

ASSESSING CURRICULAR DESIGN

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ABSTRACT

Previous research has indicated that dissatisfaction with auditing education on the part of practitioners may be due to conflicting education objectives between the practitioners and educators, differing perceptions of the purpose of undergraduate auditing, and changes taking place within the profession. The purpose of this research is to bridge this apparent communication's gap and provide critical feedback from the public accounting profession. More specifically, this paper assesses the quality of curriculum design with respect to auditing. This is accomplished by determining the relative importance of auditing-based topics within the auditing curricula for these two important stakeholders in auditing education—auditing educators and practicing CPAs—by surveying a nationwide sample of each to identify their assessments of the relative importance of 54 auditing topics in preparing students for entry-level work and career advancement. By focusing on quality of design, the goal is to provide a first step toward better understanding of the differing views on importance between these stakeholders and a furtherance of diminished dissatisfaction with auditing education.

INTRODUCTION

University accounting curriculum provides students with an understanding of the accounting function and the activities of the accountant in order to prepare them to compete in the contemporary workplace. Within that curriculum auditing is viewed as a significant course for all accounting majors, whether or not they intend to sit for the CPA examination or pursue a career in public accounting, as more than 90 percent of accounting programs require an introductory financial auditing course at the undergraduate level (Auditing Section Education Committee, 2003). Unfortunately, the accounting literature reports that auditing practitioners are dissatisfied with university training of auditors. A 1978 survey of AICPA members (AICPA, 1978) found such dissatisfaction and concluded that the reason for this dissatisfaction is that the theory of auditing is not being related to its practical implementation. Martin and Whisant (1982) reasoned from their survey results of public accountants that practitioners had different perceptions than educators regarding the purpose of undergraduate auditing. Practitioners expect new accounting graduates to have a reasonable degree of practical skill in auditing while educators believe that it is the practitioners' responsibility to train their entry-level auditors how to audit. In Kanter and Pitman's 1987 survey of certified public accountants, they found that the practitioners still felt

that the current auditing component of the accounting curricula was inadequate. Kanter and Pitman (1987) reasoned that this dissatisfaction resulted from a combination of conflicting educational objectives on the part of educators and practitioners and the changes that have taken place within the profession.

Time limitation appears to be one reason for the conflicting educational objectives. Given the limits of classroom time, educators focus more on the theoretical and conceptual topics of auditing that provide students with the foundation and critical understanding of the auditing process. Furthermore, this material is necessary for students to pass the auditing section of the CPA examination. Practitioners, on the other hand, want procedural and professional topics emphasized so that the new staff auditors are ready to audit. Their concerns are that the new staff auditors do not possess adequate understanding of the mechanisms of an accounting system and while they may be well grounded on why to audit, they do not have the desired proficiency of how to audit.

Along with the proliferation of accounting and auditing standards, technology advancements have had a dramatic impact not only on the type of work performed by new staff auditors but also on how that work is performed. Today's global business environment has clearly increased the demands and challenges for current accounting graduates. The corresponding challenge for accounting faculty is to reflect on the changing demands and the work environment of their graduates as well as the feedback they receive from practitioners, examine the accounting curricula thoroughly, and take the necessary steps to enhance the curricula so as to ensure the quality of the accounting graduate.

AN ASSESSMENT OF THE QUALITY OF AUDITING

Product quality is defined as conformance to customer expectations in terms of features and performance of the product (Morse, Roth & Poston, 1987). Therefore, quality is achieved when a product contains all of the features that a customer would expect and when the product performs in such a way that the customer is satisfied. In this context, two factors underlie the overall quality of a product. They are quality of design and quality of conformance. Quality of design is the degree to which the design specifications for a product meet customers' expectations. That is, a product has a high quality of design if it contains all the features and operates in the way that customers would expect it to operate. In sum, quality of design is a key consideration in measuring the overall quality of a product. If a product's design is such that its features and performance fail to meet customers' expectations, then the customers will simply turn elsewhere. For an accounting department, its curriculum represents its design for quality. However, a product can have a high quality of design and still be low in overall quality if defects or other problems in the course of development cause it to fall short of what the designers intended. Quality of conformance is the degree to which the actual product that is delivered meets its design specifications and is free of defects or problems that might affect appearance or performance. Thus, curriculum performance is as important as curriculum design in providing a high quality product. Just as businesses must be able to monitor their progress in achieving objectives for quality improvement and in maintaining quality levels so too must departments of accounting.

