The Future of Accounting Education: A Regional Perspective

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ABSTRACT. Accounting education is under pressure to change its current teaching methods. In this study, the authors surveyed employers of their university's accounting graduates and members of a local CPA chapter to ascertain which skills are important for new graduates and which educational innovations are effective. The top-rated four professional skills were analytical/critical thinking, written communication, oral communication, and decision-making. The top three technology skills included spreadsheet software, Windows, and word-processing software. The top education innovation was internships. These results agree with a national survey completed in 1999.

Will the accounting profession survive? If so, how must accounting education change to cope with the changing landscape of the financial world? In this time of financial and economic strife, these questions are on in the minds of accountants and educators.

For over a decade, some accounting professionals and researchers have advocated change in the accounting education system. In 1989, the "Big 8" CPA firms issued *Perspectives on Education: Capabilities for Success in the Accounting Profession* (Arthur Andersen & Co. et al., 1989), which called for changes in accounting education. In 1990, the Accounting Education Change Commission (AECC) selected 13 schools for modification of their approach to accounting education. Since that time, some schools have made changes; most states instituted the 150-hour rule that resulted in changes in curriculum; and the number and quality of accounting majors have declined (Albrecht & Sack, 2000; Chabrow & Hayes, 2001). Now, more than ever, it is imperative that changes be made for accounting education to survive.

In late 1999, four organizations came together to sponsor a study of the future of accounting education: the American Accounting Association (AAA), the American Institute of Certified Public Accountants (AICPA), the Institute of Management Accountants (IMA), and the "Big 5" professional service firms (Arthur Andersen, KPMG, PricewaterhouseCoopers, Ernst & Young, and Deloitte & Touche). W. Steve Albrecht and Robert J. Sack were asked to "write a high-level thought piece, backed by empirical evidence where possible, that would motivate serious change in accounting education" (Albrecht & Sack, 2000, p. vii). The final product, published in 2000, was a monograph, *Accounting Education: Charting the Course Through a Perilous Future* ("the monograph"), based on interviews with key business, accounting, and education leaders; focus-group sessions with individuals nominated by the four sponsoring organizations; the Ross Institute Roundtable at New York University; 783 questionnaire replies from accounting practitioners and accounting educators; and 134 questionnaire replies from active accounting department chairs. The report concluded that accounting education is indeed in serious trouble and must change quickly and significantly to survive.

Purpose of Study

Since the issuance of the monograph, there has been some criticism of that study as having a "national school, Big 5" bias (Hoppe, 2000). The national schools are the major suppliers of graduates to the Big 5 professional service firms. Although this might seem to cover a large number of the accounting population, there are a multitude of smaller, regional schools in the United States, non-Big 5 firms, and other non-public accounting entities that hire accountants. In addition, the monograph urged each higher learning institution to decide for itself how to respond to the current call for change in accounting education (Albrecht & Sack, 2000).

West Texas A&M University (WTAMU) is a regionally accredited university in the Panhandle of Texas. The university offers both undergraduate and master's degrees in accounting along with a combined bachelor's/mas-

ter's 5-year accounting degree. It is a regional university that supplies students mostly to non-Big 5 employers. It is important that our accounting program assessment determine whether the results reported in the monograph are representative of our constituents, both employers of our accounting graduates and individual CPAs. The use of employers for program assessment feedback was validated in a 1999 committee report from the AAA assessment task force (as cited in Gabbin, 2002).

Method

To obtain perceptions from the employers of our accounting graduates, we obtained a list of the most recent firms interviewing on campus from the Career Services Office. To that list we added other firms known to have hired accounting graduates in the past (based upon discussions with other accounting professors). In fall 2001, we sent a letter to 116 employer firms with a request for their responses to an anonymous online survey regarding accounting education.

To obtain perceptions from accountants, we then administered the survey to a local group of CPAs. In February 2002, we e-mailed 357 members of the Panhandle Chapter of the Texas Society of Certified Public Accountants with a request for their completion of the anonymous online survey. (Because the survey was anonymous, some duplication of responses between the two groups may have occurred. Therefore, we analyzed the groups separately.)

The survey was a streamlined version of the "Survey of Accounting Practitioners" as explained in the monograph. To reduce the time necessary to complete the survey, we included only the most pertinent questions regarding accounting education. In several instances, we expanded the scale to provide better measurement of responses.

Results

For the first survey, we received 32 employer responses, representing a response rate of 27.6%. The respondent firms were primarily private corporations and non-Big 5 accounting or professional service firms (see Table 1). We refer to the respondents from this group as "respondent firms."

