Pennsylvania Accounting Practitioners' Perceptions of Entry-Level Accountants Skills versus Competencies and Preferences Influenced by the 150-Hour Educational Requirement

by

Janet F. Massey

A dissertation submitted to the faculty of

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I certify that I have read this dissertation and that in my opinion it meets the academic and professional standards required by Wilmington University as a dissertation for the degree of Doctor of Business Administration.

Signed _____
Donald W. Durandetta, PhD., Dissertation Committee Chair

Signed _____
Carol Cirka, PhD., Dissertation Committee

Signed _____
Bong Kim, PhD., Dissertation Committee

Signed _____
James D. Wilson, Jr., Ed.D. , Wilmington University, Assistant Vice-President

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Abstract

Controversy over the 150-hour educational requirement for CPA (Certified Public Accountant) candidates has been fermenting for decades. As expected then, in 2011 no clear consensus prevails about the requirements for entry into the accounting profession regarding course work, education, and experience. Pennsylvania is one of the last states to enact the new law essentially calling for a fifth year of higher education before a candidate can sit for the Uniform Certified Public Accountant Examination (Uniform CPA Exam). Pennsylvania accounting practitioners' perceptions of entry-level accountants' required skills and their competency in those skills in view of the new law for CPA licensure were examined. In addition, compliance with the 150-hour education and work experience requirement and important stakeholders perceived to have authority to prescribe accounting curriculum were evaluated. Finally, skills were examined to determine if they could be defined as either hard skills or soft skills. Using a quantitative data collection method analysis, three hundred and nine active members of the Pennsylvania Institute of Certified Public Accountants were surveyed. The findings reveled that entry-level accountants are not competent in skills deemed to be important skills essential for entry into the accounting profession, that a four-year baccalaureate degree in accounting with two years of any type of public accounting experience regardless of education is most appropriate for entry into the accounting profession, that public accounting practitioners' should be the primary authority to prescribe accounting curriculum and, that skills important for entry-level accountants to possess can be grouped as either hard or soft.

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CHAPTER 1

INTRODUCTION

Accounting plays a significant role in business greatly affecting the economic development of a nation (Cheng, 2007). Extensive research on accounting curriculum in the past decades suggests several frameworks and varying core competencies. In 1969, the American Institute of Certified Public Accountants (AICPA) issued a report stating that the body of knowledge required for basic competency for Certified Public Accountants (CPA) necessitated five years of education. This began the debate surrounding the adoption of a 150-hour requirement among the jurisdictions that regulate public accounting licensure. Pennsylvania is one of the last jurisdictions to implement the 150-hour requirement which was passed on July 10, 2008 and will become effective in January 2012. Even though the new law stipulates 150 credit hours, accounting programs retain much flexibility for coursework, level of degree, and program structure. As Pennsylvania colleges and universities with an accounting major comply with the 150-hour requirement, constituents designing the new accounting curriculum should factor in prospective employers' skills expectations of an entry-level accountant.

Accounting subjects were introduced into the college curricula sometime in 1880 and since that time accounting professionals have been seeking reform in accounting education, suggesting the need for a broader liberal arts background (Renner & Tanner, 2001). Furthermore, Anderson and Ellyson (1986) cited that studies conducted over the years validated the long-standing support of AICPA's 150-hour requirement. Boone and Coe (2002) trace proponents for the 150-hour requirement back to 1907, 1967, and 1988. Allen and Woodland (2006) reported the governing council of the American Institute of Accountants (AIA) went on record in 1937 favoring graduate coursework as the ideal education for a public accountant. A

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1969 AICPA report stated that the body of knowledge required for basic competency for CPAs called for five years of education. Thus the argument surrounding the 150-hour educational requirement took hold. Frecka and Reckers (2010) suggested some supporters of the 150-hour requirement "argue the reasons that propelled the initial proposal remain as valid today, if not so more" (p.2.). According to Abels (2004) the educational 150-hour requirement was originally conceived with the goal of developing versatile and intellectual CPAs.

To qualify for a license and to practice as a CPA, all candidates must pass the Uniform CPA Exam which is developed by the AICPA and administered by the National Association of State Boards of Accountancy (NASBA). The CPA license is issued by states or territories. The NASBA Website explains that to become a licensed CPA, a candidate must be declared eligible for the examination and subsequently licensed by meeting specific requirements as determined by the board of accountancy for the jurisdiction to which they are applying for licensure (http://www.nasba.org/). The gatekeepers of the CPA licensure are the State Boards of Accountancy since each state sets the education and experience requirement to sit for the CPA exam and to attain licensure (Kranacher, 2008). There are 54 U.S. jurisdictions mandating eligibility requirements: the 50 United States, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam. Florida was the first state to pass the 150-hour educational requirement in 1983. Ten years later, the next state to pass the requirement was Tennessee. After Tennessee passed the requirement, the pace picked up somewhat as the requirement was imposed in 35 more states and the District of Columbia between 1994 and 2002 (Carpenter, 2005).

A complete listing of states and jurisdictions that have enacted laws adopting the 150-hour educational requirement can be found in Appendix A. Presently, only Colorado and the

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Virgin Islands do not have the 150-hour educational requirement. Colorado claimed the requirement imposed an "overly restrictive entry barrier into the profession with no demonstratable benefits" (Abels, 2004, p. 57). As reported by the Pennsylvania Governor's Website, Pennsylvania adopted the 150-hour educational requirement on July 10, 2008 with then Governor Edward Rendell signing Act 73 of 2008 requiring candidates for CPA certification to complete 150-hours of post-secondary education with at least 36 semester hours in accounting related subjects (http://www.governor.state.pa). The new law goes into effect on January 1, 2012 at which time Pennsylvania CPA candidates must have completed 150 credit hours of higher education and one year public accounting experience. Prior to the enactment of Act 73, Pennsylvania CPA candidates needed a bachelor's degree with 24 semester credit hours in accounting subjects (http://www.picpa.org).

Cumming and Rankin (1999) argued, "The ship has sailed on the question of whether the 150-hour requirement is a good or a bad idea; the requirement is now nearly universal" (p. 12). Thus, while the laws of most states and the positions of experts agree that an entry-level accountant must complete 150 credit hours of education, the debate continues over methodology of carrying out the requirement. In addition, since the 150-hour educational requirement is tethered to the work experience requirement, the balance between education and experiential requirements must be considered. The AICPA did not mandate or prefer specific course content or type of work experience, resulting in interpretation of the new law to state boards of accountancy. Pennsylvania colleges and universities should immediately begin to determine how best to implement the 150-hour educational requirement.

Both the AICPA and NASBA have grown dissatisfied with the status of professional accountancy regulation due to the lack of uniformity across states (Colbert & Murray, 1999).

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Some states require 150 education credits to obtain a license while other states allow candidates to sit for the Uniform CPA Exam with only 120 education credits. Even though candidates with 120 education credits may pass the examination, they cannot be licensed; thus, creating another group of accounting professionals who may get a job and then decide to forgo the extra 30 credits. Some universities encourage their students to take the exam in states where it is permitted to do so with 120-hour credits assuming the student is better prepared for the examination while their academics are still fresh. In the literature, this unidentified group remains unrecognized; however, the group may be faced with a two-tier salary level upon graduation. Employers will offer higher starting salaries to graduates who have satisfied the 150-hour educational requirement and lower salaries to those who have not satisfied the requirement (Jacob & Murray, 2006). Carpenter (2005) reported that graduates with the 150-hour educational requirement were offered on average $22,000 more in annual salary than graduates without the 150-hour educational requirement. Yelvington (2005) suggested the move to raise salaries for graduates meeting the 150-hour requirement is a means to attract a sufficient number of new CPAs to meet the demand.

