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Achieving Practical Relevance In Accounting Education

A Survey of Public Accountants on the Present and Future Importance of Curriculum Areas

by The Wichita State University Accounting Research Group*

In its exposure draft the AICPA's Board on Standards for Programs and Schools of Professional Accounting concludes:

The preprofessional program should provide for a broad general education including an understanding and knowledge of topics relevant to accounting such as economics, the behavioral sciences, logic, ethics, mathematics, statistics and probability theory, and both written and oral communications.¹

This conclusion highlights several questions with which accounting educators must constantly wrestle. How much economics, statistics, etc. should the program contain? Which topics within these broad areas are most relevant — dozens of possible candidates exist in economics, the behavioral sciences, mathematics, and statistics alone. Where tradeoffs and sacrifices are required, which areas are more expendable and which should be considered the most important?

There is probably no satisfactory way of arriving at optimal answers to these questions, but one approach is to survey practitioners to determine the present and expected future importance of

various skill and knowledge areas. This article reports the results of such a survey, which we hope will provide useful and relevant evidence for these and related accounting curriculum questions. The present study is in some respects complementary with and an extension of *Horizons for a Profession*.²

A questionnaire was used which listed 57 topics preceded by the following instructions:

Indicate the importance (as opposed to the time requirement) of the following skill and knowledge areas to (1) you in your present position and (2) the person who will hold that same position in ten years. Your response should be without regard to the needs of accountants in other areas or personal preferences. Each item is to receive two responses. Rate each item numerically (1, 2, 3, 4, and 5) with 5 indicating the highest degree of importance and 1 indicating no importance or a lack of familiarity.

The number of topics was a compromise between the desire for information and the need to keep the questionnaire reasonably short to encourage response. Topics were first selected by reviewing curriculum and textbook contents, with some attention to areas ex-

pected to be of special concern to educators in evaluating and planning accounting programs. We used "skill and knowledge areas" instead of course titles because we wanted to deal with some topics which constitute only a part of standard courses (process cost accounting, for example). The preliminary list of topics was then reviewed with a number of practitioners and academicians, and revised on their recommendations.

Two schools of thought exist as to the primary purpose of accounting education. One holds that the primary objective is to prepare the entry level accountant to perform his or her duties during the early years of a professional career, with qualities needed at the level of professional maturity to be obtained through experience and continuing professional education. The other school holds that the primary objective is to imbue the student with that knowledge and those qualities which will maximize the likelihood of success as a mature professional, with preparation for entry level work receiving less emphasis. Some educators try to accomplish both objectives, and some may strive for neither, but these two positions seem to cover adequately the views of most accounting educators.

To avoid favoring either position and to provide information useful to both schools, we sought the views of two groups of public accountants:

- (1) mature or senior level public accountants — those with more than ten years of accounting experience (not to be confused with the rank of senior accountant often used in public accounting firms; the senior accountants in this study are primarily partners);
- (2) entry level or junior public accountants, with less than five years of accounting experience.

The reader should note that the results of this study pertain to these two groups only, and cannot be extrapolated to cover public accountants with five to ten years of experience.

To insure reasonably proportionate distribution between the two groups, questionnaires were distributed through accounting firm offices. These offices included:

- a. The New York office of a "Big 8" firm

Table 1.