We received 76 responses to the second survey, for a response rate of 21.7%. The CPAs were primarily from private corporations and non-Big 5 accounting or professional service firms (see Table 2). We refer to the respondents from this group as "CPA respondents."

Most of the respondent firms (91%) indicated that accounting education was meeting the needs and expectations of accounting professionals by answering *okay* or *well*. On a scale ranging from 1 (*very poorly*) to 5 (*very well*), the mean response was 3.34. Of the CPA respondents, 85.5% felt that accounting education was performing *okay* or *well*. The mean response was 3.23. These results indicate that the firms and CPAs were not especially dissatisfied with accounting education today. However, we concluded that room for improvement exists because only one respondent answered *very well,* and over half of the respondents answered *okay*.

To give a robust description of the survey respondents' curriculum priorities, we asked them which topics should receive the most coverage in college courses. The respondent firms said that

TABLE 1. Demographics of Respondent Firms

Characteristics	%
Types of respondent firms	
Private corporation (accounting or auditing department)	34.7
Non-Big 5 accounting or professional service firm	34.7
Governmental/nonprofit entity	19.2
Educational entity	3.8
Public corporation (accounting or auditing department)	3.8
Other	3.8
Location of respondent firms	
Texas/Oklahoma panhandles	87.5
Other (Seattle, Dallas/Ft. Worth, all of Texas)	12.5
Annual firm revenue	
< $500,000	8.3
$500,000–$1,000,000	8.4
> $1,000,000	83.3

TABLE 2. Demographics of CPA Respondents

Characteristics	%
Type of firm where respondent is employed	
Non-Big 5 accounting or professional service firm	41.1
Private corporation (accounting or auditing department)	30.4
Public corporation (accounting or auditing department)	8.9
Governmental/nonprofit entity	7.1
Private corporation (other than accounting or auditing department)	7.1
Other	5.4
Location of firm where respondent is employed	
Amarillo	83.0
Dimmitt	5.7
Pampa	5.7
Other (Canyon, Dumas, Borger)	5.6
Annual firm revenue where respondent is employed	
< $500,000	20.4
$500,000–$1,500,000	16.3
$1,500,000–$4,500,000	12.3
> $4,500,000	51.0

the five most important courses were, in order of importance, financial accounting, information systems, auditing/assurance services, business strategy, and managerial accounting. The CPA respondents felt that the five most important courses were financial accounting, taxes, finance, auditing/assurance services, and information systems. These results indicate agreement between the groups on the need for course coverage in financial accounting, auditing/assurance services, and information systems.

As part of the survey, respondents answered questions pertaining to the following areas: professional skills, technology skills, academic-professional interaction methods, and outside-the-classroom learning activities. Using the following equation as explained in Iman and Conover (1989, p. 305), we calculated a t value to test for significance: $T_2 = [\sqrt{n}\,(X - \mu_0)] / s$.

Professional Skills

Using a 5-point Likert scale, the respondents prioritized a list of professional skills. As we show in Table 3, both respondent groups strongly agreed that 15 skills out of the 22 listed were important enough for both in-class and out-of-class activities, even if the activities would require sacrificing some content learning. Both groups ranked analytical/critical thinking, written communication, oral communication, and decision-making among their top five choices. Both groups felt that development of a foreign language did not warrant both in-class and out-of-class activities.

Technology Skills

Once again using a 5-point Likert scale, the respondents indicated whether it was important for new accounting hires to possess different technology skills. Both groups strongly agreed that the top four technology skills, in order of importance, were spreadsheet software (e.g., Excel), Windows, word-processing software (e.g., Word), and the World Wide Web (see Table 4). Clearly the respondents viewed spreadsheets as the most important technology skill. Neither group thought that it was important for new hires to have developed skills in graphics software, other operating systems, intra/extranets, html/Web programming, and programming languages.

Academic-Professional Interaction Methods

Next, the respondents were asked to indicate the effectiveness of several collaborative methods that academics and professionals could use to improve accounting education. On a 5-point Likert scale, both groups strongly agreed that six of the eight methods listed were effective for bringing academia and practitioners together (see Table 5). The respondent firms preferred advisory boards, whereas the CPA respondents favored having academicians visit or become familiar with the actual offices and work environments.

