Hydromaint gave us a chance to apply all of the skills we were learning.

A unique and effective way of covering a lot of ground.

Hydromaint really made me feel like an accountant.

Exposure to “real world” applications...gave practical supplement to theoretical concepts.

The case study and class discussions relate to real business situations, the changing accounting standards, and the political environment.

The Hydromaint case: It gives you an opportunity to learn the material in an active fashion rather than passively.

A lot more interesting and practical than boring textbook examples.

I worried that this would be a dry course, but the presentations really made me think about the material...I really enjoyed it.

**TABLE 7**  
**Selected Instructor Comments on the BAM**

I really enjoy doing the BAM and the students seem more interested in class, although I don't think they like having to depend [on meeting] outside of class...Also, I think they're struggling on how to learn on their own.

Instructor (medium-size state university)

There is a lot less frustration among the students than I thought there would be. As for me, I am having a ball. This is by far the most fun I have ever had "teaching" (moderating) an intermediate accounting class.

Instructor (small liberal arts college)

I love teaching the course this way and hope to do a much better job in the future. I had some difficulty in knowing what to really emphasize and reinforce in class discussion so that students had a better idea of what to study...our students really seem to enjoy the interaction and analytics.

Instructor (small Catholic university)

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The above informal feedback was unsolicited and received from instructors who adopted the BAM during Fall 1999, and who had no role in the development of the original course materials.

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Assessment of the Business Activity Model will be conducted in three separate phases.

**Phase I:** Both outcomes and classroom assessment questions will be addressed in this phase, as the BAM's initial implementation at participating institutions is evaluated. Currently, it is anticipated that student and instructor attitude surveys will be administered at both the beginning and end of each semester to obtain participant feedback on the new approach, its materials, and its (perceived) effect on student learning. These questionnaires will be supplemented with the use of student exit interviews and focus groups.

**Phase II:** This phase will be devoted exclusively to the assessment of the BAM's outcomes, primarily its impact on other courses in the undergraduate curriculum. Attitudinal surveys will serve as the primary measurement instrument.

**Phase III:** During this phase, the BAM's affect on post-graduation professional performance will be examined. Surveys of accounting alumni and em-

ployers will be complemented with performance data on standardized school admission test scores (e.g., GMAT, GRE) and professional certification exams. Achievements of recent accounting graduates also are expected to provide insight into the BAM's effectiveness.

The BAM's simultaneous introduction recently at several universities offers a unique opportunity to conduct a curriculum assessment project that will benefit a number of constituencies. Not only will accounting instructors learn about the classroom efficacy of this new approach, but also this study will serve as a template to program administrators since outcomes assessment is relatively new to accounting education research (Rebele et al. 1998).

### SUMMARY

This educational innovation consists of a creative approach to the instruction of intermediate financial accounting, an approach that relies primarily on the business activity model (BAM) and a set of student-oriented delivery techniques and teaching materials. The



proposed model abandons the lecture format of instruction and requires students to become active participants in the learning process. Students mimic the accounting and financial-reporting processes found in the "real-world" through their conduct of analytical reviews, information solicitation, preparation of adjusting entries, and drafting of financial statements. This new approach emphasizes financial disclosure

and technical research in addition to the issues presented in "traditional" intermediate accounting courses. The revised course is designed to better prepare students for careers in accounting, finance, and business consulting by motivating them, promoting technical competence, and developing an expanded set of competencies including research tools, critical-thinking abilities, and communication skills.

### REFERENCES

- Accounting Education Change Commission (AECC). 1990. Objectives of education for accountants: Position statement number one. *Issues in Accounting Education* 5: 307-312.
- . 1991. Additional grants awarded for implementation of improvements in accounting education. *Issues in Accounting Education* 6: 315-330.
- Albrecht, W. S., D. Clark, J. Smith, K. Stocks, and L. Woodfield. 1994. An accounting curriculum for the next century. *Issues in Accounting Education* 9: 401-425.
- American Accounting Association (AAA), Committee on the Future Structure, Content, and Scope of Accounting Education (The Bedford Committee). 1986. Future accounting education: Preparing for the expanded profession. *Issues in Accounting Education* 1: 168-195.
- American Institute of Certified Public Accountants (AICPA), Education Executive Committee. 1988. *Education Requirements for Entry into the Accounting Profession, Revised*. New York, NY: AICPA.
- . 1998. National top five core values, core services, core competencies and issues. Available at: <http://www.cpavision.org/project/natltop5.cfm>.
- Apostolou, B. 1999. Outcomes assessment. *Issues in Accounting Education* 14: 177-197.
- Beyer, B. 1987. *Practical Strategies for the Teaching of Thinking*. Boston, MA: Allyn and Bacon, Inc.
- Costa, A. 1981. Teaching for intelligent behavior. *Educational Leadership* 39: 29-32.
- Elliot, R. 1992. The third wave breaks on the shores of accounting. *Accounting Horizons* 6: 61-85.
- Gujarathi, M., and R. McQuade. 1998. Problems and considerations in implementing technology-based solutions to address changes in accounting curricula. *Advances in Accounting Education* 1: 1-23.
- Harwood, E., and J. Cohen. 1999. Classroom assessment: Educational and research opportunities. *Issues in Accounting Education* 14: 691-724.
- Hoyle, J. 1996. Using the Socratic method to teach a traditionally lecture-based accounting class. *Accounting Education: A Journal of Theory, Practice and Research* 1: 37-47.
- Hutchings, P., and T. Marchese. 1990. Watching assessment: Questions, stories, prospects. *Change* (22): 12-38.
- Jennings, R. G. 1998. Concepts before rules: A new approach to intermediate accounting. *Issues in Accounting Education* 13: 833-850.



- Jensen, R. E. 1998. Metacognitive concerns in designs and evaluations of computer aided education and training: Are we misleading ourselves about measures of success? Working paper, Trinity University, San Antonio, Texas.
- Kimmell, S., R. Marquette, and D. Olsen. 1998. Outcomes assessment programs: Historical perspective and state of the art. *Issues in Accounting Education* (13): 851-868.
- Perspectives on Education: Capabilities for Success in the Accounting Profession* (The White Paper). 1989. Arthur Andersen & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst & Whinney, Peat Marwick Main & Co., Price Waterhouse, and Touche Ross. New York, NY.
- Rebele, J., B. Apostolou, F. Buckless, J. Hassell, L. Paquette, and D. Stout. 1998. Accounting education literature review (1991-1997), Part II: Students, educational technology, assessment, and faculty issues. *Journal of Accounting Education* 16: 179-245.
- Schwartz, B. N., and D. E. Stout, eds. 1998. *Advances in Accounting Education: Teaching and Curriculum Innovations*. Volume 1. Stamford, CT: JAI Press, Inc.
- Stout, D. E., and J. E. Rebele. 1996. Establishing a research agenda for accounting education. *Accounting Education: A Journal of Theory, Practice and Research* 1: 1-18.
- Taba, H. 1967. Implementing thinking as an objective in social studies. In *Effective Thinking in the Social Studies: 37th Yearbook*, 25-49. Washington, D.C.: National Council for the Social Studies.