

2008 Practice Analysis Technical Report

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Board of Examiners
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INTRODUCTION

The American Institute of Certified Public Accountants (AICPA) is the national professional association of Certified Public Accountants (CPAs). The Board of Examiners (BOE) of the AICPA oversees the development, administration, and scoring of the Uniform CPA Examination. This Examination has a long and trusted history in the licensing of CPAs. The Uniform CPA Examination and the Advisory Grading Service were first made available by the AICPA in June 1917. Eventually, these examination services and the requirement to pass this Examination in order to become a licensed CPA were adopted by all states, the District of Columbia, Guam, Puerto Rico, the U.S. Virgin Islands, and the Commonwealth of the Northern Mariana Islands. The uniform administration of the Examination has enhanced the national prestige of the CPA designation and fostered the interstate practice of accounting.

The Uniform CPA Examination is a licensure examination designed to measure minimum competency and helps to establish the CPA certificate or license as evidence of professional qualification. The purpose of the Examination is to ensure that individuals seeking licensure have demonstrated the knowledge and skills necessary for an entry-level CPA to protect the public interest in a rapidly changing business and financial environment. The Uniform CPA Examination is a 14-hour examination with four sections: Auditing and Attestation (AUD), Business Environment and Concepts (BEC), Financial Accounting and Reporting (FAR), and Regulation (REG). A candidate must pass all four sections of the Examination to be eligible for licensure.

This report describes the practice analysis study conducted by the AICPA. It documents the methods used to define the domain of tasks, knowledge, and skills necessary for an entry-level CPA, describes the types of analyses conducted, reports the results of those analyses, and describes how the results of the practice analysis were used to update the content and skill specifications for the Uniform CPA Examination.

Purpose of the Study

In its oversight role, the BOE ensures that activities and procedures are implemented to keep the CPA Examination consonant with the knowledge and skill requirements of entry-level CPAs. Consistent with this oversight role, the BOE requested that the AICPA initiate the conduct of a new study to update the previous practice analysis (Norris, Russell, Goodwin, & Jessee, 2001). This new study has two major purposes. First, it is designed to describe the important tasks performed by entry-level CPAs and the knowledge and skills required for competent performance. Second, it will provide important data needed to update content and skill specifications for future versions of the Uniform CPA Examination as well as aid in the documentation of the validity of the Examination. This practice analysis is designed to reflect the demands of current practice and provide data to ensure that future revisions of the Uniform CPA Examination continue to assess the knowledge and skills required for competent entry-level performance.

For the purpose of identifying the domain of tasks, knowledge and skills necessary to protect the public interest, an entry-level CPA is defined as “one who has fulfilled the applicable

jurisdiction's educational requirements and has the knowledge and skills typically possessed by a person with up to two years of experience.”

Goal of Licensure

The goal of licensure is public protection. This is accomplished by providing the public with assurance that those individuals who are licensed possess a sufficient level of the knowledge and skills necessary for safe and effective practice. The qualifications for licensure generally include educational requirements, some type of supervised experience, and the passing of an examination assessing the knowledge and/or skills required for competent performance (American Educational Research Association [AERA], American Psychological Association [APA], and the National Council for Measurement in Education [NCME], 1999). Some form of practice analysis is typically used as the basis for identifying and supporting the knowledge and skills necessary for competent performance (AERA, APA, & NCME, 1999; National Commission for Certifying Agencies [NCCA], 2002; Raymond & Neustel, 2006).

Practice Analysis

Practice or job analysis refers to a variety of systematic procedures designed to obtain descriptive information about the tasks performed on a job and/or the knowledge, skills, and abilities thought necessary to perform those tasks (Arvey & Faley, 1988; Gael, 1983; Raymond & Neustel, 2006). A practice analysis is the primary mechanism for establishing the job-relatedness of decisions concerning licensure. That is, if licensure decisions can be linked directly to the outcomes of a practice analysis, they may be said to be job-related. Similarly, if the content of a licensure examination can be linked directly to the outcomes of a practice analysis, it may be said to be job-related, and inferences from test scores may be supported by arguments of content validity. The rationale that supports the content of a licensure examination is the demonstrable linkage that exists between the exam content and the performance domain of the associated occupation or profession.

Professional standards and legal precedents recommend that a practice analysis include the participation of various Subject-Matter Experts (SMEs) [Mehrens, 1987; NCCA, 2002; Raymond & Neustel, 2006] and that the information collected be representative of the diversity within the occupation (Kuehn, Stallings, & Holland, 1990). Diversity refers to regional or job context factors and to SME factors such as race or ethnicity, experience, and gender. The practice analysis conducted to define the performance domain for entry-level CPAs was designed to be consistent with the Standards for Educational and Psychological Testing (AERA, APA, & NCME 1999); General Requirements for Bodies Operating Certification of Persons (Organization for Standardization, 2003); Standards for the Accreditation of Certification Programs (NCCA, 2002) and current professional practice.

Overview of the Practice Analysis Methodology

The practice analysis described in this study involved a multi-method approach that included literature review, considerable reliance on the BOE's Content Committee and its Preparation Subcommittees, SME panels consisting of experienced CPAs, supervisors of entry-level CPAs from a range of practice settings, and educators as well as a large-scale survey of supervisors of entry-level CPAs, executives of CPA firms and educators.