Statement of the Problem

The majority of jurisdictions granting professional licenses have adopted the 150-hour educational requirement. In addition, according to the AICPA Website, other professional organizations support the requirement such as NASBA and the Federation of Schools of Accountancy (FSA) (http://wwwaicpa.org/). The lack of uniform educational requirements challenges the accounting profession, entry-level accountants, regulators, employers, and educators. Since the 150-hour educational requirement is tethered to the work experience requirement, uniformity throughout the states and territories in both the education requirement

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and the work experience requirement would better serve the stakeholders. Since the legislation does not specifically mandate or prefer course content, state boards of accountancy must interpret the new requirements, while educational institutions must implement them. By doing this effectively, Pennsylvania colleges and universities would produce a more qualified pool of entry-level accountants who can better deal with the professional challenges of the 21st Century. According to AlHashim and Weiss (2004) accounting students must be prepared to meet the challenges of the 21st Century especially due to the globalization of business and the increasing complexities of business transactions. AlHashim and Weiss further states the 150-hour educational requirement could facilitate the preparedness of accounting students to meet these challenges and strengthen the quality of accounting programs. Since the onset of the debate about the 150-hour educational requirement, a gap between accounting professionals and accounting educators has emerged (Taylor & Rudnick, 2005). With an especially tough job market accounting programs that are not designing appropriate updated curriculum, to keep up with current demands of the work force, do not provide adequate service to students. Further, the quality of the accounting program at Pennsylvania colleges and universities also impacts student retention. According to Adams, Pryor, and Adams (2004), high aptitude students are initially attracted to accounting programs, but as they progress in the program they frequently select majors other than accounting. Adams et al. suggested that lack of innovation and change in accounting curriculum caused students to choose another major. Effectively putting into operation the 150-hour educational requirement by designing an innovative accounting curriculum may not only improve accounting majors' retention rates, but may also increase enrollment and better prepare students for entry-level positions.

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Cheng (2007) concluded that curriculum planning was an indispensible and important issue for school administrators and in order to survive in a fast changing business environment, curriculum must be continuously monitored. Ott, Parkes, and Simpson (2008) stated that American industries can best compete by improving products and methods as often as their competition. Graduates may be only as competitive in the work force as their institution's innovative curriculum. Need for curriculum changes and updates have been highlighted by the accounting education change debate calling for enhanced quality of student learning in the accounting discipline and the improved quality of student learning in the accounting discipline should correlate with curriculum updates (Byrne & Flood, 2005). If accounting educators fail to deliver well-qualified entrants into the accounting profession, they expose the accounting profession to charges of violating the public interest (Wilkerson, 2010). Well-qualified entrants into the accounting profession need to be competent in the skills desired by accounting practitioners. Thus, accounting educators must build 150-hour curriculum designed to meet the real-world business needs based on courses most critical to accounting practitioners in the 21st Century (Leinicke, Ostrosky, Fish, Trepeck, Atkinson & Blensky, 1992). Past business failures and malfeasants have aligned politicians, legislators, and regulators to recognize the crucial role of accountants and auditors in protecting our society; it is unfortunate that it took the recent financial disasters to achieve this recognition (Reckers, 2006). Recker continues, "The formative education of accountants is now recognized as important" (p. 10) and the academic community must form an alliance with accounting practitioners in shaping the future of college accounting curricula. According to Allen and Woodland (2006) a main unresolved issue of the 150-hour educational requirement is failing to discern the academic content to comply with the

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requirement. Pennsylvania colleges and universities must determine how best to implement the 150-hour educational requirement by collaborating on course content and program structure.

Purpose of the Study

The purpose of the study is to provide useful information to those who are responsible for overseeing accounting curricular in a changing environment. The information will be based on a survey that asks Pennsylvania accounting practitioners to:

1. identify skill sets deemed to be important competencies for entry-level accountants and to rate how competent the entry-level accountant is in the skill sets;
2. identify the preferred delivery method of the additional 30 education credits; and,
3. identify the preferred work experience which precedes taking the Uniform CPA Exam.

The study will show Pennsylvania accounting practitioners' perceptions about the requisite skill set aiding educators who are developing curriculum. Researchers have surveyed accounting practitioners about their perception of the 150-hour educational requirement in states where the requirement has been enacted prior to 2009 (Renner & Tanner, 2001; Gustafson, 2004; Crawford, 2008; Lee, 2004; Jackson, 2001). Knowledge of the perception of accounting practitioners, who will ultimately be future employers of newly graduated students, can be used to guide instruction (Warrick, Daniels, & Scott, 2010). In addition, Pennsylvania accounting practitioners' preferences about the structure of the educational and work experience requirements for CPA licensure will be examined. Since Pennsylvania recently adopted the 150-hour educational and one-year work experience requirements, this research will contribute to the field of study as it pertains to Pennsylvania accounting practitioners and their attitudes on these requirements. This study will also broaden the research of previous studies to include Pennsylvania accounting practitioners.

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Significance of the Study

Pennsylvania adopted the 150-hour educational and one-year work related requirements on July 10, 2008 when former Governor Edward Rendell signed Act 73 of 2008 amending the existing Pennsylvania CPA law. As reported on the PICPA Website (picpa.org), the hallmark of Senate Bill 838 brings Pennsylvania up to the national education standard of 150-hours of post-secondary education with at least 36 semester hours in accounting-related subjects and one-year of work related experience before granting CPA licensure. The new law will go into effect January 1, 2012. Since Pennsylvania is one of the last states to adopt the requirement, not much research is available on Pennsylvania accounting practitioners' views about requisite skill sets for entry-level accountants and their competency in those skills. This study will provide a baseline for Pennsylvania practitioners to assess the impact of educational and work experience requirements on future entry-level accountants and to express their preferences on aspects influenced by the new requirement. As a result, accounting educators can build a 150-hour curriculum designed to meet the real-world business needs based on courses most critical to practitioners in the 21st century (Leinicke et al., 1992). We are already a decade into the twenty-first century and accounting educators need to explain how accounting curriculum has changed to keep up with the demands of twenty-first century employers. In addition, accounting educators must continually explore anticipated changes in the employment arena. Twenty-first century curricular offerings are challenged to "provide a career- relevant education that also produces critical, enlightened thinkers and lifelong learners" (Hainline, Gaines, Feather, Padilla & Terry, 2010, p. 8).

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Theoretical Framework

With the challenges faced by the accounting profession an increased emphases has been placed on the state of accounting education and the necessity of entry-level accountants to be adequately prepared. Thus, academia is faced with implementing programs that will meet the needs of the accounting profession. Accounting educators should improve the quality of their accounting programs with continued assessment of skills needed in the accounting profession and incorporating those skills into the classroom (French & Coppage, 2003). The study will aid Pennsylvania accounting educators as they modify accounting programs to implement the requirement by providing an understanding of the perceptions of Pennsylvania accounting practitioners regarding the skill sets that should be included in the 150-hour requirement. In addition, the study will aid regulators in drafting regulations and/or guidelines to explain the legislation which could include identifying course content for the additional credits.

The study will also complement previous research conducted on the 150-hour educational requirement to include the perspective of Pennsylvania practitioners, while providing more evidence of the states' lack of uniformity, again to aid state regulators and the accounting profession in realizing the effects of varying educational and work-related requirements throughout the US and its territories.

Research Questions

This cross-sectional study sought to identify Pennsylvania accounting practitioners' preferences about the 150-hour educational requirement and the requisite skills for entry-level accountants. Thus the following research questions guided the study:

1. What skills are deemed to be important competencies by Pennsylvania accounting practitioners for an entry-level accountant?