Present Importance of Skill and Knowledge Areas to Public Accountants

Ranking		Skill or Knowledge Area	Mean Response	
Seniors	Juniors		Seniors	Juniors
1	4	Written Communications	4.41	4.27
2	6	Oral Communications	4.24	4.25
3	7	Legal Responsibilities of the Acct.	3.96	4.09
4	8	Professional Ethics	3.94	4.09
5	1	Auditing Standards	3.93	4.42
6	2	Auditing Techniques	3.91	4.38
7	5	Authoritative Pronouncements on Acctg. Principles (APB Opinions, FASB, etc.)	3.84	4.27
8	3	Internal Control	3.81	4.33
9	9	Corporate Tax Accounting	3.72	3.82
10	10	Human Relations	3.53	3.80
11	13	Inventory Control	3.47	3.42
12	15	Logic	3.46	3.28
13	14	Corporate Law	3.38	3.35
14	16	Acctg. for Business Combinations	3.32	3.28
15	11	Individual/Partnership Tax Acctg.	3.25	3.50
16	12	Statistical Sampling	3.22	3.45
17	22	Direct Costing	3.21	2.94
18	36	Personnel Administration	3.19	2.35
19	19	Contract Law	3.13	3.13
20	31	Systems Control and Design	3.06	2.70
21	17	Federal Agency Reports & Regulations (ICC, FTC, SEC, OSHA, EEOC, etc.)	3.04	3.16
22	29	Capital Budgeting	3.00	2.76
23	20	Standard Cost Accounting	2.97	3.08
24	21	Operational or Management Auditing	2.97	3.02
25	18	Agency and Partnership Law	2.96	3.14
26	27	Cost-Benefit Analysis	2.94	2.84
27	26	Psychology	2.93	2.85
28	39	Estate Planning	2.85	2.41
29	30	Investment Analysis	2.82	2.74
30	37	Operational Budgeting	2.81	2.47
31	32	Computer Operating Systems	2.79	2.66
32	28	Job Order Cost Accounting	2.79	2.91
33	24	Process Cost Accounting	2.79	2.91
34	25	Insurance	2.78	2.88
35	23	Fund Accounting	2.76	2.93
36	33	Investment Management	2.76	2.65
37	38	Marketing	2.53	2.41
38	42	Monetary Theory and Policy	2.49	1.90
40	35	Computer Programming	2.47	2.56
41	34	Current Value Accounting	2.43	2.59
42	55	International Economics	2.37	1.81
43	40	Statistical Probability Distributions	2.29	2.39
44	45	Research Methodology	2.26	2.25
45	41	Statistical Correlation Analysis	2.22	2.35
46	49	Simulation and/or Model Building	2.21	1.93
47	43	Microeconomics	2.18	2.25
48	46	Macroeconomics	2.15	2.17
49	53	History of Accounting	2.00	1.86
50	48	Time Series Analysis	1.96	1.95
51	56	Political Science	1.94	2.25
53	52	PERT	1.91	1.86
54	47	Social Accounting	1.90	1.97
55	50	Regression Analysis	1.84	1.92
56	57	Queuing Theory	1.64	1.70

- b. The Chicago office of another Big 8 firm
- c. The Dallas office of a third Big 8 firm
- d. The St. Louis and Wichita offices of a national, non-Big 8 firm
- e. The Wichita offices of two regional firms
- f. The offices of four local firms, three in Wichita and one in Lexington, Kentucky

A batch of questionnaires was provided to an acquaintance in each office with instructions to deliver them roughly equally to partners and to new staff, striving also for reasonably proportionate distribution among various specialties. Altogether 301 questionnaires were distributed. Usable responses were received from 68 "seniors" and 88 "juniors". The overall response rate of 52 percent is gratifyingly high considering the questionnaires were distributed during tax season and each questionnaire called for 119 responses.

Whether a given response rate is adequate depends on the accuracy desired and the variance among the responses. We estimated the maximum standard deviation from data obtained in a prior unpublished study, and then determined the sample size necessary to provide 95 percent confidence that the mean response for each question would be within a range of plus or minus 0.50. Our sample plan was constructed to insure a minimum response of this number. Since this is a conservative approach designed to insure a maximum specified confidence interval, our actual results are considerably better. The confidence interval for each mean is a function of both the number of responses (the sample size) and the standard deviation. The maximum range for this study is plus or minus 0.36 (this is the 95 percent confidence interval for the estimate by public seniors of the present importance of the topic of logic). All other confidence intervals are narrower, and most fall under plus or minus 0.30. Of course, the tests of significance reported later in this paper take sample size and standard deviation into account explicitly.

Present Importance of Skill and Knowledge Areas

Overall results reflecting the present importance of the areas are presented in Table 1, with the skill and knowledge areas listed in order of their ranking by the senior level public accountants. Mean responses were calculated by

	Difference
Higher rating given by seniors:	
Personnel Administration	.66
International Accounting	.59
International Economics	.56
Estate Planning	.44
Systems Control and Design	.36
Operational Budgeting	.34
Higher rating given by juniors:	
Internal Control	.52
Auditing Standards	.49
Auditing Techniques	.47
Pronouncements on Accounting Principles	.43

weighing each response by its scale value. For example, assume 88 responses were distributed among the five ratings or degrees of importance as follows:

- 1 - 4
- 2 - 12
- 3 - 15
- 4 - 26
- 5 - 31

The mean response would be calculated as:

$$\begin{aligned}
 & \quad \quad \quad X = \\
 & \frac{(4 \times 1) + (12 \times 2) + (15 \times 3) + (26 \times 4) + (31 \times 5)}{4 + 12 + 15 + 26 + 31} \\
 & = \frac{332}{88} = 3.77
 \end{aligned}$$

Although numerous differences in rankings can be observed, the seniors and juniors agree reasonably well overall; the correlation coefficient for the two sets of mean responses is .95. The average overall response is 2.85 for both seniors and juniors in assessing the present importance of the topics.

Differences in mean responses which are statistically significant, at the 5 per-

cent level, are shown in Table 2.

These differences appear to reflect the broader responsibilities of public accounting partners, and the greater procedural orientation of younger staff.