Outside-the-Classroom Learning Activities

Finally, the respondents allocated 20 points among six learning activities, ranging from accounting internships to foreign business trips. The activity that received by far the most points was "3–4-month internships with companies" (see Table 6). Both groups of respondents saw internships as preferable to field projects, service learning assignments, and shadowing professionals. The respondents apparently preferred longer activities in which participants could become familiar with the accounting environment.

TABLE 3. Professional Skills That Respondents Considered Important to Develop During Education

Skill	Ranking by firms (M)	t value	Ranking by CPAs (M)	t value
Analytical/critical thinking	4.34	11.64*	4.17	12.93*
Written communications	4.31	11.52*	4.50	20.34*
Oral communications	4.16	8.53*	4.20	12.78*
Teamwork	4.09	6.66*	3.92	8.34*
Decision-making	4.03	6.67*	4.01	11.95*
Computing technology	3.94	6.98*	3.72	9.21*
Professional demeanor	3.84	5.91*	3.96	10.17*
Continuous learning	3.72	4.40*	3.55	4.96*
Leadership	3.69	4.98*	3.72	6.77*
Interpersonal skills	3.65	3.71*	3.29	2.66*
Risk analysis	3.62	3.90*	3.54	5.14*
Business decision modeling	3.59	3.69*	3.72	7.95*
Project management	3.53	3.74*	3.58	5.71*
Customer orientation	3.50	2.88*	3.22	2.36*
Measurement	3.45	3.01*	3.07	.63
Research	3.41	2.63*	3.37	3.22*
Resource management	3.41	2.88*	3.16	1.61
Change management	3.16	.82	2.96	–.42
Salesmanship	3.09	.65	3.07	.58
Negotiation	3.06	.44	3.24	2.05*
Entrepreneurship	2.94	–.54	3.17	1.68
Foreign language	2.22	–6.26*	2.11	–7.90*

*$p < .05$.

Comparison With the Monograph

Overall, the results of our survey of firms and CPAs were similar to the results reported in the monograph. Although in some instances the scales varied between our survey and the monograph, many of the outcomes can be compared. Generally, all data seem to indicate that the respondents were not greatly dissatisfied with accounting education today. The monograph respondents rated accounting education as a 2.69 on a 4-point scale with 4 representing *very well*. As discussed, both the respondent firms and the CPAs rated

TABLE 4. Technology Skills That Respondents Considered Important for New Hires to Possess

Skill	Ranking by firms (*M*)	*t* value	Ranking by CPAs (*M*)	*t* value
Spreadsheet software	4.47	14.65*	4.59	19.78*
Windows	3.91	4.47*	4.17	11.89*
Word-processing software	3.81	5.35*	4.03	9.94*
World Wide Web	3.61	4.11*	3.47	3.88*
Information systems planning and strategy	3.50	3.71*	3.20	1.85
Database software	3.41	2.52*	3.15	1.34
Communications software (e.g., Outlook)	3.31	2.06*	3.21	1.65
Project management	3.19	1.00	3.05	.41
Presentation software	3.16	.93	2.97	–.21
Technology security and controls	3.16	1.00	3.24	2.26*
Technology terminology	3.03	.16	3.40	3.88*
File and directory management	3.03	.21	3.17	1.59
Electronic commerce	3.00	0.00	2.64	–3.24*
Technology management and budgeting	2.94	–.40	2.93	–.53
Systems analysis	2.91	–.72	2.85	–1.20
Computer operations management	2.78	–1.49	2.65	–3.35*
Computer hardware	2.69	–1.71	2.47	–4.76*
Graphics software (e.g., Adobe)	2.56	–2.95*	2.36	–5.68*
Other operating systems	2.42	–3.43*	2.16	–7.68*
Intra/extranets	2.19	–4.46*	2.23	–7.15*
HTML and other Web programming	1.88	–7.31*	1.87	–10.86*
Programming languages	1.69	–9.05*	1.57	–15.72*

*$p < .05$.

accounting education as well above 3 on a 5-point scale.

More specifically, the monograph provided data that are used for comparison purposes in three areas: professional skills, technology skills, and outside-the-classroom learning activities. With regard to professional skills, the monograph respondents agreed with our respondents that the top three professional skills were analytical/critical thinking, written communication, and oral communication. The monograph respondents also ranked the importance of technology skills. As in our study, the top three technology skills were spreadsheet software, word-processing software, and Windows. The final comparison related to the value of outside activities. Again, consistent with the current study, the monograph respondents ranked 3–4-month internships the highest.