Reporting and measuring quality performance is absolutely essential to the success of an ongoing quality improvement program. Given the reported dissatisfaction with university auditing education by auditing practitioners, the question that arises is whether this results from a problem with quality of design or quality of conformance? The focus of this research is directed only toward quality of design. Therefore, the purpose of this research is to provide an assessment of the quality of auditing curricular design. That is, to what degree do the auditing curricular design specifications favored by educators meet with practitioners' expectations? What are the specific

differences between these two stakeholders with respect to design specifications? This assessment is accomplished by surveying both auditing educators and practicing CPAs. The survey determines the relevance of auditing curricula by comparing the difference between the two stakeholders' assessments of the relative importance of 54 auditing topics within the auditing curriculum in preparing students for entry-level work and career advancement. The 54 auditing topics serve as a proxy for the design specifications for the accounting graduates' knowledge with respect to auditing. The results of this research will empirically identify specific auditing curricular design specifications for the accounting graduate that differ between auditing educators and CPA practitioners, help clarify why these differences exist, and bridge the communication's gap between auditing educators and auditing practitioners by providing critical feedback from the public accounting profession with respect to the relative importance of individual auditing topics in preparing students for entry-level work and career advancement. Furthermore, the results should facilitate auditing faculty's response to the challenge of ensuring the relevance of auditing curricula.

METHOD

Previous research by Engle and Elam [1985] and Frakes [1987] found the content of the first auditing course to be highly textbook dependent. Thus, the survey questionnaire contains 54 individual auditing topics identified by reviewing the topical coverage in several popular auditing texts that span the offering in the undergraduate auditing-textbook market. The individual topics are listed in Table 1.

Table 1

Id	Auditing Topic
1	Nature of the audit profession and how it differs from that of other practicing accountants
2	Generally Accepted Auditing Standards
3	Statements on Auditing Standards — their origin and use in audit practice
4	Quality Control Standards — their origin and use in audit practice
5	Auditor's decision process for issuance of an audit report
6	Detailed analysis of the unqualified audit report
7	Conditions requiring departure from the standard unqualified audit report
8	Materiality
9	Detailed analysis of the qualified audit opinion
10	Detailed analysis of an adverse audit opinion
11	Detailed analysis of a disclaimer of an audit opinion
12	Other audit engagements or limited assurance engagements
13	Attestation engagements
14	Auditor association with prospective financial statements
15	Reporting on internal control structure related to financial statements
16	Compilation services and reports
17	Review services and reports
18	Review of interim financial information
19	Business ethics and ethical dilemmas
20	Code of Professional Conduct, including concepts as independence, objectivity, confidentiality, etc.
21	Enforcement of Code of Professional Conduct
22	Definition of audit risk, business failure and audit failure
23	Legal concepts, terminology, and auditor liability to clients and third parties under common law
24	Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law
25	Nature of persuasive audit evidence
26	Types of audit evidence
27	Purpose and timing of analytical procedures

Table 1

Id	Auditing Topic
28	Working papers and documentation
29	Management's and auditor's responsibilities concerning financial statements
30	Planning the audit
31	Assessing business risk
32	Materiality and risk in preliminary phase of the audit
33	Internal control structure and components of strong versus weak control
34	Overview and understanding of internal control structure
35	Assessing control risks and testing of key controls
36	Audit objectives and tests related to accounting transactions
37	Design and use of audit program procedures related to tests of balances
38	Business functions — cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents
39	Tests of internal controls and substantive tests of transactions for business functions
40	Evaluation and effects of results of tests of internal controls and substantive test of controls
41	Tests of details of account balances
42	Evaluation and effects of details of account balance tests
43	Statistical and nonstatistical sampling concepts
44	Attribute sampling and applications
45	Sampling for tests of details of balances — e.g. monetary unit sampling and variable sampling procedures
46	Analysis of statistical results and implication on audit procedures
47	Internal EDP controls
48	Use of computers in the audit of client records and financial statements
49	Contingent liabilities
50	Subsequent events review
51	Discovery of facts subsequent to issuance of audit report
52	Evaluation of results and communication of facts to audit committee and management
53	Internal auditing and various tasks performed by internal auditors
54	Governmental auditing and generally accepted government accounting principles