A large number of SMEs were involved in the development of a performance domain that contained a list of 460 task, knowledge, and skill statements. This was followed by the administration of a large-scale survey that was completed by more than 2,000 CPAs. The task, knowledge, and skill statements were rated on three scales: relevance, importance, and frequency. The ratings were analyzed and then presented to the BOE's Content Committee and its Preparation Subcommittees who carefully reviewed the survey results and applied their professional judgment and expertise in interpreting and using the results to update the Content Specification Outlines (CSOs) and Skill Specification Outlines (SSOs) to reflect current practice and the knowledge and skills necessary for safe and effective practice. The Exposure Draft was sent to the 55 Boards of Accountancy and other relevant stakeholders and was posted on the AICPA web site. All Exposure Draft responses were carefully considered by the BOE's Content Committee and the BOE as it finalized the proposed content and skill specification outlines. Once approved by the BOE, the specifications will be scheduled for implementation as the new blueprint for the CPA Examination. They will be made widely available – to candidates, educators, and other interested parties – well in advance of their effective date.

METHODS

Project Organization

The design and development of the 2008 Practice Analysis was a major undertaking, requiring the expertise of CPA subject matter experts, psychometricians, and data collection professionals. To manage this complex project, the BOE established in spring 2006, the Practice Analysis Oversight Group (PAOG) a special committee of the BOE, to provide leadership and oversight for the 2008 Practice Analysis. The PAOG members were selected to provide broad stakeholder representation as well as the expertise needed to ensure the success of the practice analysis. Among PAOG members were individuals from Boards of Accountancy, NASBA's Board of Directors, and NASBA's CPA Licensing Examinations Committee, as well as members of the BOE, the Content Committee, and the Psychometric Oversight Committee (POC). The mission of the PAOG was "to ensure that the 2008 Practice Analysis was developed utilizing professionally sound processes, including best practices, which would result in a valid and legally defensible Uniform CPA Examination." Throughout the project, the PAOG reviewed the deliverables of staff and committees, and requested additional information, explanation, or justification such that the PAOG was satisfied that the work was accurate, thorough, and in keeping with best practices. In this manner, they provided oversight of this project for the BOE. The PAOG also maintained regular communications with stakeholders throughout the project (Appendix O).

The PAOG also relied on the POC and the Content Committee (both represented on the PAOG) to provide the specialized and technical knowledge the project required. The POC is responsible for critical review of, and adherence to, psychometric procedures, identification of areas requiring improvement and/or research, and evaluation of research and other analytical studies related to the Uniform CPA Examination (BOE Summary of Policies, February 2006, p2). In their role as experts in measurement theory and practice, the POC provides psychometric policy recommendations to the BOE. In fulfilling this role, the POC defines the theory and methods for the practice analysis project, and evaluates the results of these analyses. The POC was

responsible for research design and methodology and oversaw the research in support of the project as it progressed through all of its phases. The Content Committee has overall responsibility for the adequacy of the technical content of the Examination. It is responsible for overseeing the development of the individual sections of the CPA Examination, the proper scoring of the Examination, and ongoing analyses to ensure that the content is reflective of entry-level practice including approval of the CSOs (BOE Summary of Policies, February 2006). In their role as experts in the profession of public accounting, the Content Committee collects and evaluates data from the profession on an ongoing basis to ensure the continued relevance and quality of the CPA exam and credential. The Practice Analysis is one important process used by the Content Committee to fulfill this responsibility in today's rapidly changing business and financial environment. The Content Committee was ultimately responsible for survey content and updating the content specification outlines and skill specification outlines (CSOs/SSOs) to reflect the results of survey findings.

The AICPA Examinations Team managed the conduct of the practice analysis on behalf of the BOE and PAOG, providing professional, administrative, and logistical support to the project. The names of the members of the BOE, PAOG, POC, and the AICPA Examinations Team are provided in Appendix A.

Development of the Draft Performance Domain

Typically, the first step in a practice analysis process is to develop a draft performance domain. This draft serves as a starting point for a panel of SMEs to review critically and to revise as necessary. Experience indicates that it is much easier and more productive for SMEs to react to an existing draft performance domain than for them to create their own. The initial draft domain consisted of the comprehensive list of tasks, knowledge, and skill statements developed for the practice analysis of CPAs conducted in 2000 (Norris et. al. 2001). That performance domain consisted of 235 task statements covering four major areas (Common Tasks, Auditing and Accounting, Tax Tasks, and Business and Industry Tasks); 250 knowledge statements covering six categories (General Business, Laws and Professional Responsibilities, Information Identification- Control and Analysis, Auditing, Accounting, Presentation and Disclosure, Government and Not-for-Profit, and Taxation); and 57 skill statements covering 10 categories (Client Orientation, Contextual Comprehension, Communication and Documentation, Basic and Social Skills, Information Gathering and Utilization, Technical Application, Complex Problem Solving, Interpersonal Influence, Performance Management, and Resource Management).

Initial review of the performance domain

The process of updating and performing initial revision to the 2000 instrument occurred in two phases. In the first phase, volunteer SMEs as well as members of the BOE's Content Committee and its Preparation Subcommittees (AUD, BEC, FAR, and REG) were asked to review and evaluate each survey statement and to indicate whether it should be retained, removed, or revised. They were also asked to specify any new tasks, knowledge, or skills that should be added to the domain. The pool of volunteer SMEs was selected from nominations by the National Association of State Boards of Accountancy (NASBA) Board of Directors and NASBA's CPA Examinations Licensing Committee and the PAOG; persons who were on, had applied to or rolled-off AICPA Exams and other technical committees; persons who had applied for AICPA committee service through NASBA's CPA Examinations Licensing Committee; and

nominations by key AICPA technical staff. The volunteer reviewers were chosen to reflect the diversity of work within the CPA profession and included representation across public accounting, business and industry, academe, and government. Other characteristics considered for reviewers included gender, ethnicity, geographical region, and size of firm/company. By considering these work and personal factors in selecting SME volunteers, the AICPA endeavored to gather a diverse set of SMEs with a wide range of professional experiences to assist in updating and revising the survey instrument that was developed for the 2000 practice analysis. Because of the large number of task, knowledge, and skill statements (n=542), SME volunteers and Content Committee members were asked to specifically review and comment on either the task statements (n=235) or the knowledge and skill statements (n=307). They were told, however, that if they had the time, they could also review the other set of statements as well. Surveys were sent to the participants by e-mail and were asked to respond electronically.