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2. How competent are entry-level accountants in skills deemed important by Pennsylvania accounting practitioners?
3. What is the correlation between skills Pennsylvania accounting practitioners perceive to be important competencies and how competent is the entry-level accountant in those skills?
4. What is the preferred time commitment and program structure for accounting curriculum to meet the 150-hour requirement as perceived by Pennsylvania accounting practitioners?
5. How much work experience do Pennsylvania accounting practitioners believe should precede a license to practice public accounting?
6. What type of work experience do Pennsylvania accounting practitioners believe should precede a license to practice public accounting?
7. What stakeholders do Pennsylvania accounting practitioners believe should have the most authority to prescribe accounting curriculum?
8. Are there any significant differences between subgroups which may have influenced perceptions of Pennsylvania accounting practitioners'?
9. Can the 18 skills specified in the study be further delineated?

Hypotheses

To further explore the research questions, the following hypotheses in response to each research question were tested.

$H1_0$: All of the listed skills are very important for entry-level accountants to possess as perceived by at least 50% of Pennsylvania accounting practitioners;

$H2_0$: Entry-level accountants are very competent in all skills deemed to be important as perceived by at least 50% of Pennsylvania accounting practitioners;

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$H3_0$: There is no difference in the perception of the importance of skills required of entry-level accountants and competency in those skills as perceived by Pennsylvania accounting practitioners;

$H4_0$: Pennsylvania accounting practitioners are indifferent with respect to the education requirement influenced by the 150-hour requirement;

$H5_0$: Pennsylvania accounting practitioners are indifferent among the alternative levels of the amount of work experience;

$H6_0$: Pennsylvania accounting practitioners believe all of the listed types of work experience are equally appropriate;

$H7_0$: Pennsylvania accounting practitioners believe accounting educators should have the most authority to prescribe accounting curriculum;

$H8.1_0$: Pennsylvania accounting practitioners preferences are not influenced by sex;

$H8.2_0$: Pennsylvania accounting practitioners' preferences are not influenced by position in firm;

$H8.3_0$: Pennsylvania accounting practitioners' preferences are not influenced by level of education;

$H8.4_0$: Pennsylvania accounting practitioners' preferences are not influenced by years of experience; and,

$H9_0$: The 18 skills in the study can be broadly characterized as soft skills and hard skills.

Definition of Terms

Terms throughout this study are defined as follows:

150-Hour Educational Requirement

A legal requirement that any candidate for the Uniform CPA Exam must have completed 150 semester hours of collegiate education including a baccalaureate degree. Most jurisdictions

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require 150 hours of collegiate education to take the exam, while a few jurisdictions have enacted legislation allowing candidates with 120 hours of collegiate education to take the exam, but require them to have 150 hours of collegiate education prior to licensure (Crawford, 2008).

Accounting Programs Leadership Group (APLG)

A sub-section of the American Accounting Association consisting of members active in accounting education. The mission of the APLG is to stimulate excellence in accounting education through outstanding leadership of accounting programs as reported on the APLG Website (http://www.aaahq.org/aplg).

American Accounting Association (AAA)

A national membership organization made up primarily of accounting educators but also include accounting professionals. The AAA's mission included advancing accounting education and research, as well as influencing accounting practice (Williams, Haka, Bettner & Carcello, 2010).

American Institute of Certified Public Accountants (AICPA)

A national professional organization of certified public accountants whose mission is to provide members with the resources, information, and leadership to enable them to provide valuable services in the highest professional manner to benefit the public, employers, and clients (Williams et al., 2010). The AICPA was formally the (AIA) American Institute of Accountants which was formed in 1887 (Van Wyhe, 2007) and in 1957 was renamed the AICPA (Spiceland, Sepe, Nelson & Tomassine, 2009).

AICPA Core Competency

A Model accounting education framework which identifies determinants of professional success by categorizes core competences as functional, personal, and business (Wu, 2008).

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AICPA Personal Competencies

Competencies related to the attitudes and behaviors of individuals preparing to enter the accounting profession (Edmond & Tiggeman, 2009).

Association to Advance Collegiate Schools of Business (AACSB)

The premier international accrediting organization for business programs (Hunt & Barro, 2006).

Big Eight White Paper

A report entitled, "Perspectives on Education: Capabilities for Success in the Accounting Profession" published in 1989 by the then Big Eight accounting firms of Arthur Anderson, Coopers and Lybrand, Deloitte Haskins and Sells, Ernst and Whinney, Peat Marwick Mitchell, Price Waterhouse, Touche Ross, and Arthur Young addressing concerns about the quality of accounting majors and calling for a complete re-engineering of accounting education (Frecka & Reckers, 2010).

Certified Public Accountant (CPA)

An individual who has passed the Uniform CPA Exam, after meeting the educational and work-related requirements, and receiving licensure from a state or jurisdiction to practice the profession of public accounting (Whittington & Pany, 2010).

Continuing Professional Education (CPE)

The continuing education courses required for license renewal, however the number of CPE credits for licensure renewal varies among the states or jurisdictions (Wessels, 2007). The NASBA Website reports the vast majorities of states require 120 hours of CPE every two years with a minimum of 20 credit hours per calendar year (http://www.nasba.org). As long ago as

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1971, the AICPA Council advocated mandatory continuing education for all CPAs (Thomas & Harper, 2001).

Entry-Level Accountant

A recent college graduate looking for or being recently hired for his/her first accounting position (Gustafson, 2004).

Federation of Schools of Accountancy (FSA)

A member organization dedicated to developing high quality accredited programs of education for the accounting profession. There are approximately 120 schools that are full members of the FSA and under ten accredited affiliate member schools. Full member schools are schools with graduate degree programs in accounting separately accredited by AACSB while affiliated members are schools with undergraduate degree programs in accounting accredited by AACSB as reported on the Federation of Schools of Accountancy Website (http://www.thefsa.org/).

Mobility

The privilege granted to practice public accounting in a jurisdiction outside the state(s) or territories' of licensure (Voynich, 2007).

National Association of State Boards of Accountancy (NASBA)

A membership organization of the 54 state boards of accountancy founded in 1908 as a non-profit association to enhance the effectiveness of state boards of accountancy as reported on the National Association of State Boards of Accountancy Website (http://www.nasba.org/).

Pennsylvania Institute of Certified Public Accountants (PICPA)

A professional association of CPAs working together to improve the profession and better serve the public interest; founded in 1897, the PICPA is the second-oldest CPA

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organization in the United States. Membership includes practitioners in public accounting, industry, government, and education. Headquartered in Philadelphia, PICPA has a government relations office in Harrisburg and a western regional office in Pittsburgh, PA as reported on the Pennsylvania Institute of Certified Public Accountants Website (http://www.picpa.org/).

Sarbanes-Oxley Act (SOX)

Federal legislation passed by the US Congress in 2002, signed by President George W. Bush, and provoked by the financial frauds at Enron and Worldcom, to oversee the financial reporting of public companies and called the most far-reaching securities law since the 1930s (Williams, et al., 2010).

Uniform Accountancy Act (UAA)

The certification and licensure model approved by both NASBA and AICPA and used to encourage uniformity in state regulation of the CPAs as reported on the American Institute of Certified Public Accountants Website (http://www.aicpa.org/). The UAA requires completing the 150-hour education requirement, working at least one year in accounting, and passing the Uniform CPA Exam to receive licensure. The UAA licensing requirements have been adopted in nearly all of the jurisdictions as reported on the National Association of State Boards of Accountancy Website (http://www.nasba.org/).