Questionnaires were mailed to a nationwide random sample of 518 public accounting offices and/or firms. The firms were randomly selected from a mailing list purchased from Accudata, Inc., a national provider of mailing lists, that included all U.S. public accounting firms/offices that had at least 50 professionals (2,590 firms/offices). The survey was addressed to practitioners that had responsibility for evaluating new hires, as they would be highly cognizant of the duties and responsibilities of new auditors. Those surveyed included senior staff-auditors, managers, and partners. In addition, questionnaires were mailed to a nationwide random sample of 310 auditing professors who were identified as teaching auditing at AACSB accredited business schools and who were members of the Auditing Section of the AAA. Both groups were mailed a cover letter describing the study, a questionnaire, and a postage-paid return envelope. A second request was sent four weeks after the original mailing. Responses were received from 141 public accounting offices and/or firms representing a 27.2% response rate and 101 professors responded for a 32.6% response rate.

Each educator and CPA practitioner was asked to rate the relative importance of each auditing topic in the audit curricula in preparing students for entry level work and career advancement using a six-point Likert-type scale with the following values: Extremely Important (6), Very Important (5), Important (4), Moderately Important (3), Slightly Important (2), and Not Important (1). Demographic data are also collected and reported.

The 141 responding firms consisted of 29 international firms (20.7%), 6 national firms (4.3%), 34 regional firms (24.3%), and 71 local firms (50.7%). The respondents were primarily partners (61.7%), followed by managers (31.2%). The remaining 7.1% were distributed across supervisor, human-resources director, or non-response. The number of years the respondent has spent with the firm ranged from 1 to 45 years with a median of 13.5 years. The respondents indicated that their major practice responsibilities were primarily auditing taking up an average 60% of their time followed by tax and consulting. The average number of accounting staff with less than three years of experience which they evaluate annually ranged from 1 to 80 with the average being 8.4 and the median number being 5.0.

Of the 101 faculty respondents, 99 completed the demographics section of the questionnaire. Seventy-one respondents were affiliated with public institutions of higher education and 28 were from private institutions. The number of professors responding was 38 while the number of associate and assistant professors were 29 and 32, respectively. Ninety respondents held a Ph.D. degree. Professional certification among the respondents included 61 CPAs, 11 CIAs, and 16 CMAs. Within their undergraduate accounting programs, 87 reported that they required only one auditing course. Three indicated that no auditing course was required, and 9 indicated that they required two or more auditing courses as part of their undergraduate accounting curriculum. Seventy-three respondents indicated that in addition to having AACSB business accreditation they also had AACSB accounting accreditation.

Given that each respondent rated 54 different auditing topics, it is appropriate to employ multivariate analysis of variance tests (MANOVA) when determining whether any of the demographic variables had an impact on the importance-rating outcomes. One-way MANOVA tests were performed to determine whether type of school (public or private), rank of respondent (full, associate, or assistant professor), and AACSB accounting accreditation status (yes or no) influenced the mean responses. No statistically significant differences were found in any of these cases. In addition, no statistically significant difference was found when CPA certificate-holder responses were compared to non-CPA certificate holder responses using a one-way MANOVA test. This professional certification variable was used since nine of the 11 CIA-designation holders and 12 of the 16 CMAs were also CPAs.

The results of these statistical tests are shown in Table 2. Olson (1974) found that when performing MANOVA the test statistic based on Pillai’s trace was the most robust and had adequate power to detect true differences under different conditions. Moreover, Pillai’s trace can be transformed into an exact F-ratio and for the case when comparing two groups, Pillai’s trace can be transformed into Hotelling’s T or an exact F-ratio. Accordingly, the ratings on importance of the 54 auditing topics appear to be consistent among the responding accounting educators despite differing demographic variables as no significant differences were found with the MANOVA analysis.