The task statements were reviewed by 27 volunteer SMEs and 8 members of the Content Committee or subcommittees. The knowledge and skill statements were reviewed by 23 volunteer SMEs and 11 members of the Content Committee or subcommittees. The names of the SMEs participating in the review of the first draft are provided in Appendix B. In preparation for the second phase, the Examinations Team staff considered the reviewers' responses and prepared a revised set of statements for further review by a specially convened panel of SMEs. A copy of this revised list of draft statements is provided in Appendix C.

SME Review of Performance Domain

In the second phase, a panel of 10 SMEs was convened to analyze and discuss the revised set of statements that resulted from the reviews in the first phase. Panel members were selected by the AICPA Examinations Team from the group of volunteer SMEs who had participated in the review of the draft domain described above and who were interested and available to participate in the follow-up study. Of primary importance was each panel member's knowledge of the activities performed by entry-level CPAs, as well as their experience in supervising new licensees. The composition of the panel and its participants was approved by the Content Committee and reviewed by the PAOG. In addition to the 10 SME volunteers, the meeting was attended by the Chair of the Content Committee, a member of the PAOG, Examinations Team staff CPAs, and an outside facilitator experienced in licensing and certification as well as in the conduct of practice analyses. The names of the meeting participants are provided in Appendix D.

SME panel members were sent the revised draft of task, knowledge, and skill statements in advance of the meeting and asked to review the statements and come prepared to discuss them during the panel meeting. Because CPAs can work in a variety of practice settings, panel members were asked to consider if the statements covered the major aspects of the profession, if the statements covered the important tasks, knowledge, and skills necessary to protect the public interest, and if anything important for protecting the public interest had been omitted. They were also asked to review each of the statements for clarity. The panel met for 2.5 days in December 2006 in Tempe, Arizona. At the start of the meeting, panel members were once again briefed on the importance of the project and their role in the practice analysis project by the Chair of the Content Committee. The facilitator then provided an overview of the practice analysis process and its role in developing and validating licensure examinations. During the meeting, panelists

were asked to review each survey statement and consider whether it reflects current practice for newly certified CPAs and whether it is important for the protection of public interest. Panel members worked as a group to review and discuss the task, knowledge, and skill statements that comprised the revised draft. There was a good deal of discussion that resulted in a revised set of task, knowledge, and skill statements reflective of the current workplace responsibilities of entry-level CPAs.

Final List of Task, Knowledge, and Skill Statements

The statements revised by the SME panel were reviewed and modified by the Content Committee. The final list of 460 statements was approved by the Content Committee and reviewed by the PAOG. The 411 task and knowledge statements covered the following areas:

- Financial Accounting & Reporting
- Auditing, Attestation & Other Services
- Internal Control: Information Technology
- Law & Professional Responsibilities: Ethics & Independence
- Law & Professional Responsibilities: Sarbanes-Oxley Rules & Regulation
- Law & Professional Responsibilities: Business Law & Regulation
- Federal Taxation: General Concepts Applicable to Individuals & Business Entities
- Federal Taxation: Individuals
- Federal Taxation: Corporations
- Federal Taxation: Partnerships & Limited Liabilities Entities
- Federal Taxation: Estates, Trusts, & Gift Tax
- Federal Taxation: Tax Exempt Organizations
- Federal Taxation: Retirement & Benefit Plans
- Federal Taxation: Standards & Guidance
- General Business: Corporate Financial Management
- General Business: Cost Measurement & Pricing
- General Business: Operational Management
- Project Management
- General Business: Economics

The 49 general skills that were identified covered seven areas:

- Understanding and Comprehension
- Communication
- Research
- Analysis
- Complex Problem Solving and Judgment
- Interpersonal Skills
- Efficiency

A complete list of task, knowledge, and skill statements is provided in Appendix E.

Rating Scales

The POC recommended that three rating scales be used: a relevance scale, an importance scale, and a frequency scale. The intent was to determine if a given task, knowledge, or skill statement

was relevant for an entry-level CPA, if it was important for competent performance, and how frequently the task was performed or the knowledge and skill was used. These scales were designed to be consistent with sound professional practice and are provided below.

Relevance

How relevant is this task for an entry-level CPA?

- This is relevant for an entry level CPA
- This is not relevant to entry-level CPAs
- I choose not to rate this statement

Importance

What is the risk or consequence associated with an entry-level CPA being unable to perform this task?

1. No risk of adverse consequence
2. Slight risk of adverse consequence
3. Moderate risk of adverse consequence
4. High risk of adverse consequence
5. Very high risk of adverse consequence

Frequency

How frequently is this task performed or this knowledge or skill used by an entry-level CPA?

1. About once a year or less
2. About once per quarter
3. About once per month
4. About once per week
5. About once per day
6. Several times per day

Sampling Methodology

The POC recommended that the target sample should be individuals who supervise entry-level CPAs to provide the broadest view of the work performed by entry-level CPAs, because they would be the most knowledgeable regarding the importance of those activities and would best understand the knowledge and skills required for competent performance and the protection of the public interest. The PAOG agreed, with guidance from the POC, that because no database existed that identified CPAs in this capacity, a reasonable proxy would be to draw the survey sample from CPAs who have been certified between 2 and 15 years and from that sample, to identify those with experience supervising entry-level CPAs. The PAOG approved the use of the AICPA database as the principal sampling database because it is the only national source from which representative samples can be extracted. Additionally, the PAOG addressed the concerns expressed by some CPA Examination stakeholders that the use of the AICPA membership database would exclude a significant number of CPAs from participation, namely, CPAs who are not members of the AICPA. As a result, the PAOG authorized a supplemental survey of non-

AICPA members and invited each board to submit the names and addresses of 200 of its licensees with between two and fifteen years of experience. Responses were received from 22 states that provided 3,100 names of CPAs certified between 2 and 15 years.

