

IMPLEMENTING THE USER APPROACH IN ACCOUNTING COURSES

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The market place for accounting graduates is making it very clear that it is dissatisfied with current accounting graduates. Accounting programs need to conduct self-evaluations of their programs to update them to satisfy the needs of prospective employers. Employers from public accounting firms and from industry and government want well-educated business persons who have an in-depth understanding of accounting information systems and the wide variety of roles of accounting information in problem solving and decision making. In order to achieve this objective, course designers need to make key decisions about the topics to cover in courses. Greater emphasis must be placed on information interpretation in skills that will provide "value added" to accounting students functioning in the "information age." It is not enough for courses to be redesigned to adopt a "user" approach and include student-centered pedagogical approaches. In essence, accounting educators need to adopt a Total Quality Management perspective in choosing what topics to cover. These decisions will result not only in significant program changes, but in all likelihood will necessitate retraining programs for faculty. Business as usual no longer is acceptable. The current accounting education movement needs to be concerned not only with how accounting topics are being taught, but also must be concerned with what is being taught. We believe that the AECC was correct in their assertion that "no one model of accounting education will be appropriate for all colleges and universities." Each institution, working with its stakeholders, can create unique and sustainable programs and therefore this should result in a rich variety of approaches to accounting education.

Introduction

Concerns about accounting education are not a recent phenomenon. The history of accounting literature demonstrates that in the U.S. accounting practitioners and educators have disagreed about the nature of accounting education since the early 1900s when U.S. university programs in accounting were first created. To quote Previts and Merino (1979, 154):

Most practitioners. . . supported a broad program emphasizing theory and philosophy and were disappointed when the evidence accumulated that accounting education tended to emphasize the narrow, technical training.

It was the university accounting educators who moved from the theoretical approach and turned to procedural orientation.

These concerns remain to this day and may be even more critical now.

Adjectives describing the current business environment are complex, competitive, changing, and dynamic. Students preparing for such an environment need to possess both theoretical knowledge and applied skills in order to succeed. However, educators seem to be reluctant to make the changes necessary to provide these skills. Despite annual U.S. expenditures of \$550 billion and continued public and political scrutiny, students seem to graduate knowing "less about more," while the desired result would be for the students to know

"more about less." In a recent international study (National Science Foundation, 1996), American instruction in mathematics and science was criticized as being "a mile wide and an inch deep." Similar remarks have been addressed to accounting educators for the past decade and longer. Such changes would increase conceptual understanding and not treat accounting as a narrow, technical subject. The current focus leads to an approach that "more is better." This in turn leads to an over reliance upon textbooks and perpetuates the illusion that the instructor shoulders all the responsibility for education while students bear little responsibility.

Generally speaking, traditional accounting education models expose students to a wide range of topics, rather than develop student's capabilities (Bedford and Shenkir 1987, 86). This approach also tends to promote the idea that information is finite and static rather than changing and dynamic, so the fact that information is growing at an increasing rate is often overlooked. A related issue is that concentrating on covering an ever expanding list of topics means that there is little time left for developing student skills in identifying problems and seeking the accounting information necessary for solving them. To adapt one of Yogi Berra's statements to this situation, "You won't find the information you need to solve a problem, if you don't know what the problem is."

In discussing how many topics to cover in the Introductory course, Kumen Jones, an instructor at Arizona State University, at a recent meeting of the Accounting Education Change Commission (AECC) conveyed the following anecdote:

Suppose an instructor who covered 100 topics in his course was able to get his students to retain 10 of them. And further if he covered only 25, but in more depth, was able to get students to learn 12 topics. Which approach should he strive for?

Of course the obvious answer is cover 25 topics. However, we generally lack good assessment tools to determine what students would actually learn in these two environments, and without definitive empirical evidence many faculty find it easier to persist in teaching the 100 topics. What is suggested in this paper is that until definitive assessment data is available, faculty try to adopt a "less is more" strategy and attempt to choose the 25 topics to teach well.