Limitations

The study is limited as follows:

1. Pennsylvania accounting practitioners identified skill set competencies of entry-level accountants; however, entry-level accountants did not;
2. the sample of accounting practitioners was from only one state and therefore, the results may not be consistent with or applied to other states' accounting practitioners;

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3. the respondents' backgrounds may have influenced their preferences; nonetheless, those preferences may not have systematically varied;
4. the 18 skills in the study were limited to include: written communications, oral communications, general business knowledge, financial accounting, managerial and cost accounting, not-for-profit accounting, federal taxation-personal, federal taxation-corporate, auditing, spread sheeting, work processing, accounting information systems, interpersonal communications, analytical;/critical/ thinking, teamwork, ethics, legal and regulatory knowledge, and cultural awareness.

Assumptions

The participants in the study had knowledge of the 150-credit hour educational requirement.

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CHAPTER 2

REVIEW OF THE LITERATURE

The literature review first examines the beginning of accounting as a profession and the beginning of accounting curriculum in higher education as a professional and business discipline offered in colleges and universities. Second, it provides a brief history of uniformity in the accounting profession followed by a history of the 150-hour educational requirement. Third, it addresses the work-related requirement, the framework for accounting education, and the required skill sets for entry-level accountants. Finally, it presents models currently suggested for meeting the 150-hour educational requirement.

Inclusion Criteria

Included in this review are materials acquired from peer-reviewed journals, dissertations and text books. Reference materials were obtained from the physical and online libraries of Neumann University and Wilmington University. Searching for relevant on-line literature was executed through EBSCOhost using the following databases; Academic Search Premiere, Education Resources Information Center (ERIC), Education Research Complete, LexisNexis (Major World Publications), ProQuest Dissertations and Thesis, NetLibrary, and First Search (World Cat). In addition to the electronic sources, literature was obtained from the AICPA, PICPA, NASBA and journals subscribed to by the researcher.

Within these databases, searches included the following keywords: 150-hour requirement, accounting education, curriculum development, skills required of entry-level accountants, experience requirement of entry-level accountants, jurisdictions satisfying the 150-hour requirement, history of accounting, accounting changes, accounting change commissions,

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ethics in the accounting curriculum, international accounting education, and skills required of entry-level accountants.

Beginning of Accounting as a Profession and Business Discipline

Accountancy can be traced back to the Sumerian civilization in 8,000 BC and documented in a rich collection of artifacts in the Accountancy Museum of India ("India Opens Doors," 2009). Formal education in accounting was introduced in the first known accounting textbook in 1494, "the bookkeeping treaties contained within Luca Pacioli's *Summa de Arithmetica, Geometria, Proportioni et Proportionalita*" (Sangster, Stoner, & McCarthy, 2007, p.1). Luca Pacioli, a Franciscan friar lived in the 15th century. Pacioli, who was a university professor of mathematics teaching at schools attended by the sons of merchants and craftsman, provided the basis for accounting education (Sangster, et al., 2007). Pacioli was regarded as "the father of accounting" and inventor of double-entry bookkeeping which closely resembles modern day accounting (Liu & Dong, 2009).

College coursework in the academic discipline of accounting is designed to prepare students for entry into the accounting profession with educators in accounting programs being charged with designing curriculum to prepare students for the profession (Baillie, 2003). In the US, higher education in accounting can be traced back to the Progressive Era which began around 1880 (Van Wyhe, 2007). According to Van Wyhe, in 1881 Joseph Wharton started the first successful collegiate business school at the University of Pennsylvania which included on its faculty one accounting professor. By 1890, New York University had founded the School of Commerce, Accounts and Finance to expressly prepare men for the accounting profession (Van Wyhe, 2007). Business and accounting education was introduced over the next decade as legitimate university study (Crawford, 2008). A need for specialized accounting knowledge

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presented itself in 1800s when the United States transformed from an agricultural to an industrial society (Kranacher, 2009). In 1831 the British bankruptcy law included accountants as "official assignees" which formally recognized accounting as a profession by the British government. The accounting profession grew during 1844 when the United Kingdom formed a registration system requiring all listed companies to assign auditors to audit their balance sheet and accounts (Liu & Dong, 2009). After many false starts during the early twentieth century the United States' tax structure became permanent in 1913 with the signing of the 16th Amendment to the US constitution giving Congress legal authority to tax income of both individuals and corporations, which in turn, increased the need for accounting professionals (Crane, 2006). This need for accounting professionals continued to increase with the opening in 1954 of the first accounting firm Deloitte, Touche & Tohmatsu (Liu & Dong, 2009). Today, not only auditors and tax experts sustain the accounting profession, but also accounting educators through their practice-related scholarship and teaching (Wilkerson, 2010).

Scholars calling for advanced degrees in accounting can be traced back to the 1880s, but within the past 20 years the 150-hour educational requirement has remained one of the most studied and argued topics in accounting education and remains among the most important developments in the accounting profession during the past 50 years (Dresnack & Strieter, 2005).

History of Uniformity in the Accounting Profession

The title, "Certified Public Accountant" was first introduced in 1896 when the state of New York bolstered the status of public accountants by requiring them to pass a qualifying test, known as the CPA exam (Van Wyhe, 2007). Other states quickly followed making public accounting "a governmentally recognized profession requiring the passing of an exam and thus requiring comprehension of a specified body of knowledge" (Van Wyhe, 2007, p.2).

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Uniform accounting procedures date back to the early 1900s. According to "Events that Shaped the Century" (2005), the Federal Trade Commission and the Federal Reserve Board created standardized financial statement forms and audit procedures around that time. In the same article, the author stated that John J. Forbes, an AICPA council member in 1917 wanted the AICPA to correlate its membership exam with the states. This opened the door for the accounting profession to establish its own uniform standards for the level of knowledge needed to become a CPA. Originally, only three states- Kansas, New Hampshire, and Oregon-accepted the standardized exam. Nonetheless, the profession was moving toward uniformity. At about the same time, the first model of accountancy was published in 1916. Not however until 1952 did all jurisdictions use the uniform exam ("Events That Shaped a Century", 2005). Currently, candidates take the examination in the state in which they are seeking licensure. The exam is delivered to the candidate through agreements between the AICPA and NASBA. The practice of one uniform exam for all candidates was reaffirmed by the Uniform Accountancy Act (UAA) through the concept of substantial equivalency (Thompson & Rydholm, 2006).

Motivation for the 150-Hour Requirement

The 150-hour educational requirement takes many different forms depending on the jurisdiction; but one constant remains: the profession requires skills which are not presently provided from a traditional four-year baccalaureate degree which was the initial argument leading to the requirement (Bierstaker, Howe & Seol (2005). Roots of the 150-hour educational requirement can be traced back to 1937 with the Committee on Education of the American Institute of Accountants (AIA), the predecessor to the AICPA, advocating four years of liberal arts in college and graduate work in accounting (Van Wyhe, 2007). In 1969, the AICPA formed the Committee on Education and Experience Requirements for CPAs which was chaired by

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Elmer Beamer. The Beamer Committees' purpose was to explore the quality of accounting education. The Beamer Committee recognized a need for 150-hours of education (five years of college study) for entry into the accounting profession and concluded that "at least five years of education are needed to obtain the common body of knowledge for CPAs and should be the education requirement" (Federation School of Accountancy (FSA), 1996 p.1). Deppe, Hansen, and Jenne (1988) reaffirmed that the additional training suggested by the Beamer Committee has become more critical as CPAs are faced with a dramatically expanded knowledge base and increasingly complex business environment. Since this report in 1988, business has become even more complicated.

In 1980, Congress calling for a restructuring of the accounting profession after several corporate failures, formed a committee headed by Congressman John Dingell, a Michigan democrat ("Events That Shaped a Century", 2005). In response to the Dingell Committee, the AICPA formed the Anderson Committee which focused on standards of professional conduct for CPAs and released in 1986 its final report, "Restructuring Professional Standards to Achieve Professional Excellence in a Changing Environment". One fully and vigorously endorsed recommendation underscored, "mandating a 150-hour post baccalaureate education program for all new applicants for AICPA membership after the year 2000" (Anderson & Ellyson, 1986, p. 6).