Matrix sampling

Because of the large number of statements (460) in the performance domain that needed to be surveyed and the desire to design a survey methodology that would not place an undue burden on respondents and increase the likelihood of a reasonable return rate, a matrix sampling approach was used to administer the survey. Using this methodology, the 460 statements were divided into 16 forms by content experts, each with approximately 45 statements, a length expected to provide adequate coverage of content and likely to generate a good response rate (Raymond, 2001). On average, about 30% of the statements in one form were shared with one, occasionally two, other forms. A diagram for overlapping statements across forms is presented in Appendix F. Content experts made sure that each form had a proper balance in the number of knowledge, task, and skill statements across different content/skill categories. It was estimated that respondents would be able to complete any of the 16 forms within an hour. A copy of one form is provided in Appendix G.

Two-Stage Data Collection

As described above, the main sampling target was a CPA with 2-15 years of certified experience who was currently supervising entry-level practitioners. However, the latter piece of information was not available from any database. In order to obtain survey results from professionals that met these criteria, a two-stage data collection process was designed: Survey Registration and Survey Administration.

Survey Registration. At the first stage, professionals with 2-15 years of certified experience, identified from the AICPA national database and lists provided by 22 boards of accountancy, were invited to go to a website (Registration Website) to “register” as a candidate to receive the survey. The registration was designed to fulfill two purposes. First, registrants would provide key information for sampling including name, preferred e-mail address, area of employment, job position, etc., and most importantly, whether they were supervising entry-level professionals. Second, the registration would also be an indication of commitment as to their availability and willingness to take the survey if they were selected into the sample. Invitations were sent to 6,000 CPAs from the AICPA database and 3,100 CPAs provided from the board lists (AICPA members were removed from the board lists). A personalized invitation letter, co-signed by the presidents/CEOs of the AICPA and NASBA, was sent by first-class mail. Postcard and e-mail follow-ups were implemented afterwards. The letter emphasized the importance of the survey as well as the fact that the survey could be completed within a very reasonable length of time. The letter also made clear that not all registrants would receive the survey due to a sampling process, without specifying any sampling criterion. A copy of the letter of invitation is provided in Appendix H and a screen print of part of the registration website is provided in Appendix I.

The initial response rate was lower than expected, and as a result, in the interest of meeting the required time lines, the AICPA sent out an additional 90,000 invitations to everyone in their database who had been certified between 2 and 15 years. Unfortunately, there was not sufficient time to go back to the states and request additional names.

Survey Administration. The second stage was the online survey administration to registered professionals who met the criteria for inclusion into the sample. Registration data from the previous stage were analyzed to identify qualified samples. Once a registrant was selected, he or she would receive a personalized e-mail with an encrypted link to a website that hosted the 16 forms of the survey. The survey forms were randomly distributed among the recipients¹. Once a survey form was completed and submitted, the responses were collected into an online database for reporting and analysis. Based on whether a form was completed within a certain period of time, periodic e-mail reminders were sent until it was completed and submitted.

The data collection work over the Internet was contracted to a market research company that specialized in online surveys. The company developed the survey registration website, an online administration tool for the survey forms, and two databases (one for survey registration, one for survey administration). The two databases were linked by an identification number assigned to each registrant and required user authentication (ID and password) for access.

During the survey administration, once a respondent determined that a statement was not relevant to entry-level CPAs or not “ratable” due to the respondent’s lack of background or work experience related to that statement, the two rating scales (Importance and Frequency) would disappear from the screen to prevent accidental rating on either scale, and the respondent would be prompted to move forward to the next statement.

Pilot Test

Prior to launching the survey nationwide online, the survey instrument was pilot tested online to provide feedback on format and appearance, clarity of instructions, and functionality. Executive directors and chairs of boards of accountancy, along with members of the BOE, the Content Committee, the POC, the PAOG, and AICPA Examinations Team staff participated in pilot testing of the survey instrument. Minor changes were made to the directions as a result of the pilot test. A copy of the pilot feedback form is provided in Appendix J.

Data Analysis Plan

A data analysis plan was developed by the POC and the Content Committee and reviewed by the PAOG. This plan guided the AICPA Examinations Team Psychometrics staff in preparation of the survey data/analytic reports used by the Content Committee and its subcommittees in updating the CSOs/SSOs. The reports were to include summary descriptive statistics for all survey statements on each of the three rating scales: relevance, importance, and frequency. These data were to be provided for the main respondent group as well as stratified by key respondent demographics (public accounting/business and industry, gender, region) and by certain comparative samples of respondents (e.g., non-AICPA member CPAs, academics, and executives).

¹ The online administration tool also ensured approximate equal sample sizes for the 16 survey forms.

Frequency counts

Frequency counts were provided for the relevance rating scale, and the percent of respondents indicating that a statement was relevant for an entry-level CPA was computed for each statement.

Mean ratings and the standard error of the mean

The mean importance rating and standard error of the mean were computed for the importance and frequency rating scales for each statement. Means and standard errors were computed separately for the main group analysis, for demographic groups, and for some comparison samples of respondents. The mean provides an indication of the absolute level of importance and frequency attributed to the statements. The standard error of the mean is the standard deviation of a group of sample means about the population mean. It allows us to estimate the probability that a sample mean will fall within a given range of values about the population mean. A small standard error would indicate that the sample mean is relatively close to the population mean and that if another similar sample were to be drawn, it is likely that the mean of that sample would be similar to the mean of the initial sample.