The Current Accounting Education Change Movement

The most recent accounting change efforts started in the latter half of the 1980s. At that time, groups representing both accounting educators and practitioners issued reports attempting to stimulate change in accounting education. The general tone of their recommendations was that accounting education should face the important challenge of how to cope with the rapid changes of contemporary and future business environments.

Reports calling for change in accounting education have been issued before. An example from the 1970s is an AAA publication, *Accounting Education: Problems and Prospects*, a report commissioned by Harold Langendorfer, AAA Director of Education, and completed by a group headed by James Edwards in November 1974. The accounting environment of the 1980s was different from the conditions that existed earlier in two important respects. First is the widespread and growing use of computers in the accounting function. Second was the development of the Conceptual Framework for Accounting by the Financial Accounting Standards Board. Of particular importance to accounting educators was the development of a Hierarchy of Accounting Qualities, which appeared in Statement No. 2, and placed decision makers as users of accounting information at the top of the hierarchy. Prior to this time accounting was a process developed by and for accountants. Both of these factors represent forces likely to increase the probability of success for the present accounting education change movement.

One specific recommendation was to change the emphasis in accounting courses to include the **use** of information for economic decision making as well as the traditional emphasis on the record-keeping or information **preparation** functions. Nelson (1995) discussed why U.S. accounting educators persist in viewing accounting as requiring only technical and procedural training. He found that accounting faculty are generally not prepared to teach critical thinking with decision cases. Many instructors, if not most, have no formal training in teaching methods and limited experience in unstructured problem solving. Further, critics of accounting education point out that a faculty member who goes directly from undergraduate school through a Ph.D. with no industry experience may have little practical knowledge upon which to draw.

Based on the concerns about accounting education identified by the profession in 1989 the large international CPA firms pledged four million dollars to enable the American Accounting Association to form the Accounting Education Change Commission (AECC) (Mueller and Simmons 1989). In Statement No. One, *Objectives of Education for Accounting* (AECC, 1990), issued in September 1990, the AECC specifically addressed **course content** and emphasized that accounting is "an information development and communication process" (AECC, 1990, 4). They stated that one of the essential components of accounting courses needs to be decision making. In Statement No. Two, *First Course in Accounting* (AECC, 1992), the AECC suggested that accounting education needs to be "focusing on the relevance of accounting information to decision-making (use) as well as its source (preparation)" (AECC, 1992, 3).

The AECC spent most of its budget on grants to allow institutions to develop innovative courses. The content changes in these courses have been widely reported in the literature [Albrecht, et al. 1994; Ainsworth and Plumlee 1993; Mock, et al. 1991].

A number of institutions also made changes in their programs without the assistance of AECC grants. Edmonds and Edmonds (1994, 125) compare a change course with what they call the "traditional approach." Specifically, they describe a "conceptual orientation" in place of the "the traditional approach to accounting education [which] is characterized by a preparer orientation (i.e., procedures are emphasized)." Saudagaran (1996, 83) stated:

The major objective of this course is to provide students with a broad-based introduction to accounting rather than the narrow bookkeeping perspective offered under the traditional approach. It uses cases to de-emphasize the single solution approach and stresses the need to deal with uncertainty in accounting. It provides certain basic tools that can be used in making personal and professional economic decisions.

This traditional approach was reasonably well suited to the pre-1980s accounting work environment where the accountants' job was to record accounting transactions by hand and success was measured by getting the numbers right. But with the widespread use of computers in business the procedural aspects of accounting have been automated. Robert Elliott (1991) describes the role accountants have played in providing information for decision makers through three economic eras: agricultural, industrial, and now information. He goes on to state that in this third era accountants have failed to keep up with the changing information need of decision makers. Thus, "we are still supplying information-era managers and owners with information better suited to industrial-era enterprises" (Elliott, 1991, 2). Pincus (1995, 91) also addresses these changes and points out that "accountants are valued more for their ability to create new kinds of information and to interpret information for use by nonaccountants than for their ability to 'crunch the numbers.'" The accounting profession has recognized this changed environment. Elliott, (1992, 61) in his role as a partner with the public accounting firm KPMG, held:

Information technology (IT) is changing everything. . . accounting education and research must change: the types of students recruited, the curriculum, the set of required capabilities, and the issues investigated.