Future Importance of Skill and Knowledge Areas

Each respondent was asked to project the importance of the 57 skill and knowledge areas in ten years. These results, again ordered according to the rankings by senior public accountants, are presented in Table 3.

Both groups tend to project greater absolute importance for the areas in the future. The average of 57 means for seniors is 3.19, compared to 2.85 for responses concerning present importance. The average of future mean responses by juniors is 3.34 versus 2.85 for the present.

When responses for the present are compared to responses for the future, all areas receive significantly higher ratings (5 percent level of significance) except those shown in Table 4.³

While all other differences are statistically significant at the 5 percent level of significance, some topics produced exceptionally large differences. The areas with the greatest expected increases in importance, all with absolute increases of .50 or more, are listed in Table 5.

Table 3. Expected Future Importance of Skill and Knowledge Areas to Public Accountants

Ranking		Skill or Knowledge Area	Mean Response	
Seniors	Juniors		Seniors	Juniors
1	4	Written Communications	4.44	4.48
2	6	Oral Communications	4.40	4.47
3	1	Legal Responsibilities of the Acct.	4.29	4.55
4	8	Professional Ethics	4.10	4.30
5	3	Auditing Techniques	4.09	4.49
6	7	Internal Control	4.07	4.45
7	2	Auditing Standards	4.06	4.55
8	5	Authoritative Pronouncements on Acctg. Principles (APB Opinions, FASB, etc.)	3.96	4.48
9	11	Human Relations	3.88	3.95
10	10	Corporate Tax Accounting	3.87	4.23
11	13	Current Value Accounting	3.85	3.90
12	20	Accounting for Business Combinations	3.75	3.64
13	12	Federal Agency Reports & Regulations (ICC, FTC, SEC, OSHA, EEOC, etc.)	3.71	3.94
14	9	Statistical Sampling	3.69	4.26
15	22	Logic	3.69	3.55
16	19	Operational or Management Auditing	3.64	3.67
17	17	Systems Control and Design	3.63	3.73
18	15	Computer Operating Systems	3.60	3.76
19	18	Corporate Law	3.54	3.72
20	14	Inventory Control	3.53	3.77
21	40	Personnel Administration	3.47	2.93
22	35	Psychology	3.40	3.14
23	27	Cost-Benefit Analysis	3.34	3.41
24	38	Operational Budgeting	3.32	2.98
25	32	Direct Costing	3.29	3.23
26	16	Individual/Partnership Tax Acctg.	3.29	3.76
27	23	Contract Law	3.26	3.53
28	28	Capital Budgeting	3.24	3.35
29	48	International Accounting	3.22	2.64
30	29	Investment Analysis	3.16	3.33
31	42	Estate Planning	3.15	2.84
32	25	Standard Cost Accounting	3.13	3.48
33	26	Agency and Partnership Law	3.10	3.44
34	21	Computer Programming	3.10	3.63
35	51	International Economics	3.01	2.52
36	31	Investment Management	3.00	3.23
37	24	Fund Accounting	2.97	3.48
38	33	Job Order Cost Accounting	2.93	3.18
39	34	Insurance	2.93	3.17
40	30	Process Cost Accounting	2.91	3.25
41	39	Monetary Theory and Policy	2.88	2.95
42	46	Marketing	2.81	2.76
43	52	Simulation and/or Model Building	2.81	2.52
44	47	Social Accounting	2.79	2.68
45	36	Statistical Probability Distributions	2.76	3.07
46	43	Research Methodology	2.69	2.83
47	37	Statistical Correlation Analysis	2.66	3.06
48	44	Macroeconomics	2.60	2.81
49	45	Microeconomics	2.51	2.76
50	41	Statistical Hypothesis Testing	2.28	2.86
51	53	PERT	2.21	2.38
52	50	Time Series Analysis	2.10	2.56
53	49	Regression Analysis	2.09	2.59
54	57	Political Science	2.09	1.84
55	56	History of Accounting	1.98	1.93
56	54	Calculus	1.82	2.37
57	55	Queuing Theory	1.82	2.08

Conclusion

This article presents the results of a questionnaire survey of senior level (more than ten years experience) and junior level (less than five years experience) public accountants, concerning the present and expected future importance of 57 skill and knowledge areas.

Generalization from these results to conclusions concerning educational programs in accounting is a matter best undertaken by the reader, since such generalizations will inevitably reflect to some degree personal experiences, perceptions, and biases. Nevertheless, several subjective implications seem to be apparent.

First communications, both written and oral, are of preeminent importance to public accountants. This suggests that any accounting graduate who is unskilled in communications has received an inadequate education. It also suggests that accounting educators are justified in insisting on adequate style and form in reports and examinations; technical content is not enough.⁴

Second, the growing number of lawsuits against accountants, and even prosecutions, have made public accountants highly sensitive to their legal responsibilities. The typical business law course or sequence does not deal with these responsibilities, while explicit attention given in the auditing course is often minimal. Some expansion of coverage of specific court cases, precedents, and statutes may be in order.