Table 2
MANOVA Test Results

Variable	Pillai’s Trace	Hotelling’s T	F-value	Significance
Type of School (public or private)	0.753	3.048	1.129	0.396
Rank (full, assoc. or asst.)	1.437	-	0.944	0.602
AACSB Accounting Accreditation	0.790	3.758	1.322	0.255
CPA vs. nonCPA	0.776	3.474	1.287	0.272
Size of CPA Firm	0.996	-	1.195	0.165
Individual Auditing Topics	0.613	1.586	4.965	0.000

The dominant demographic for the CPAs appears to be firm size. When the CPA firms were placed into one of three groups [international/national (35), regional (34) and local (71)] and compared with the other similarly grouped demographics, significant chi-square statistics were found. When firm size was compared with partner vs. non-partner [$\chi^2 = 6.17$; $p = .046$], the smaller the firm the more likely a partner was the respondent. When firm size was compared with the percent of time spent auditing [$\chi^2 = 48.6$; $p = .000$], the larger the firm the greater the percent of time spent auditing. When firm size was compared with the number of accounting staff with less than three year's experience [$\chi^2 = 57.0$; $p = .000$], the larger the firm the greater the number of accounting staff with less than three year's experience. The only demographic that did not have a significant chi-square when compared with firm size was number of years spent with the firm [$\chi^2 = 9.45$; $p = .150$]. Thus, it is appropriate to determine whether firm size has an impact on the respondents' ratings. Again, when employing MANOVA analysis to determine whether firm size had an impact on the importance-rating outcomes, no statistically significant difference was found. The result of this statistical test is shown in Table 2. Accordingly, the ratings on importance of the 54 auditing topics appear to be consistent among the responding public accounting practitioners despite working for firms of differing size as no significant difference was found with the MANOVA analysis.

The potential for nonresponse bias is present in every mail survey due to the inability to obtain responses from all elements of the original sample. Research has found that those subjects who respond less readily are more like the nonrespondents, and that average responses from successive mailings can be used to estimate the potential responses of nonrespondents (Armstrong & Overton, 1977). Accordingly, we compared the mean responses between the first and second mailings for each of the 54 auditing topics for both survey groups. A Student's *t*-test was calculated for each auditing topic to test for a significant difference. The results for the CPAs showed that 51 of the tests failed to achieve a significance level (alpha) of 0.05 or less. The results for educators showed that 53 of the tests failed to achieve a significance level (alpha) of 0.05 or less. Furthermore, examination of the *t*-value signs for both the CPA practitioners and educators did not indicate the presence of subtle bias. For the CPAs, 34 of the signs were positive and 20 of the signs were negative. For the educators 30 of the signs were positive and 24 were negative. Inasmuch as 108 individual *t*-tests were conducted, the four significant *t*-tests could be the result of chance. Accordingly, the foregoing tests indicate the lack of material nonresponse bias.

RESULTS

Table 3 presents the mean importance ratings for the 54 auditing topics for both stakeholder groups, where the topics are ranked by the CPA importance mean. The CPAs had one topic with a mean significantly greater than 5.0 (Very Important) and 31 other topics with a mean significantly greater than 4.0 (Important). In Table 3, the topic means that are significantly greater than 5.0 (Very Important) are indicated with two asterisks, and those significantly greater than 4.0 (Important) are indicated with one asterisk. The top three topics, *Generally Accepted Auditing Standards* (2), *Planning the Audit* (30), and *Materiality* (8), are clearly important to CPAs. [The numbers in parentheses are the auditing topic's ID number.] This is not surprising considering they represent the foundation for audit practice. The remaining topics with means significantly greater than 4.0 focus on key elements of audit practice—internal control structure and assessment, analytical procedures, assessing audit and business risks, audit evidence, and the design and performance of audit tests. Knowledge and understanding of these topics is essential for implementing efficient and effective auditing. Thus, it is understandable that practicing CPAs place a high level of importance on these topics. For example, the topics dealing with internal control structure (33 & 34), audit risk (22 & 32), business risk (22 & 31), and assessing control

risk (35) support the concern of the practice of auditing to maximize audit efficiency while maintaining a high level of audit effectiveness. These areas afford the auditor the maximum assurance that year-end financial statements are fairly presented, without requiring extensive and generally costly year-end substantive tests of account balances. These topics also provide the understanding of the audit process. Moreover, these topics represent the areas that the newly-hired accounting graduates would be expected to spend a significant amount of time during the early years of their audit career.