In summary, the emphasis in traditional courses, compared to the “change” programs discussed above, is on the bookkeeping or record keeping aspects of accounting for economic transactions. Unfortunately, many students in this environment fail to develop an understanding of the structure of business transactions and must resort to memorizing what accounts to debit and credit. A consequence of this emphasis is that the typical traditional course becomes very procedural and rule based with an undue emphasis on calculating the “right answer.” In addition to a procedural approach to content, the educational pedagogy used in traditional courses is professor-centered (and textbook-centered) with the students playing a relatively passive role.

Choosing Topics

As pointed out in the Bedford Committee Report, for the past fifty or more years accounting education has been textbook driven. Within each topic area, the textbooks and the syllabuses have been very much the same. Textbooks are being developed that respond to the user philosophy and student-centered learning concepts discussed above, but there has been little change in the list of topics covered in these books. The Total Quality Management (TQM) movement has recently forced businesses to focus on “value added” and “non-value added” activities. The time has come for accounting academics to do the same.

Robert Elliott (1995) in discussing the audit process provides a model for auditors to use to determine which assurance services offer high versus low opportunities in the future. This high-low dichotomy for opportunities is contrasted with competencies (strong versus weak) on the other dimension as shown in Figure 1 taken from Elliott. There is little pay-off from developing competencies that provide a low opportunity for future services.

Figure 1

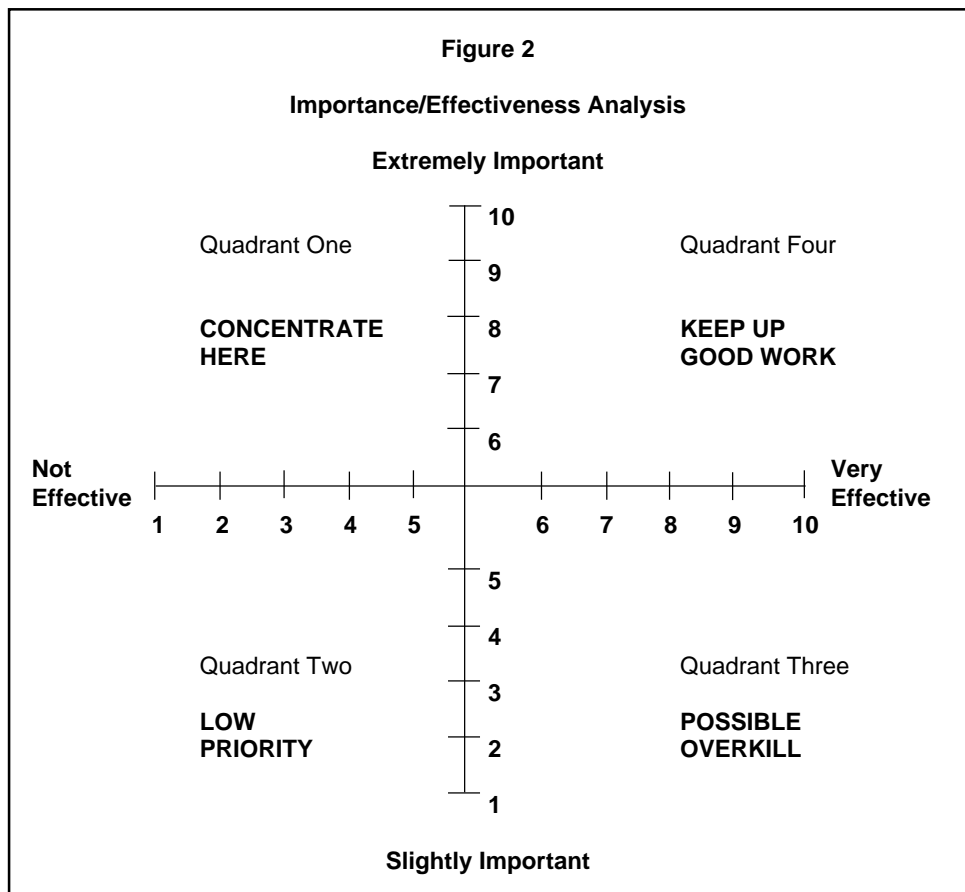
**Competencies Providing a High Opportunity
to Contribute to New Assurance Services**