As a result of the Dingell Committee, the American Accounting Association (AAA) in 1986 formed the Bedford Committee recommending comprehensive changes in accounting education requiring five years of university education (Schulz, 1989). At that time, the various constituents of accounting education emphasized the development of judgment, analysis,

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communication skills (oral and written), and interpersonal skills as increasingly important to an accounting curriculum (Saudagaran, 1996).

Finally in January 1988, 83 percent of the AICPA's general membership voted in favor of amending its bylaws to stipulate that all new members, beginning in 2000, must complete 150 hours of college education including a bachelor's degree (Abels, 2004). Furthermore, Abels considered turning out well-rounded and well-educated CPAs who are prepared for a rewarding career in accounting as the primary objective of the 150-hour educational requirement. Nelson (1995) reported the founders of accounting envisioned professionals practicing as CPAs to have a well-rounded knowledge base consisting of skills in writing, mathematical and algebraic accuracy, geography, science and language. Furthermore, Mounce and Spikes (2006) suggested that accounting students should have management and communication skills.

The Uniform Accountancy Act (UAA), a model accountancy bill developed by the AICPA and NASBA, sought to eliminate the differences in licensure requirements and encouraged uniformity of entry requirements as well as all state accountancy laws (FAS, 1996). The UAA cites three main licensing requirements to conform to national licensing standards:

1. passing of the Uniform CPA Exam;
2. working one year in accounting; and
3. completing 150 semester hours of education that include a bachelor's degree and a specified number of credits in accounting and business subjects (Allen & Woodland, 2006).

A majority of states have adopted the UAA's recommended 150-hour educational requirement. Accounting programs must now increase educational requirements to 150 credit hours from the previously accepted 120-125 credit hours to develop competencies in a wider range of skills

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which include written and verbal communication, problem solving, and organizational skills (Moreland & Angur, 2006).

History of Jurisdictions Adopting the 150-Hour Requirement

To widen reciprocal licensure among US jurisdictions, all states and territories should adopt the 150-hour educational requirement. According to Allen and Woodland (2006), some states do not allow CPAs from noncompliant states to practice in their state. Allen also mentions that the nonconforming CPA could be barred from future practice in the state and charged with practicing without a license. Anderson and Ellyson (1986) stated, "The pace of change has been too slow, the commitment too uncertain" (p. 6) regarding adoption of the 150-hour educational requirement. Support for adopting 150 semester hours of university education has been slow as well; only Florida and Hawaii had adopted the 150-hour educational requirement before 1988 (Moreland & Angur, 2006). Thereafter, the AICPA membership amended their by-laws requiring 150-hour education rule for new members after the year 2000. As a result between 1988 and 2000, 43 jurisdictions enacted the rule while six jurisdictions enacted it after 2000 when the new membership condition of the AICPA went into effect. Even so, most jurisdictions with the 150-hour educational requirement continue to have varying educational and experience components.

Experience Component

Historically the licensing process for CPAs included some type of work experience. However in 1969, the AICPA Council approved a resolution calling for 150 credit hours of university education and no work experience (Moreland & Angur, 2006). According to Moreland and Angur some states reduced or eliminated the work experience requirement as they moved to implement the 150-hour educational requirement. Hence, the work experience

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requirement continues to vary from state to state; most states do require work experience ranging from one to three years. De Berry (2003) reported that according to the AICPA the objective of the work experience requirement was to improve the overall quality of the CPA. Wilkerson (2010) contended that formal education for the practice of accounting must include entry-level practice skills obtained through a significant clinical learning experience.

Framework for Accounting Education

Accounting education suffered mounting criticism which started in the 1980s and has continued through the 1990's (Gardner, Milne, Stringer & Whiting, 2005). In addition, for well over 20 years accounting curricula have been the subject of almost continuous re-examination (Carr & Mathews, 2004). Accounting faculty and several professional accounting organizations have instituted numerous frameworks to improve accounting curriculum. The most notable and researched evidence related to restructuring accounting curriculum to address perceived deficiencies in accounting education can be found in the following reports:

1. AAA's 1986 Bedford Report,
2. IMA's 1994 Report,
3. The Big Four Position or White Papers,
4. The AECC's findings and statements, and
5. The AACSB's accreditation requirements (Nelson, 1995).

Fogarty and Parker (2010) stated, "Currently, the "Big Four" occupies a powerful position in any conversation that pertains to the accounting profession" (p. 21). To step beyond the confines of past criticism, in 1998 AICPA released "Core Competency Framework for Entry into the Accounting Profession" recommending change and offering online resources for custom tailoring accounting programs (Bolt-Lee & Foster, 2003). The Core Competency Framework

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was developed for educators by educators with a focus on skills-based curriculum. When comparing the most notable accounting framework, the major theme presented in each was the consistent and continuous call for change in accounting education (Bolt-Lee & Foster). The authors found that a core competency framework aided "educators in their pursuit of continuous improvements in USA accounting education" (p. 39) with a three-pronged approach: identification of competencies, provision of instructional aides, and provision of assessment tools.

Skills Required of Entry-Level Accountants

Wu (2008) described traditional accounting as outdated and narrow, relying on memorization and focusing too much on rules. He believed a new accounting pedagogy was needed and endorsed communication, leadership, teamwork, and lifelong learning. He further pointed out that traditional accounting curriculum did not teach essential public practice skills such as writing, research and oral presentation. French and Coppage (2003) reported that the challenge to keep up with changing skills for entry–level accountants has been unmet by accounting educators. According to Adler and Milne (1997), one evident theme in the literature concentrated on educators' failure to promote students' communication, problem solving and interpersonal skills. Moreland and Angur (2006) identified 31 desired competencies for entry-level accountants found in the 1989 Big *Eight White Paper*, "Accounting Education Change Commission Objectives for Education for Accountants" and from a focus group of experienced CPA's. In interviews conducted by Moreland and Angur of 72 experienced and 32 new CPA's the competencies were rated based on perceived importance using a scale of 1.0 (very unimportant to 5.0 (very important). The 31 competencies are ranked in order of importance in

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Appendix B. These competencies match closely the competencies identified in the AICPA core competency framework (Appendix C) and the competencies used in this study.

As a response from pressure by various accounting stakeholders, accounting educators have tried to improve the communication, analytical thinking, and problem-solving skills of accounting graduates consistent with the skills required of the stakeholders (Bushong, Talbott & Cornell, 2008). Springer and Borthick (2004) also found that practitioners believe students must have the ability to think critically in order to become successful professionals. Leadership skills, necessary to insure customer satisfaction, were identified as important skills to the practice of public accounting by Bay and McKeage (2006). While French and Coppage (2003) measured functionally as the product's ability to meet the needs of the customers of the accounting program; upturned to mean students' skills must meet employers' needs. Employers are keenly aware of one of those needs in view of recent turmoil and even dissolutions within the industry.

As a result of scandals, corporate financial reporting had come under intense scrutiny leading to the Sarbanes-Oxley Act of 2002. These wrongdoings highlighted the need for present and future accountants to communicate effectively (Ramsey, 2007). In response to the upheaval and subsequent legislation, accounting associations' reports emphasized communications as an essential competency (Sharifi, McCombs, Fraser & McCabe, 2009). Bunn, Barfit, Cooper and Sandifer (2005) reported, "Numerous manuscripts have reported the need for improved written and oral communication skills in the accounting curriculum for accounting graduates" (p. 2). Even though there has been an improvement to elevate the role of communication in accounting curricula, a need exists to evaluate whether accounting students are developing better communication skills (Borzi & Mills, 2001). A combination of poor communication and

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unethical behavior contributed to the most recent scandals and to the decline of respect for the profession.