Table 3
Auditing Topics Ranked by CPA Importance Means

ID	Auditing Topic	CPA Mean	Educator Mean
2	Generally Accepted Auditing Standards	5.25**	5.36**
30	Planning the audit	5.04*	4.11
8	Materiality	5.01*	5.35**
26	Types of audit evidence	4.99*	5.06*
27	Purpose and timing of analytical procedures	4.99*	5.17*
34	Overview and understanding of internal control structure	4.97*	5.35**
25	Nature of persuasive audit evidence	4.95*	5.28**
33	Internal control structure and components of strong versus weak control	4.91*	5.41**
20	Code of Professional Conduct, including concepts such as independence, objectivity, confidentiality, etc.	4.90*	4.80*
36	Audit objectives and tests related to accounting transactions	4.83*	5.06*
22	Definition of audit risk, business failure and audit failure	4.81*	5.33**
32	Materiality and risk in preliminary phase of the audit	4.80*	5.27**
28	Working papers and documentation	4.75*	5.16*
35	Assessing control risks and testing of key controls	4.74*	5.37**
31	Assessing business risk	4.72*	4.85*
37	Design and use of audit program procedures related to tests of balances	4.72*	4.77*
3	Statements on Auditing Standards—their origin and use in audit practice.	4.68*	4.59*
38	Business functions—cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents	4.66*	4.56*
29	Management's and auditor's responsibilities concerning financial statements	4.65*	5.09*
5	Auditor's decision process for issuance of an audit report	4.63*	5.19*
39	Tests of internal controls and substantive tests of transactions for business functions	4.63*	4.86*
19	Business ethics and ethical dilemmas	4.62*	4.98*
41	Tests of details of account balances	4.61*	4.95*
40	Evaluation and effects of results of tests of internal controls and substantive test of controls	4.60*	5.02*
50	Subsequent events review	4.60*	4.70*
42	Evaluation and effects of details of account balance tests	4.57*	4.78*

Table 3
Auditing Topics Ranked by CPA Importance Means

ID	Auditing Topic	CPA Mean	Educator Mean
7	Conditions requiring departure from the standard unqualified audit report	4.51*	5.01*
49	Contingent liabilities	4.51*	4.53*
48	Use of computers in the audit of client records and financial statements	4.49*	4.55*
17	Review services and reports	4.33*	4.16
4	Quality Control Standards—their origin and use in audit practice	4.30*	3.86
51	Discovery of facts subsequent to issuance of audit report	4.22*	4.14
16	Compilation services and reports	4.13	4.07
23	Legal concepts, terminology, and auditor liability to clients and third parties under common law	4.13	4.69*
15	Reporting on internal control structure related to financial statements	4.10	4.11
43	Statistical and nonstatistical sampling concepts	4.05	4.47*
1	Nature of the audit profession and how it differs from that of other practicing accountants	4.04	4.32*
47	Internal EDP controls	4.04	4.35*
52	Evaluation of results and communication of facts to audit committee and management	4.04	4.32*
6	Detailed analysis of the unqualified audit report	3.97	4.68*
21	Enforcement of Code of Professional Conduct	3.95	3.83
12	Other audit engagements or limited assurance engagements	3.87	4.15
46	Analysis of statistical results and implication on audit procedures	3.86	4.58*
13	Attestation engagements	3.85	4.20
44	Attribute sampling and applications	3.83	4.40*
9	Detailed analysis of the qualified audit opinion	3.76	4.41*
45	Sampling for tests of details of balances—e.g., monetary unit sampling and variable sampling procedures	3.73	4.18
11	Detailed analysis of a disclaimer of an audit opinion	3.71	4.07
10	Detailed analysis of an adverse audit opinion	3.64	3.93
54	Governmental auditing and generally accepted government accounting principles	3.51	2.93
18	Review of interim financial information	3.49	3.42
24	Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law	3.48	4.34*
14	Auditor association with prospective financial statements	3.46	3.53
53	Internal auditing and various tasks performed by internal auditors	3.31	3.74

Educators, on the other hand, rated eight topics significantly greater than 5.0 and 30 additional topics significantly greater than 4.0. For 28 of the 32 topics (87.5%) that the CPAs rated significantly greater than 5.0 or 4.0, the auditing educators had similar ratings. Thus, there appears to be a high degree of agreement for these clearly important auditing topics. However, a more comprehensive measure of the degree of agreement on the relative importance for all the

topics is the Pearson correlation coefficient between the 54 mean ratings of the individual auditing topics. A statistically significant correlation coefficient ($r = 0.816$, $p = 0.000$) indicates that the auditing curriculum has a high degree of quality of design with both practitioners and educators seeing eye to eye on the relative importance of a great number of design (knowledge) specifications for the accounting graduate. However, the dissatisfaction expressed on the part of practitioners is due not to the commonality with respect to auditing educational objectives but due to their differences.