		<u>Competencies</u>	
		Weak	Strong
<u>Opportunity</u>	High	Advanced analytical skills Right-brain skills Technology	Ethics and integrity Left-brain skills Model building
	Low		FASB technical-rules mastery AICPA rules mastery

Source: Elliott (1996, 123)

A similar approach was used in the Gainen and Locatelli AAA Assessment Monograph (1995, 113). They compare whether certain aspects of a course are important to learning on

one bi-polar scale and whether these aspects are used effectively in the course on a second scale. The data can then be graphically displayed using the importance/satisfaction analysis model shown in Figure 2 taken from Gainen and Locatelli.



Source: Gainen and Locatelli (1995, 113)

In quadrant one, students perceive an aspect of the course as highly important, but the actual effectiveness of the course is low in this area. This is an area where there needs to be a concentration of effort to achieve improvements. Quadrant two, where the perceived importance is low and performance is low, is an area that requires little attention. In quadrant three the course is highly effective in an area of low importance. Using the cost/benefit rubric from engineering and managerial accounting, quadrant three is a case of concentrating resources where there is likely to be little payoff. Finally, quadrant four is the desired state where there is high effectiveness in an important area.

To apply such a model to the choice of topics to cover in accounting courses, the question becomes: what are the topics or competencies in the course that will provide value to students? The dimensions of the model used to answer this question is shown in Figure 3.

Figure 3

A Model for Accounting Course Content Choices

		Current Competencies	
		Weak	Strong
Accounting Information	Interpretation	Defining the Problem Looking at the Big Picture Thinking About Hidden Possibilities Sensitivity Analysis	Conceptual Framework Sharing Ideas Collaborative Learning Evaluating Solutions
	Production	Data Integrity	FASB Pronouncements Collecting Data Organizing Information Learning and Applying Algorithms

Source: Elliott (1996, 123)

Corresponding to Elliott's high and low audit assurance opportunities and Gainen's extremely and slightly important aspects of courses for assessment, we have substituted accounting information. We consider interpretation of accounting information as offering a high opportunity for "value added" and production as a low opportunity area for accounting students. This is because as the production of accounting information becomes automated, preparation is less important and interpretation of information becomes more important. The other scale in the model deals with competencies as depicted in Elliott's model. Comparing this dimension to Gainen's model, strong competencies can be viewed as areas of high effectiveness and weak competencies are areas of low effectiveness.

Topics dealing with information interpretation (which is an important emerging area but that are currently viewed as weak competencies) are ones that need to be added or given greater emphasis in the curriculum. These are depicted in the upper left cell of Figure 3. Information interpretation topics that are currently viewed as strong areas (upper right cell of Figure 3) are areas where we need to "keep up the good work." Topics dealing with accounting information preparation that are currently viewed as weak, although a lower priority still needs to be developed. Finally, strong areas dealing with information preparation, which unfortunately are most of the topics covered in existing texts, are areas that can be de-emphasized.