Research conducted by Fisher, Swanson and Schmidt (2007) concluded that while the number of continuing professional education credits (CPE) in ethics is increasing, the number of components or courses on ethics in academic accounting programs is decreasing. The decline continues even though ethical misjudgments have plagued the accounting profession with the disgraces of Enron, Tyco, and Global Crossing leaving the accounting profession in a state of flux (Hunt & Barro, 2006). Fogarty and Parker (2010) reported, "Suits against accountants alleging some form of professional malpractice continue each year to outstrip the historic highs of previous years" (p .6). Cooper, Leung, Dellaportas, Jackling and Wong (2007) reported one potential remedy to address the ethical crises in the accounting profession is accounting education with the post-Enron era presenting an opportunity for critical advances in ethics education within the accounting curriculum. White and White (2006) found that accountants were perceived to be more trustworthy than Attorney's, CEO's, Politician's and Lobbyist's but were found to be lacking fortitude in pursuing misleading practices committed by others. Gray, Bebbington and McPhail (1994) reported that accounting curriculum has fallen short in developing students' intellectual and moral abilities necessary for ethical reasoning. Further, research has shown that business school theories such as agency theory may exclude or minimize ethics by legitimizing aggressive behavior that is self-seeking (Stuebs & Wilkinson, 2009). In a survey of accounting practitioners conducted by Verschoor (2004), 75% of respondents experienced some instance of fraud, which reflected a 13% increase from a study conducted in 1998. Verschoor surveyed the accounting professionals' attitudes and found:

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> Sixteen percent of respondents disagreed or disagreed strongly with the statement: "Top management behaves with honesty/integrity in their business activities; nine percent noted that the demands of work "almost always" or "often" put pressure on them to act in conflict with their own beliefs and values and the respondents reported the biggest ethical shortcomings at all levels were favoritism and hypocrisy (p. 16).

Newly graduated accountants will likely experience ethical impasses; accounting curriculum should help prepare students to evaluate choices and to decide with principles. Accounting students entering the profession "without a clear commitment to a common sense of professionalism and ethical values" (Hunt & Barro, 2006, p. 3) may lead to ongoing unethical behavior in their approach to decision making. Philosophically, ethics deals with the ability to distinguish right from wrong. In the business world many complex and difficult ethical dilemmas present themselves and are at times difficult to resolve. For this reason technical competence is not enough to resolve ethical dilemmas (Spiceland et al., 2010). Familiarizing accounting students with the AICPA's *Code of Professional Conduct* and *Guide for Complying with Rules 102-505* provides examples of case studies utilizing the "threats and safeguards" approach to evaluating ethical dilemmas. Leibowitz and Reinstein (2009) presented the "threats & safeguards" approach as an aid for understanding and interpreting the professional rules of conduct. Addressing the need for ethics teaching in the classroom, NASBA (2005) proposed three credit hours of university coursework in business ethics and three credit hours of university coursework in accounting ethics and professional responsibility as a precursor to the Uniform CPA Exam. To fulfill this requirement accounting programs could offer a 3 credit stand-alone course in accounting ethics or an equivalent amount of accounting ethics credits integrated into other course (Blanthorne, Kovar and Fisher, 2007). It is imperative that ethical and moral issues

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be emphasized in business school programs especially accounting programs (Koumbiadis, Conway & Gupta, 2009).

Specialized skills such as tax and auditing are still a required component of the skills sets required of entry-level accountants. Fogarty and Parker (2010) reported that the passage of SOX renewed an emphasis on the quality of auditing skills; technical updating and competency in accounting subjects need emphasis as well. At the Accounting Programs Leadership Group's (APLG) annual meeting in 2006, Mr. Kent St. Pierre (2009) moderated a panel on academia and the accounting profession. Amy Thompson of PricewaterhouseCoopers and a member of the panel stressed that acquiring technical knowledge as well as contributing to team success were the special knowledge and skills needed by accounting graduates today. Moreland and Angur (2006) classify technical skills as financial reporting, accounting information systems, auditing and taxation. The highly technical skills in auditing and taxation may prepare students for their first job in accounting but may not provide long-term skills essential to the profession (Thomson, 2009a). A study conducted by Carr, Chua and Perera (2006) found that the respondents in the study placed low importance on auditing as part of an accounting education program and more importance on developing competencies in oral and written communication skills.

Like technical skills, knowing procedures and rules may initially prepare students for the profession but do not provide essential long-term skills. Accounting education is known to be practice-oriented placing emphasis on rules and procedures instead of concepts and theory (Bloom, 2009). Despite this, do Pennsylvania accounting practitioners value transferrable soft skills to highly technical hard skills as competencies for entry-level accountants? Frecka and Reckers (2010) surveyed accounting programs to ascertain a mix of courses and cited a preference for a mix between soft skills development and technical accounting knowledge

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development. The authors identified soft skills development as critical thinking, written and oral communication, teamwork, and time management and hard technical accounting knowledge as specific courses in such subjects accounting, taxes, auditing, and not-for-profit accounting. Brent (2006) citing Robert Half International stated that the future of accounting professionals was bright provided they were armed with soft skills such as the ability to communicate and work in a team. Kavanagh and Drennan (2008), reported that "Analytical/problem-solving skills, oral and written communication skills, teamwork and continuous learning" (p.18) were required skills for success in the accounting field, and urged accounting educators to adopt these skills in the accounting curriculum. Bloom and Myring (2008) discussed a report in 2007 by the Financial Leadership Council (Council) formed by Robert Half International to study employment trends in accounting. The Council highly recommended an emphasis on interpersonal and critical-thinking skills as well as oral and written communication skills as critical skills required of accountants. Quinn (2009) stated "schools can't be content merely with teaching students core auditing and accounting functions; they must make sure students develop the skills for critical thinking (p. 47). In yet another study, Beard, Schwieger, and Surendran (2008) reported that non-technical skills or soft skills received increased emphasis in accounting literature and reports from various professional organizations. The authors cited the survey conducted by (Koncz & Collins, 2007) which examined the qualities that employers look for in prospective employees. Respondents in the survey rated skills for levels of importance using a five-point scale with "1" indicating that the skill was not important and "5" indicating the skill was extremely important. The skills, viewed as soft skills, are ranked in order of importance in Appendix D. In addition to rating the importance of skills the respondents in the survey overwhelmingly responded that the key skills oral and written communications were most

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lacking in college graduates. Jackling and De Lange (2009) reported that soft skills such as interpersonal communications, teamwork, and cultural awareness foster professional, client-centered relationships. Edmonds & Tiggerman (2009) cite the importance of teamwork. The AICPA's personal competences (Appendix C) cite an accounting student's need for soft skills such as communication, teamwork, effective problem solving, and decision making (Edmond & Tiggerman, 2009). French and Coppage (2003) reported the AICPA and the IMA encourage educators to incorporate competency in soft skills in the development of their curricula. Nonetheless, Wolosky (2008) found that entry-level accountants may lack soft skills, presenting problems for many firms. Thomson (2009b) cites communication skills as one of the most important skills for entry-level accountants; however, the highly technical skills such as audit, tax and compliance are the focus of most undergraduate accounting programs.

Another soft skill, team building should be included not only in the accounting curriculum but also in training of CPA's (Boomer, 2009). Evensen (2008) states that soft skills which make their team members better communicators are becoming more important to CPA firms. Beard, Schwieger and Surendran (2008) also stressed the value of soft skills in accounting while both accounting practitioners and educators are concerned about deficiencies.