RESULTS

Response Rates

As indicated earlier in this report, the target population was CPAs who were certified between 2-15 years with direct supervisory responsibility over entry-level CPAs. Since there was no existing database that contained this information, a letter from Barry Melancon and David Costello, Presidents/CEOs of the AICPA and NASBA, respectively, was sent to invite all CPAs in the AICPA national database who had been certified for between 2-15 years to register for possible participation in the practice analysis of entry-level CPAs. This was in addition to the non-AICPA member sample with the same qualifications that had been submitted by 22 Boards of Accountancy. The purpose was to identify the CPAs who supervised entry-level CPAs from those professionals who registered to participate in the study.

Table 1 below provides information on the number of CPAs invited, registered, and were qualified to participate, as well as the response rate for those who completed the survey. There were 98,120 CPAs invited to participate and 6,531 who registered. Of that number, 3,079 were qualified by virtue of their supervision of entry-level CPAs. Of those qualified, 2,025 (66%) completed the survey.

Table 1
Survey Completion Rates

Sample	Invited	Registered		Qualified		Survey Completion Rate	
		N	%	N	%	N	%
AICPA Member sample	95,020	6,185	7%	3,004	49%	1,954	65%
Non-AICPA Member sample	3,100	346	11%	75	22%	71	95%
Total	98,120	6,531	7%	3,079	47%	2,025	66%

Table 2 divides the respondents into four samples. The Main sample is composed of those professionals from the AICPA national database who have been certified between 2-15 years who registered to participate in the study, and are currently supervising entry-level CPAs. Three other groups were also identified and targeted as secondary samples for comparative purposes. The members of all three groups were also drawn from the professionals who registered to participate in the practice analysis. There was an executive sample composed of senior managers and executives who do not have supervisory responsibilities for entry-level CPAs but have a broad view of their organizations and the requirements of entry-level CPAs; there was an academic sample composed of individuals who spend a substantial portion of their time teaching relevant coursework; and a state sample, obtained from the 22 Boards of Accountancy composed of CPAs who were not members of the national organization but had between 2-15 years of certified experience and supervised entry-level CPAs. However, as can be seen from the data in Table 2, the number of respondents in the comparison samples was comparatively small, thereby limiting their utility in making the desired comparisons.

Table 2
Samples of Respondents²

Sample	N	Percentage
Academics	23	1%
Main	1696	84%
Non-supervisory Executives	235	12%
State	71	4%

Main Sample Respondent Demographics

This section provides a brief summary of Main sample respondent demographics. A more complete description of the Main sample and the comparison samples is provided in Appendix K. Respondents came from all 50 states, Puerto Rico, and the District of Columbia and covered the entire 2-15 year range of years certified. Eighty-one percent worked in public accounting, 16% in business and industry, 2% in consulting, and 2% in government. Fifty-one percent were female and 49% male. Ninety-one percent were Caucasian, 5% were Asian/Pacific Islander, 2% were of Spanish/Hispanic origin, and 1% was African American.

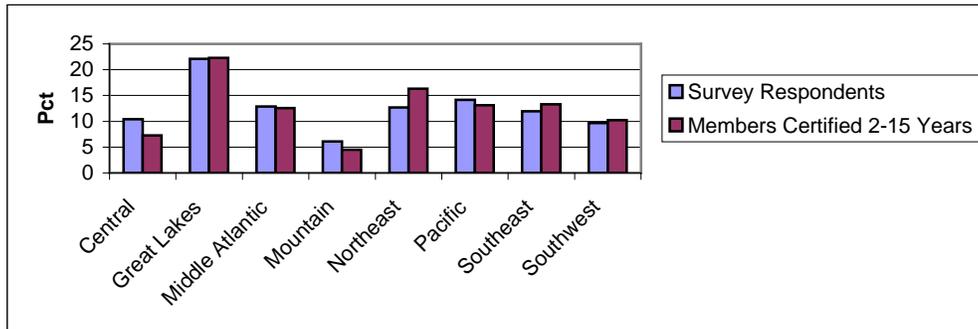
Comparison of Main Group Respondents to the Population

An important concern with sampling is whether a sample is representative of the population. For this study, the targeted population was professionals certified for 2-15 years with direct supervisory responsibility over entry-level employees. However, as mentioned above, the information about supervisory responsibility was not captured by any database, which made it difficult to reach a conclusion regarding how representative the final sample of survey respondents was to the population.

² Percentages in tables and text may not add to 100 due to rounding.

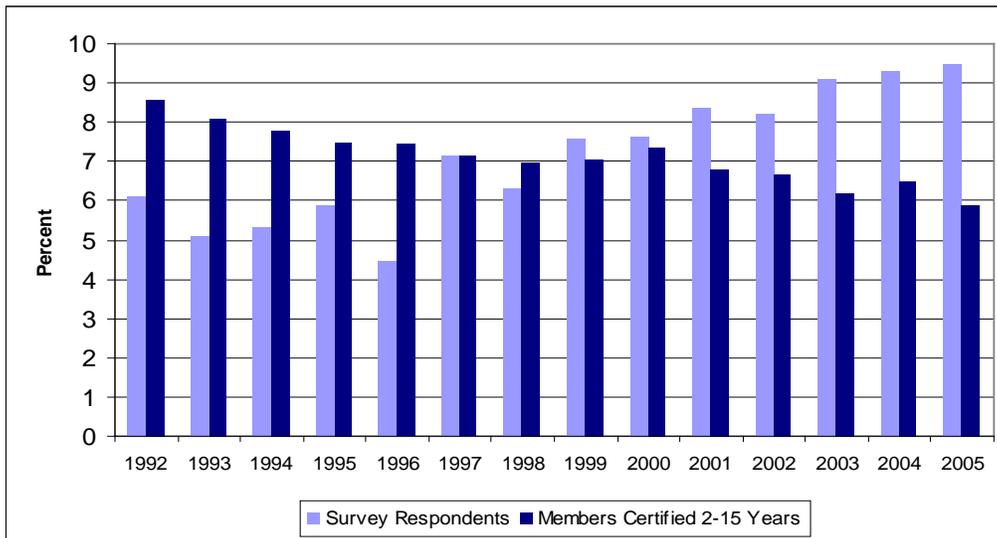
It was possible, however, using a few key characteristics, to compare the final sample of survey respondents with the AICPA national database for professionals certified between 2-15 years. Comparisons could be made using: gender, geographic area of practice, year of certification, and area of employment. Results showed that the final sample was equally split between male and female professionals – very similar to the national database results of 45% female and 55% male. Results also showed that, when the states where respondents practiced were placed into the eight regions recognized by the national professional associations, the distributions among these regions were similar between the final sample and the national database. Figure 1 shows the comparison in the regional distribution.