The cells in Figure 3 list general competencies. The choice of where existing accounting topics in a given course would be placed in the model as well as what topics need to be added is one that needs to be made by the faculty at each institution. To illustrate what is meant by the terms accounting information interpretation versus preparation, we will discuss the placement of topics related to the subject of depreciation. Most introductory textbooks, and therefore most introductory courses, cover the preparation details of the straight-line, units, sum-of-the-years-digits, and declining balance methods. However, since the 1987 tax act

companies have been able to get the benefits of accelerated depreciation, i.e. lower taxes, without having to adopt the same accelerated method for financial reporting purposes. In fact because the Modified Accelerated Cost Recovery System (MACRS) is not only accelerated in the recognition of more depreciation expense in the early years of an asset's life, but also applies depreciation on an artificially shortened useful life, it cannot be used for financial reporting purposes. Thus under current tax law companies can "have their cake [lower taxes], and eat it too [higher reported income]." The selection of topics should reflect these changes and devote less time to depreciation formulas and calculations. This would allow more time to be devoted to understanding and interpreting depreciation. One such issue is the likelihood of differences between depreciation expenses for financial and tax purposes and how such differences lead to income tax deferrals. Another important issue that is often shortchanged in current courses is the treatment of depreciation as a non-cash item in the statement of cash flows.

The choice of topics in curriculum and course design issues described above must also include a set of measurable learning outcomes that students are expected to achieve. Course design should also consider the content and instructional methods recommendations of the AECC. The authors feel that these issues are adequately addressed in the existing accounting education change literature and therefore are not discussed further here.

The analysis described above may result in a radically changed course. Perhaps a good research question becomes: how often do faculty question the continued usefulness of each topic in their accounting courses?

Students need to learn to manage information and knowledge in order to keep up with the exponential growth in accounting rules, pronouncements and technical information. This could result in a significant shift of educational responsibility from the faculty to the student. The faculty member becomes a facilitator to help the student learn skills of discovery and how to learn, e.g., abilities to locate data useful in solving problems and to draw connections and relationships. Nelson (1995, 63) explained that this "knowledge explosion" requires a three-way educational balancing act involving: breadth of education versus depth of learning versus technical coverage. More technical coverage at the expense of depth of learning or breadth of education only exacerbates the problem. Nelson (1995, 72) stated:

Today's accounting graduates have been criticized as lacking important skills and knowledge. The skills and the knowledge presently lacking are developed not through specialized, technical training, but through breadth of education and depth of learning. Today's accounting curricula and courses are too narrow and technical. To overcome the deficiencies, the curriculum must be broadened.

Given the fixed number of credit hours available and the growing body of technical material, a strategy that shifts the curriculum toward greater understanding (depth) as opposed to breadth of learning seems warranted. Most practitioners recognize that approximately 95% of the knowledge that employees use after five years has been developed on the job. A substitute for what is often superficial coverage of a long list of topics in college courses is the development in students of an appreciation of lifelong learning. What students learn in college courses will help them obtain jobs and lead to success in their initial employment experience, but they must develop the capability to "learn how to learn" in order to achieve long-term success. Recognizing this need for lifelong learning, the AECC specifically recommended that this issue be a goal of accounting educators. A recent monograph of the AAA entitled *Intentional Learning* further emphasizes this point.

Conclusion

Accounting courses and most other academic courses are often designed to include all aspects of the subject. However, given the growth of technical standards and research as well as the increased number of journals and general information available in accounting, this approach may lead to a curriculum that runs the risk of being "a mile wide and an inch deep." Up to this point the accounting education change dialog on **course content** has dealt primarily with changing the philosophy of courses to focus on the use of accounting information in decision making. This paper goes beyond philosophical issues and begins a dialog on what specific topics are to be covered in the curriculum. The paper argues for an approach that focuses upon teaching concepts dealing with the interpretation of accounting information and aims to de-emphasize preparation details. This approach implies that accounting faculty select topics that will provide "value added" to present and future students who will function in the information age and design the most appropriate approaches to deliver this material. Also proposed is a decisive shift in orientation from **inputs**, i.e., "what the instructor must cover" to **outputs**, i.e., "what the student should know."

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