In 2008, a survey of CPA's was conducted by the AICPA Board of Examiners to determine preferred skill specifications based on practice analysis. As a result the Uniform CPA Exam was reorganized into four sections:

1. auditing and attestation (AUD);
2. financial accounting and reporting (FAR);
3. regulation (REG); and
4. business environment and concepts (BEC).

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According to Nellen, Dennis-Escoffier and Rubin (2009), these changes in the Uniform CPA Exam represented the most comprehensive and significant changes since the 2000 Practice Analysis Survey and that most practitioners were concerned about the reduced writing requirement. The authors also stated that practitioners have urged educators to emphasize writing in their classrooms viewing it as elemental for entry-level accountants especially since the Uniform CPA Exam emphasizes technical rather than writing skills. From a random sampling of CPAs in California, Illinois, and New York, Leinicke et al., (1992) found that practitioners are satisfied with accounting students' technical education in such hard skills as federal taxation and auditing; and therefore, courses in the fifth year should focus on interpersonal or soft skills.

The Fifth Year

Even though the new legislation does not require CPA candidates to seek a degree beyond a bachelor's, according to Fuller and Hargadon (2008) many colleges and universities encourage students to earn a Master of Business Administration (MBA) or Master of Accounting (MAC) to gain the additional hours. The fifth year of education is seen as an opportunity cost to entering the accounting profession and students would rather use the additional hours to earn an advanced degree specializing in accounting (Karmon & Owsen, 2003). Then again, Bierstaker et al., (2005) reported a major concern of the fifth year requirement was the additional cost which may discourage students from entering the profession. Larger institutions offering an undergraduate accounting program may consequentially matriculate their accounting majors into a Master's program to satisfy the 150-hour educational requirement, but smaller institutions may not offer a graduate program. And yet, those Pennsylvania schools duty-bound to their undergraduate students, are now challenged to meet the 150-hour educational requirement.

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Baillie (2003) identified small schools as those with enrollments of less than 5000 students. As accounting educators are considering the 150-hour education model, Williams (1990) identified three curriculum models to add 30 additional hours. The models are identified as the Liberal Arts Model, the Business Model and the Accounting Model and are compared to other professions such as Law and Medicine which can be found in Appendix E. Bierstaker et al., (2005) surveyed 600 accounting students finding most were interested in earning a master's degree as opposed to taking more undergraduate courses to satisfy the additional 30 credits with 64 percent favoring an MBA, 14 percent favoring a master's, 8 percent favoring a graduate certificate, five percent favoring a bachelor's with a special designation, and 9 percent with no preference. In another study, Renner and Tanner (2001) surveyed members of the AICPA and the IMA and found that the AICPA members rated a Master's in Taxation as the top program of study while the IMA members rated a BS in Accounting with a second major in Management as the top program of study. In yet another study, Metrejean, Metrejean and Stocks (2008) surveyed recruiters for CPA firms and other companies in industry asking them to rank the value of a master's degree as opposed to a bachelor's degree with extra hours to meet the 150-hour educational requirement. One of the characteristic, the importance of a master's degree received the lowest average score. Whether and Brabmasrene (2002) surveyed CPA candidates to determine whether the candidate with a bachelor's degree or one with a higher degree influenced results of the CPA examination. The survey found that 82 percent who passed the examination on the first try had only a bachelor's degree while, 17 percent who passed the examination on the first try had a master's degree. The authors also reported that 86 percent of the candidates who passed on the first try earned less than 150 credit hours of academic credit, while 3 percent earned more than 150 credit hours of academic credit.

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Summary

The review of the literature demonstrated the need for accounting education to be continually monitored and updated as the needs of the profession change. To sustain a continuous demand for and supply of entry-level accountants educators must evaluate and act upon accounting practitioner's perceptions about curricula (French & Coppage, 2003). The researcher has determined that extensive research has been conducted over the past decades on the state of accounting curriculum resulting in varying frameworks and core competencies being recommended for accounting curriculum. Empirical research reveals a disconnect between accounting educators, who design the accounting curriculum and practitioners, who demand specific competencies for entry-level accountants. Russell, Kulesza, Albrecht and Sack (2000) reported that there appeared to be little connection to accounting curricula and workplace expectations and accounting curriculum needed to be restructured because it was outdated and broken. These authors identified six significant problems in accounting education. The first dealt with course content and curricula. The authors found that students are not exposed to concepts of globalization, technology and ethics. The second dealt with pedagogy. The authors found that students are taught to pass the Uniform CPA Exam relying too much on rule-based memorization. The third dealt with skill development. The authors found that students do not have the skills needed to become successful professionals such as communication and analytical skills. The fourth dealt with technology. The authors found that students are not exposed to technology as a decision-making tool noting a weakness in computer skills. The fifth problem dealt with faculty development and reward systems. The authors reported that faculty are out-of-touch with market expectations and do not have a clear vision of what accounting practitioners deemed to be important skills. Finally, the sixth dealt with strategic direction. The authors

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found that changes in accounting programs have not been pervasive enough to provide the leadership direction needed to make changes in the accounting curriculum. Three years after the caustic report on accounting education by Russell, Kulesza, Albrecht & Sack (2000), PricewaterhouseCoopers issued a monograph, *Educating for the Public Trust-The PricewaterhouseCoopers Position on Accounting Education (2003)* which reported on an in-house study comparing accounting programs and found vital areas in which accounting education fell short (Graves, 2004). Graves reported the study indicated that entry-level accountants did not understand what is meant to be a professional, were not equipped with required skills such as interpersonal and communication, and were not taught how to solve ambiguous problems. Both the AICPA Vision Project in 1998 and the IMA Practice Analysis Project in 1996 cited listening, interpersonal, communication and leadership skills as well as analytical, problem solving and critical thinking skills as necessary skills for entry-level accountants (French & Coppage, 2003). In addition to the deficiency in accounting education, Graves (2004) reported that the authors of the study asserted that the 150-hour educational requirement should be modified to include an additional year of experience, and instead of university coursework, CPE credits could satisfy the educational requirement (Graves, 2004). Five years later Myers (2005) reported that the criticism of accounting education may no longer be justified. However, he also reported a divide between larger schools with greater financial resources to fund curricula change and those schools with fewer resources.

This dichotomy between well-endowed and modestly-endowed institutions will continue; nonetheless, all schools with undergraduate accounting programs must step up and offer a curriculum that equips entry-level accountants with the skills practitioners expect. Most accounting programs have responded to the 5-year requirement by encouraging CPA candidates

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to obtain a master's degree however, this approach is inconsistent with the stated objectives of the 150-hour mandate which is calling for curriculum reform (Shafer, 2001). Research has shown that accounting educators must meet practitioners' expectations and work force realities by providing accounting students with marketable skills. Brubaker (2008) identified accounting professionals, in particular CPAs as a group interested in quality assessment of higher education accounting programs. Research providing more guidance to Pennsylvania accounting faculty can aid in adopting curricula to strengthen those skills expected by Pennsylvania accounting practitioners.

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CHAPTER 3

METHODOLOGY

Introduction

The study examined Pennsylvania accounting practitioners preferences in accounting curriculum as well as preferences on the amount of education and program structure for delivery of accounting curriculum. In addition, since little uniformity exits between the amount and type of work experience following formal education and preceding licensure as CPA's, the study examined the groups' preferences in the requisite length and type of work experience for Pennsylvania CPA licensure. Moreover, the same groups' perceptions on competencies for entry level accountants were examined.

This chapter describes the methodological procedures including population and sample, data collection and analysis, and survey instrument. In addition, the validly and limitations of the methodology were discussed.