Third, the importance assigned to professional ethics by public accountants suggests that increased emphasis on this subject would be appropriate. In fact, senior level public accountants consider knowledge of both legal responsibilities and professional ethics to be more important in their work than knowledge of or skill in auditing standards and techniques — but the latter two areas receive much more extensive treatment in the typical accounting curriculum.

Fourth, compared to the usual emphasis in present curricula, it appears that internal control, human relations, inventory control, logic, direct costing, systems control and design, and cost-benefit analysis all deserve greater attention. Conversely, the relatively low importance assigned to computer programming, topics in economics and statistics (except statistical sampling), and calculus may suggest some deemphasis of these areas.

Table 4. Areas With Nonsignificant Differences Between Present and Future Ratings

Seniors:

Written Communications
History of Accounting
Direct Costing
Inventory Control
Individual/Partnership Tax Accounting
Authoritative Pronouncements on Accounting Principles
Professional Ethics

Juniors:

Political Science
History of Accounting
Internal Control
Auditing Techniques

Table 5. Areas With Greatest Differences Between Ratings of Present and Future Importance

Seniors:

	Increase
Current Value Accounting	1.42
Social Accounting	.89
Computer Operating Systems	.81
International Accounting	.73
Operational or Management Auditing	.67
Federal Agency Reports and Regulations	.67
International Economics	.64
Computer Programming	.63
Simulation and/or Model Building	.60
Systems Control and Design	.57
Operational Budgeting	.51

Juniors:

Current Value Accounting	1.31
Computer Operating Systems	1.10
Computer Programming	1.07
Systems Control and Design	1.03
Statistical Sampling	.81
Federal Agency Reports and Regulations	.78
International Accounting	.74
International Economics	.71
Statistical Correlation Analysis	.71
Social Accounting	.71
Statistical Probability Distributions	.68
Monetary Theory and Policy	.67
Regression Analysis	.67
Operational or Management Auditing	.65
Macroeconomics	.64
Time Series Analysis	.61
Statistical Hypothesis Testing	.61
Investment Analysis	.59
Capital Budgeting	.59
Simulation and/or Model Building	.59
Research Methodology	.58
Investment Management	.58
Cost-Benefit Analysis	.57
Calculus	.55
Fund Accounting	.55
PERT	.52
Microeconomics	.51
Operational Budgeting	.51

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Fifth, educators should give careful attention to adding or expanding coverage of the areas listed in Table 4 which are expected to grow in importance over the next ten years. Some areas which are expected to grow considerably in importance are considered briefly or not at all in many present programs. These include current value accounting, social accounting, international accounting and international economics, operational or management auditing, simulation and/or model building, research methodology, cost-benefit analysis, fund accounting, and PERT.

While importance to practitioners is not the sole criterion for establishing course and topic requirements in educational programs, nevertheless these results should be useful to those concerned with:

- (a) establishing requirements and accreditation for schools of professional accountance;
- (b) long-range planning for academic accounting programs;
- (c) establishing accreditation standards for the AACSB;
- (d) establishing and administering state requirements for continuing professional education;
- (e) developing AICPA training programs;
- (f) developing in-house training programs for accounting firms.

Careful integration of these considerations of practical importance with general educational policy, along with appropriate attention to developing areas and techniques not yet adopted by practitioners, should enable the profession to achieve greater practical relevance in accounting education and professional development programs.

NOTES

¹ *The Journal of Accountancy*, June 1976, p. 90.

² Robert H. Roy and James H. MacNeill, *Horizons for a Profession* (New York: AICPA, Inc., 1967).

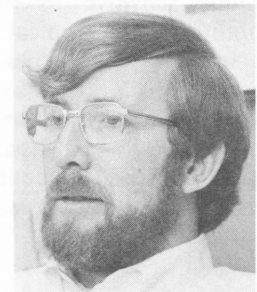
³ Since an individual's present and future ratings of an area are not independent, a paired difference test was used to test for significant differences between present and future ratings.

⁴ Some accounting professors have discovered that it is not always necessary to refer students to additional or remedial communications courses; merely *insisting* on literate and grammatical reports and examination papers and grading accordingly, is sufficient to turn otherwise poor writers into adequate writers.

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The research group that developed the accompanying article represents an advanced graduate seminar, whose members divided into teams to do background and literature research, research design, questionnaire design, sample selection, mailing, computer processing of results and statistical analysis, although the entire group was involved in some degree in each step.

Students in this seminar routinely seek the advancement of knowledge through original research, both to contribute to the accounting profession and to better experience the importance of such research.