The four topics that the educators did not find significantly greater than 4.0 (Important) but the CPAs did were *Planning the audit* (30), *Review services and reports* (17), *Quality Control Standards—their origin and use in audit practice* (4), and *Discovery of facts subsequent to issuance of audit report* (51). These topics clearly have more of a practical than theoretical orientation lending support to the supposition that practitioners favor more of a practical orientation to auditing education than do educators. In addition to the 28 auditing topics mentioned above, the auditing educators rated an additional ten topics as significantly greater than 4.0. Three of the ten topics, *Statistical and nonstatistical sampling concepts* (43), *Attribute sampling and applications* (44), and *Analysis of statistical results and implication on audit procedures* (46), relate to statistical analysis. Two topics, *Legal concepts, terminology, and auditor liability to clients and third parties under common law* (23) and *Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law* (24), are concerned with legal liability. Another two topics, *Detailed analysis of the unqualified audit report* (6) and *Detailed analysis of the qualified audit opinion* (9), deal directly with opinion decision analysis while topic (47) *Internal EDP controls* deals with EDP. The remaining two topics are *Nature of the audit profession and how it differs from that of other practicing accountants* (1) and *Evaluation of results and communication of facts to audit committee* (52). These ten topics, not surprisingly, all have more of a theoretical orientation.

However, before identifying these topics as obvious differences, we must recognize that the overall higher mean ratings for the educators vis-a-vis the practitioners suggests a possible importance bias on the part of the educators. The grand-mean response for all 54 auditing topics is 4.58 for the auditing educators and 4.35 for the CPA practitioners. Comparison of these grand means via a *t*-test shows that overall the auditing educators rated the 54 auditing topics as being more important than the auditing practitioners (*t*-statistic = 2.678, $p = 0.008$). It is not surprising to find the educators rating the auditing topics higher on importance given that this represents a greater proportion of their job, educating students about auditing, than it would be for the practitioners. A measurement limitation of this research is that it does not permit an absolute measure of importance. At best the results are limited to relative and subjective assessments of importance by the auditing educators and practitioners. With auditing educators exhibiting a distinct upward bias on importance, the observed values were adjusted before any statistical comparisons were made between the two key stakeholders. More specifically, the respective grand mean for each class of respondents was subtracted from each individual's importance rating thus anchoring their relative level of importance to the overall level of importance assigned to the auditing topics by their respective group.

Employing these adjusted values, the ratings of the individual auditing topics for the two stakeholder groups were statistically compared using MANOVA. A significant difference was found between the two stakeholders and the results of this test are shown at the bottom of Table 2. A post-hoc follow-up to determine which auditing topics were causing this difference between the two groups is reported in Table 4. A total of 17 of the 54 auditing topics (31.5%) showed a statistically significant difference between the two stakeholders. The first eight topics listed in

Table 4 had the practitioners rating the auditing topic higher in terms of relative importance and the last nine topics had educators rating the topic higher in terms of relative importance.

The eight topics rated statistically higher by the CPA practitioners included the four aforementioned topics that the CPAs found significantly greater than 4.0 but the educators did not. Also in this group were three topics that both stakeholders found significantly greater than 4.0, but after adjustment the CPA rating was statistically higher. They were *Code of Professional Conduct, including concepts such as independence, objectivity, confidentiality, etc.* (20), *Business functions—cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents* (38), and *Statements on Auditing Standards--their origin and use in audit practice* (3). The final topic that CPAs rated more highly on importance than educators is *Governmental auditing and generally accepted government accounting principles* (54), which neither group rated greater than 4.0. Clearly these eight topics have a more practical and professional orientation.