Figure 1: Regional Distribution - Survey Respondents vs. Members Certified for 2-15 Years



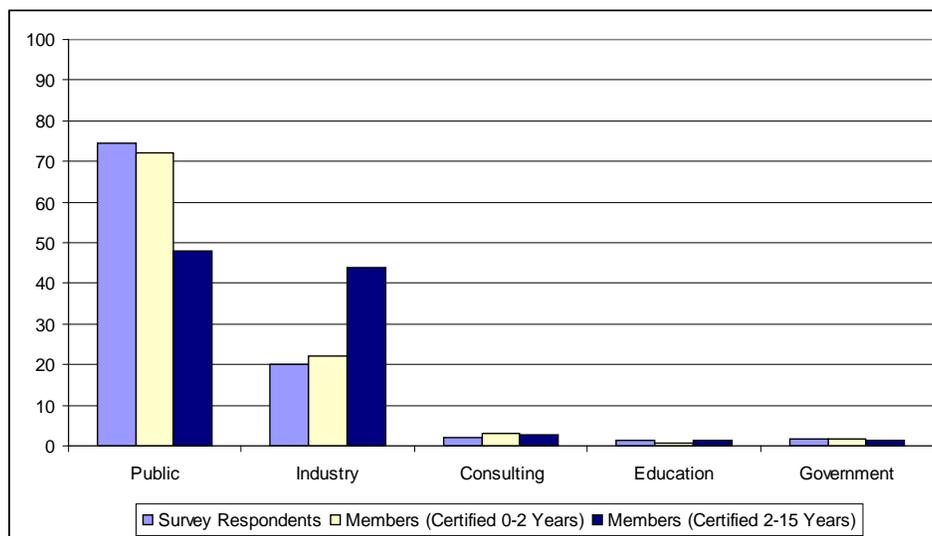
Comparisons of year of certification and area of employment produced interesting results. Figure 2 shows opposite trends in the year of certification between the final sample and the national database: most survey respondents were certified in recent years (the highest percentage for 2005) while most professionals in the national database were certified earlier (the highest percentage for 1992). A possible explanation for this difference was that the final sample was composed of direct supervisors of entry-level professionals, and they tended to be lower to middle level managers who were certified more recently.

Figure 2: Year of Certification – Survey Respondents vs. Members Certified for 2-15 Years



The comparison of area of employment identified differences in the percentage of professionals who worked in the public accounting sector and the private/industry sector. Slightly over 80% of survey respondents were from the public sector and 16% were from the private/industrial sector; while the two groups were about equal (both in the 40-45% range) in the national database for professionals certified between 2-15 years. Given the results obtained with the certification year, the data for professionals certified within 2 years (i.e., entry-level supervisees) was added to the same analysis. Figure 3 shows that survey respondents were comparable to entry-level professionals. Since it is known that most CPAs started their career in the public accounting sector, it seems reasonable to find most supervisors of entry-level professionals in the public accounting sector as well.

Figure 3: Area of Employment - Survey Respondents vs. Members Certified for 2-15 Years vs. Members Certified for 0-2 Years (Entry-Level)



The above findings suggest that the demographic features of the final sample of survey respondents were similar to the population on some variables such as gender and geographic distribution, and where they were different (years certified and area of employment), there is a reasonable explanation for those differences given the need to identify supervisors of entry-level CPAs.

Analysis of Ratings

Frequencies were computed for each statement on the relevance rating scale and the percentage of respondents rating the statement as relevant was noted. Means and standard errors of the mean were computed for the importance and frequency rating scales. As a result of the use of matrix sampling and the choice provided on the relevance rating scale which gave respondents the opportunity to choose not to rate a statement due to a respondent's lack of background or work experience related to that statement, the number of respondents rating a statement on the importance and frequency scales varied considerably. Given this result, the standard error of the mean was reviewed carefully. The standard errors of the means were generally small, indicating that if a similar sample were to be selected, the mean ratings would likely be similar.

Appendix L provides data for all 460 task, knowledge, and skill statements. It contains the statement's master identification number, the statement type (task, knowledge, or skill), the statement and the percentage of respondents judging the statement relevant, the number of respondents answering each statement, as well as the mean and standard error of the mean for both the importance and frequency ratings.

Skills Assessment in the Uniform CPA Examination

The work from the prior practice analysis resulted in the inclusion of five skills on the Exam: Communication, Research, Analysis, Judgment, and Understanding. Supplemental research was undertaken as part of the 2008 Practice Analysis to obtain a better understanding of the skills that are important for entry-level CPAs, how they are linked to the tasks that CPAs perform, and how they might be assessed by the CPA Examination.