Discussion and Conclusion

The results of our study seem to validate the monograph results, suggesting a general consensus among accountants and employers of accountants. Despite the presumably different respondent samples (big school, Big 5 versus regional school, non-Big 5), we found no glaring contradictions between the monograph and the current study.

Based upon the above results, several important points should be considered in the assessment and improvement process for any accounting program. The top four professional skills—written communication, analytical/critical thinking, oral communication, and decision-making—correspond directly to the AECC's Position Statement Number One (1990):

> To become successful professionals, accounting graduates must possess communication skills, intellectual skills, and interpersonal skills. Communication skills include both receiving and transmitting information and concepts, including effective reading, listening, writing and speaking. Intellectual skills include ability to locate, obtain, and organize information and the ability to identify and solve unstructured problems in unfamiliar settings and to exercise judgment based on comprehension of an unfocused set of facts. Interpersonal skills include the ability to work effectively in groups and to provide leadership when appropriate. (pp. 307–308)

In addition, the more recent CPA Vision Project, with input from CPAs across the country, reflects similar findings. The first two of the "Top Five Core Competencies" determined by the Vision Project are "communication and leadership skills" and "strategic and critical thinking skills" (AICPA, 1998).

The four professional skills should be developed throughout the curriculum rather than in just one or two courses. Some classes are more suitable for the cultivation of certain skills than others. For instance, the accounting theory class is particularly appropriate for fostering analytical/critical thinking and decision-making skills. Almost any class can incorporate decision-making, although the auditing class seems especially well suited for this. Oral and written communication skill development should be an integral part of all upper level classes. The top four professional skills are important enough to warrant consideration of reducing of some content areas to ensure thorough development of these skills. Accounting rules will change, but the need for these skills will not.

With respect to technology skills, a single accounting systems class along with one or two generic computer courses may not be adequate. A better approach might be to require more technology applications, particularly spreadsheets, in all other accounting classes, in addition to the accounting systems class. Students also should be trained in the use of Windows and word-processing applications.

Northern Illinois University (NIU) determined that certain skills, including problem solving, using spreadsheets,

and decision-making, were important enough to ensure their coverage in their core accounting courses. Cummings, Bennett, and Normand (2001) provided a table indicating where these skills are included in the core courses at NIU. Each accounting program should adopt some type of methodology to show how these important skills are covered.

All respondent groups agreed that the best outside-the-classroom learning activity is an internship. Most universities have recognized the benefits of internships and actively promote them to students and the business community. In addition, many respondents believed that the establishment of accounting program advisory boards would provide a forum for effective collaboration between business professionals and academics. Once again, many accounting programs have already implemented this concept (AAA, 1999). The advantages include not only advice, but also stronger university-community relationships and broader employment opportunities for graduates ("Framework highlights need...," 2001).

Accounting education must make changes to survive in the current economic and business environment. However, change without proper direction and focus could prove worse than no change at all. The findings in this study provide further evidence on how changes might proceed at different tiers of colleges and universities. Accounting education must continue to explore and implement alternatives into accounting programs.

TABLE 5. Respondents' Perceptions of Importance of Ways That Academics and Professionals Can Work Together

Method	Ranking by firms (*M*)	*t* value	Ranking by CPAs (*M*)	*t* value
Have business professionals serve on advisory boards of accounting programs	3.96	7.24*	3.57	4.41*
Have academics consult with business organizations	3.75	5.73*	3.39	2.51*
Have academics visit or become familiar with the offices and work environments of accounting and/or finance professionals	3.67	3.75*	3.80	5.09*
Have business professionals make in-class presentations to students	3.62	3.62*	3.46	3.08*
Have business professionals serve as "in-residence visiting professors" at academic institutions	3.54	2.88*	3.68	5.02*
Have academics serve internships or residencies in professional organizations	3.33	1.85	3.54	3.17*
Have academics become active participants in professional organizations such as the IMA or AICPA	3.17	1.05	2.86	–.81
Have business professionals become active participants in academic organizations such as the AAA	3.12	.80	2.67	–2.70*

*$p < .05$.

TABLE 6. Out-of-Classroom Learning Activities That Respondents Considered Important

	Respondent firms		Respondent CPAs	
Activity	Total points allocated	Points (*M*)	Total points allocated	Points (*M*)
3–4-month internships with companies	254	7.93	645	9.08
Service learning assignments	106	3.31	256	4.49
Field study projects with real companies	107	3.34	171	3.49
Shadowing professionals	67	2.09	143	2.86
On-line (Internet) classes	55	1.72	88	2.05
Foreign business trips	14	.44	24	.62

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