Table 4
MANOVA Post-Hoc Test Results - Individual Auditing Topics

ID	Auditing Topic	CPA Adjusted Mean	Educator Adjusted Mean	F-Value	Significance
30	Planning the audit	0.693	-0.463	57.313	0.000
4	Quality Control Standards—their origin and use in audit practice.	-0.049	-0.713	15.220	0.000
54	Governmental auditing and generally accepted government accounting principles	-0.843	-1.644	14.708	0.000
20	Code of Professional Conduct, including concepts such as independence, objectivity, confidentiality, etc.	0.554	0.219	6.202	0.013
17	Review services and reports	-0.020	-0.417	6.045	0.015
38	Business functions—cycles (revenue, acquisition, inventory, etc.) and related records, transactions, and documents	0.311	-0.020	5.730	0.018
3	Statements on Auditing Standards—their origin and use in audit practice.	0.326	0.015	4.269	0.040
51	Discovery of facts subsequent to issuance of audit report	-0.130	-0.440	3.985	0.047
22	Definition of audit risk, business failure and audit failure	0.458	0.753	4.955	0.027
5	Auditor’s decision process for issuance of an audit report	0.281	0.617	5.303	0.022
33	Internal control structure and components of strong versus weak control	0.561	0.833	5.606	0.019
9	Detailed analysis of the qualified audit opinion	-0.593	-0.167	6.114	0.014
44	Attribute sampling and applications	-0.520	-0.179	6.273	0.013
6	Detailed analysis of the unqualified audit report	-0.380	0.105	7.836	0.006

Table 4
MANOVA Post-Hoc Test Results - Individual Auditing Topics

ID	Auditing Topic	CPA Adjusted Mean	Educator Adjusted Mean	F-Value	Significance
46	Analysis of statistical results and implication on audit procedures	-0.491	0.003	9.706	0.002
35	Assessing control risks and testing of key controls	0.384	0.799	10.871	0.001
24	Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law	-0.873	-0.235	12.116	0.001

Of the ten topics that educators rated significantly greater than 4.0 but CPAs did not, only five, *Detailed analysis of the qualified audit opinion* (9), *Detailed analysis of the unqualified audit report* (6), *Attribute sampling and applications* (44), *Analysis of statistical results and implication on audit procedures* (46), and *Legal concepts, terminology, and auditor liability to clients and third parties under federal securities law* (24), were significantly higher rated topics by educators after the adjusting for the potential upward rating bias on the part of the educators. The remaining topics rated higher on importance by educators, *Auditor's decision process for issuance of an audit report* (5), *Definition of audit risk, business failure and audit failure* (22), *Internal control structure and components of strong versus weak control* (33), and *Assessing control risks and testing of key controls* (35), were all topics that both stakeholders rated significantly greater than 4.0. An obvious theoretical orientation is present with these nine topics. Topics five, six, and nine deal with opinion decision analysis and are important to passing the auditing section of the CPA exam, but in practice they would be more the domain of the audit managers and partners than entry-level auditors. Likewise, topics 44 and 46, dealing with statistical analysis, and topic 24, dealing with legal liability, are theoretical oriented as these are topics covered on the CPA exam. The remaining three topics (22, 33, & 35) deal with the assessment of risks and internal controls that are typically handled by more senior people on the audit staff and are more theory based and have a greater probability of being on the CPA exam.

CONCLUSIONS

For accounting educators, the accounting curriculum represents the design for quality. To help facilitate the improvement of the quality of accounting graduates, this paper undertakes an assessment of the quality of auditing curricular design to better understand why CPA practitioners continue to be dissatisfied with university training of auditors. This is accomplished by determining the relative importance of auditing-based topics within the auditing curriculum for two key stakeholders of auditing education—auditing educators and CPA practitioners. The 54 auditing-based topics serve as a proxy for the design specifications for the accounting graduate's knowledge with respect to auditing. Overall, a high level of design quality is indicated by the high degree of correlation ($r = 0.816$, $p = 0.000$) exhibited between the ratings on importance for the two stakeholders. However, almost one-third, 17 of the 54 topics, have statistically significant differences in their importance ratings between the two groups. The eight topics that CPAs rate significantly higher than educators definitely have a more practical and professional orientation, and the nine topics rated higher by the educators have a more theoretical orientation and are more likely to appear on the CPA exam. Thus, these results support the results of previous research indicating that the cause of CPA dissatisfaction with university auditing training is the deficiency of practical training within the auditing curriculum. Moreover, with only one exception, these differences are for topics that either one or both of the stakeholders rated as being significantly

greater than 4.0 (Important). With these differences occurring among the more important topics within auditing education, one can better understand why the dissatisfaction on the part of CPA practitioners has persisted over time. Neither party has been willing to compromise its position. Therefore, one can expect that this dissatisfaction will persist unless there is considerable effort on the part of both parties to resolve the current situation.

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