In the spring of 2007, the AICPA engaged two cognitive scientists who specialize in the measurement of skills and conducted a two-day meeting with a panel of 10 subject matter experts (SMEs) in an attempt to develop a construct map of the skills required by the entry-level CPA. Panel members included CPAs with expertise in the areas of audit, regulation/tax, and financial accounting; AICPA Examinations Content staff CPAs also participated in the meeting. (Appendix M provides a list of the SMEs who participated in this and other meetings with the cognitive scientists.) A construct map provides a hierarchical representation of the skills required to demonstrate proficiency in a given area. After deliberation, the subject matter experts and the consultants proposed a set of constructs be used to represent the skills required for auditing: Knowledge and Understanding (measured predominantly in multiple choice questions in the examination), Research, Analysis, and Integration (subsuming the majority of the tasks in the simulations), and Communication (measured by the current Written Communication task in the simulations). An attempt was made (but not completed at the meeting) to hierarchically arrange the skills identified a priori by the SMEs within each of the constructs. Since the work could not be completed at the meeting, the necessity for a follow-up meeting to complete this task was noted.

During the summer of 2007, as the results of the Practice Analysis were being analyzed and summarized, the AICPA research team developed a method for integrating the work on skills assessment with the results from the Practice Analysis to define the constructs identified by the consultants. Doing so meant the Practice Analysis research could take advantage of the work already done by previous groups of SMEs in articulating the skills used by entry-level CPAs.

The cognitive scientist consultants agreed to this approach, and a meeting was held in August 2007 at which another group of SMEs from the field of audit were led by the consultants through a series of exercises to:

- Identify the skill construct to which each of the skill statements from the practice analysis survey belonged
- Hierarchically arrange each of the skill statements from the Practice Analysis within each of the proposed skill constructs
- Link the task statements from the Practice Analysis with one or more skill statements

This work completed the initial work on the skill constructs for the audit area; the same work was to be undertaken in the fall of 2007 for the regulation and the financial accounting areas of the examination.

Later in the fall of 2007, meetings were conducted with different groups of SMEs to replicate the work done with the audit SMEs. These groups generated fairly consistent categorizations of the skill statements from the practice analysis and mappings of the tasks statements from the Practice Analysis to the skill statements as appropriate for each of the areas.

As described below, the Content Committee used the information from this research along with the practice analysis survey data to define the broad categories into which these skills should be classified for the purpose of determining proportions or weights to be used in measuring candidate proficiency in these areas. To that end, the proposed SSOs provide more in-depth descriptions underlying the skills necessary for entry-level CPAs than described in the current CSOs and are separate from the proposed CSOs.

Process for Developing the Revised Content and Skill Specification Outlines

The process for developing the revised content and skill specifications was devised by the Content Committee and the POC and was reviewed by the PAOG. This plan recognized the important role that professional judgment should play in the process. To develop the CSOs, the Content Committee and its subcommittees were to meet jointly and use the survey data analysis reports coupled with their professional judgment to:

- Review the individual task and knowledge statements and determine whether any should be deleted based on practice analysis ratings (relevance, importance, and frequency)
- Determine how the statements should be categorized by content areas for the updated CSOs
- Review practice analysis ratings on the finalized set of statements
- Reach consensus on a recommended range of percentages to be assigned to each content area
- Develop recommended CSOs to reflect the revised weighting and task and knowledge statements determined in the previous steps

A similar process was to be used by the Content Committee, in a separate meeting, to develop the SSOs. During the meeting, the Content Committee was to use the practice analysis survey results, the research performed by cognitive scientists for testing skills of entry-level CPAs, coupled with their professional judgment to:

- Determine the categories into which the various skills would be classified for the SSOs
- Review the individual statements and determine whether any should be deleted based on practice analysis ratings (relevance, importance, and frequency)
- Classify the statements into categories identified for the SSOs
- Review practice analysis ratings on the finalized set of statements

- Reach consensus on a recommended range of percentages to be assigned to each skill category
- Develop recommended SSOs to reflect the revised weightings and statements determined in the previous steps.

The Content Committee was first provided with the information from the research performed by the cognitive scientists, which included a recommendation that the Content Committee establish the categories for the SSOs based on the skill constructs (or high-level categorizations) proposed by the cognitive scientist consultants.

The Content Committee accepted the recommendation that the test design for skills should consist of three skills categories, representing the three constructs identified through the skills research. In accepting this recommendation, the Content Committee renamed “Research, Analysis, and Integration” to “Application of the Body of Knowledge” (ABK) in recognition that the testing for these skill will always be done in the context of applying knowledge of accounting topics. With this change, the Content Committee performed the rest of the steps outlined above.

Committee Review of Survey Results

Approximately 40 members of the Content Committee and its subcommittees convened in New Jersey for a two-day meeting to review the survey results. Since ratings of the task and knowledge statements were to be reviewed by the Content Committee and its subcommittees, the AICPA Examinations Team Psychometrics staff organized the statements and their ratings using the format of the current CSOs. This preliminary grouping was done in order to facilitate the review by the subcommittees by allowing each subcommittee to focus on the content most relevant to them and for which they had the greatest expertise. As a result, the data were organized into four sections: AUD, BEC, FAR, and REG.

The Content Committee and its subcommittees were asked to review the survey results and use them along with their professional judgment and expertise to determine which task and knowledge statements would remain for consideration in setting the new CSOs, how those statements should be categorized by content areas for the updated CSOs, review the practice analysis ratings on the finalized set of statements, reach consensus on a recommended range of percentages to be assigned to each content area, and develop recommended CSOs to reflect the revised weightings and task and knowledge statements.

The meeting was also attended by an independent lead facilitator and four independent facilitators, each assigned to work with one of four subcommittees. The role of the facilitators was to lead the discussion and to ensure that the appropriate and consistent procedures and processes were followed. AICPA Examinations Team Content and Psychometric staff whose role was to provide additional support, oversight, and direction, and two members of NASBA’s Examination Review Board, whose role was to observe the process, also attended the meeting.

Prior to the meeting, facilitators, subcommittee chairs, and AICPA Examinations Content staff were trained in the process and procedures to be used in conducting the meeting. This provided an opportunity for questions to be raised and procedures streamlined in advance of the meeting.

Committee and subcommittee members each received a binder that contained the current CSOs, a list of the 460 task, knowledge, and skill statements that were contained in the 2008 practice analysis, the rating scales, and the results obtained from the Main sample of respondents for relevance, importance, and frequency categorized based on the current CSOs. The meeting began with a presentation by the lead facilitator on the purpose of practice analysis and the role it plays in the development and validation of licensing examinations. The processes used to develop and administer the current practice analysis survey were also explained. The facilitator then described the steps the subcommittee members were to take in arriving at their recommendations for the new CSOs. It was emphasized that the process relied not only on their interpretation of quantitative data from the practice analysis but also on the subcommittee members' professional judgment. They were told they would divide into four groups based on their subcommittee membership: AUD, BEC, FAR, and REG. Each group would have its own independent facilitator to lead them through the process as well as a member of the Examinations Team Content staff who acted as a resource and document the decisions made by the subcommittee. Each Examinations Team member had a laptop computer that contained the survey results. This would allow each subcommittee to sort the statements as desired (e.g., by relevance ratings from high to low, or by frequency ratings from high to low) to aid them in their decision process.

Subcommittee members then divided into their groups along with their facilitator and Examinations Team member. Their first task was to review each of the individual task and knowledge statements and make a decision regarding any statements they believed should be removed from possible inclusion in the new CSOs, as well as identify any statements they believed should be moved to another section. Any statement that was recommended to be deleted or moved to another section had to be approved by the members of the full Content Committee. Once these changes were approved, each subcommittee reviewed the relevance, importance, and frequency data for their finalized set of statements and reached consensus on a recommended range of percentages to be assigned to each content area in their section. This was accomplished by use of an iterative process where individual subcommittee members assigned weights to each content area. These weights were then discussed and reassigned until consensus was reached. During the determination of weights, subcommittee members were told that they should compare the Main sample results with other sample results. Sample results of State, Academic, and Executive surveys should be examined for consistency and insight. Subcommittee members were alerted, however, that because the sample sizes were small, they should be interpreted with caution. After agreeing on content area weights, subcommittee members developed new recommended CSOs to reflect the revised weightings determined above. These recommendations were provided to the Content Committee for final approval at a meeting that was conducted in October 2007.

Finalizing the CSOs and SSOs

The Content Committee met in October 2007 to review the task and knowledge CSOs that had been recommended by their subcommittees during their September 2007 meeting and to review the 49 skill statements that were part of the practice analysis and to make recommendations regarding the SSOs. As part of their deliberations, the Content Committee also reviewed all responses to open-ended survey questions, and discussed emerging issues in the profession to ensure that such issues were adequately represented in the CSOs/SSOs. Based upon the

discussions in the October 2007 meeting, the Content Committee directed AICPA Examinations content staff to revise the CSOs/SSOs based on their feedback and present the revised document to the Content Committee for their further deliberation at a subsequent meeting.

In November 2007, the Content Committee met to review the revised CSOs and SSOs and discuss additional events that had been emerging in the accounting profession. During that meeting, the CSOs and SSOs were reviewed and modified again, and the Content Committee agreed to hold conference calls with individuals from various standard-setting bodies within the accounting profession to obtain feedback about emerging issues in the profession and determine whether additional changes might be required to the CSOs and SSOs. In December 2007, the Content Committee finalized their approval of the CSOs and SSOs and recommended them to the BOE for consideration and approval.

Exposure Draft

The Content Committee presented its CSO and SSO recommendations to the BOE in January 2008. After review and additional modifications, the proposed CSOs and SSOs were approved by the BOE in late March 2008. The BOE then sought the views of CPA Exam stakeholders and individual CPAs through the release of an exposure draft (*Proposed Content and Skill Specification Outlines for the Uniform CPA Examination*) in May 2008. The Exposure Draft was sent to the 55 Boards of Accountancy and other relevant stakeholders and was posted on the AICPA web site.

All Exposure Draft responses were carefully considered by the Content Committee and the BOE in finalizing the proposed content and skill specification outlines during fall 2008. The specifications were approved by the BOE in October 2008 and will be scheduled for implementation as the new blueprint for the CPA Examination. They will be made widely available – to candidates, educators, and other interested parties – well in advance of their effective date.

SUMMARY

This study served two major purposes. First, it was designed to describe the important tasks performed by entry-level CPAs, and the knowledge and skills required for competent performance and the protection of the public interest. Second, it was to use this information to update content specifications for future versions of the Uniform CPA Examination and to assist in documenting the validity of the Examination. The PAOG, the POC, and the Content Committee designed and implemented a multi-method approach that involved a large number of SMEs in the development of a performance domain that contained a list of 460 task, knowledge, and skill statements. This was followed by the administration of a large-scale survey that was completed by more than 2,000 CPAs. The task, knowledge, and skill statements were rated on three scales: relevance, importance, and frequency. The ratings were analyzed and then presented to the Content Committee and its Preparation Subcommittees who carefully reviewed the survey results and applied their professional judgment and expertise in interpreting and using the results to update the CSOs and SSOs to reflect current practice and the knowledge and skills necessary for safe and effective practice. The Exposure Draft was sent to the 55 Boards of Accountancy and other relevant stakeholders and was posted on the AICPA web site. All Exposure Draft responses were carefully considered by the Content Committee and the BOE in finalizing the proposed content and skill specification outlines. The new content and skill specifications approved by the BOE will be scheduled for implementation as the new blueprint for the CPA Examination. They will be made widely available – to candidates, educators, and other interested parties – well in advance of their effective date.

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APPENDIX

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