The Methodology

The study is a comparative analysis of significant differences between the skills that Pennsylvania accounting practitioners consider important competencies for entry-level accountants, and entry-level accountants' competency in those skills as perceived by the practitioners. These competencies or critical skills are required to be successful in the field of accounting and include teamwork, use of technology, ethics and communication skills (Gupta & Marshall, 2010). Also, the study examined attitudes of Pennsylvania accounting practitioners towards the type of additional coursework needed to meet the 150-hour educational requirement, the program's delivery of the requirement, and the authoritative entity to prescribe the accounting

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curriculum. Finally, the study examines Pennsylvania accounting practitioners' attitudes toward the type and length of work experience needed for CPA licensure.

Data were gathered using surveys-a quantitative data collection method-to obtain Pennsylvania accounting practitioners' opinions on specifics about Pennsylvania's Act 73 of 2008, the new amendments to the CPA law. The design of the questions enabled an analysis of practitioners' perceptions of skills needed by entry-level accountants and the experience and education requirements the practitioners deemed necessary for CPA licensure. Survey research measuring people's knowledge and attitudes operates as an excellent proven tool for researchers looking for answers to research questions (Colassanto, n.d.). Even though educators play an important role in designing curriculum, the study sample consisted of accounting practitioners because each day they address and accumulate expertise in business demands. Moreover, accounting practitioners most often hire entry-level accountants.

Strengths of the Study

The study utilized descriptive methods research techniques to explore Pennsylvania accounting practitioners' perceptions on various aspects of Pennsylvania's Act 73 of 2008. The method allowed the researcher to gather quantitative data to determine the relationship of variables used in the study.

The sample was selected using stratified sampling, while the variable-Pennsylvania accounting practitioners-was selected from the membership roster of the PICPA and then divided into a subgroup of public accounting practitioners. Using stratified sampling assured that the selected subgroup came from the sample.

A simple random sample process was applied to the stratum selected from the PICPA's membership to ensure that all individuals within that group had an equal and independent chance

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of being selected for the study. Random sampling is favored since it allows the researcher to make inferences about a population unlike samples that are not randomly selected (Gay, Mills & Airasian, 2006).

Weakness of the Study

Quantitative analysis used in the study were able to address the research questions using statistics but the use of only quantitative analysis prevents the researcher to understand a person's motivation behind their answers (Patrick, 2008).

Population and Sample

Participants of the study were selected on the basis that they were accounting practitioners practicing accounting in the state of Pennsylvania. The population was limited to Pennsylvania accounting practitioners' who were both active and in good standing with a current PICPA membership. This population was chosen because the purpose of the study was to ascertain their perceptions about the new amendments to the PA CPA Law including the 150-hour educational requirement and work experience for CPA licensure since the state of Pennsylvania recently adopted the requirement. Pennsylvania adopted the 150-hour educational requirement on July 10, 2008 to become effective in January 2012 with former Governor Edward G. Rendell signing Senate Bill 838 amending and modernizing Pennsylvania's CPA Law. A membership list was obtained from the Assistant Vice President, Strategic Marketing of the PICPA. All student members, retired members, and members in government and industry were excluded, leaving only active members currently practicing as CPA's. Also, names with addresses outside of Pennsylvania (non-resident members) were deleted from the list in order to prevent accounting professionals who do not reside in the state of Pennsylvania from participating in the survey. From the remaining 3,500 members 1,000 names were randomly

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selected thereby giving each member an equal chance of being selected to achieve a probability sample (Kachigan, 1996).

The sample size is mainly affected by confidence level and confidence interval, sometimes called margin of error. "A confidence level is the probability that the interval estimate will include the population parameter, such as the mean; a parameter is data that describes a characteristic about a population" (Donnelly, 2009, p. 197). According to Scheuren (2004), there are no simple rules to identify a sample size than can be used for all surveys since much will depend on the professional and financial resources available. Scheuren stipulates that many analysts use a moderate sample size as sufficient statistically and offers the following example; "The well-known national polls frequently use samples of about 1,000 persons to get reasonable information about national attitudes and opinions" (p. 10).

There are practical considerations in selecting a sample size that should be taken into account, such as time and cost. In addition, the sample size should be based on how large of an error the researcher is willing to tolerate in the estimate of the population parameter (Kachigan, 1996). Based on the size of the population, the researcher has determined that 250 surveys were needed for a 95 percent confidence level and a 6 percent margin of error. The researcher expected 25 percent response rate yielding a usable sample of 250. A sample size of 250 will yield sufficient data to allow for the desired statistical analysis so that the results can be generalized to the whole population of Pennsylvania accounting practitioners.

Data Collection

Data were gathered using surveys, a quantitative data collection method. Survey questions were designed to enable an analysis of practitioners' perceptions of skills needed by entry-level accountants and the experience and education requirements the practitioners deemed

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necessary for CPA certification. Scheuren (2004) affirms that mail surveys can be most effective if sent to a particular group such as members of a professional organization. The Human Subject Review Committee (HSRC) approved the procedure before the surveys were mailed to 1,000 PICPA members. To ensure a high response rate, the surveys were mailed first-class to all respondents at the same time with an accompanying cover letter and a stamped pre-addressed return envelope (Scheuren, 2004). A copy of the cover letter can be found in Appendix F. Before mailing each survey, the researcher assigned a code to each of the 1,000 members to send, if necessary, a follow-up reminder. The codes were destroyed after all surveys were collected and before data were analyzed. The target date for the return of the survey was one month from mailing; a post card reminder was sent to non-respondents to encourage responses. As surveys were returned they were secured in a locked file cabinet that only the researcher can access to ensure their confidentiality and validity. All surveys will be kept in a secure file cabinet for a period of three years.

Survey Instrument

The survey instrument (Appendix G) was adapted from one used to study practitioners' perceptions of the 150-hour educational requirement and work experience in South Dakota, Nebraska, Kansas, Arkansas, and Montana (Gustafson, 2004) and from one used in eleven Midwestern states (Crawford, 2008). Gustafson and Crawford, both cited in the researcher's literature review, gave permission to the researcher to use the surveys from their historical research (Personal Communication, 2010). Gustafson's survey formed the basis of Parts I, II, and III of the survey instrument and focused on the literature concerning attitudes of the AICPA's 150-hour requirement regarding skills, coursework and curriculum development. In particular, this survey was aimed at deciphering respondents' perceptions on the important skills

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for entry-level accountants, their competency in those skills, the suggested coursework, and the preferred stakeholder for curriculum development. On the other hand, Crawford's survey formed the basis of Parts IV and V of the survey instrument. Parts IV and V of the survey focused on the education and experience requirements of the 150-hour mandate. In particular, this survey was aimed at deciphering respondents' perceptions on the number of requisite credits or the preferred degree for CPA licensure and the requisite type and length of work experience entry-level accountants should have before CPA designation. Part VI of the survey asked participants to provide demographic and background information about their current position, sex, highest level of education, years in public accounting, areas of specialization, employment status, number of accounting professionals in their firm, and the number of professionals they supervise. In addition, space was provided for open-ended comments from the participants. Since the surveys have been used in prior historic studies, validation is not an issue. The survey instrument is further described in the next sections.

Part I: The Required as Compared to Actual Skills of Entry Level Accountants

Part I of the survey consisted of 18 statements about the required as compared to actual skills of entry level accountants. Respondents were asked to rate the importance of each of the 18 skill areas for entry-level accountants and then rate their competency in each skill area. The response format was a five point Likert-type scale from "1" as not important to "5" as very important for required skills. Each question addressed a skill area: for example, "how important is it for an entry-level accountant to be competent in written communications?" The response format was a five point Likert-type scale from "1" as incompetent to "5" as very competent for questions about the actual skills of entry level accountants. Again, each question addressed a

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skill area: for example, "how competent is the entry-level accountant in written communications?"

Part II: Authority to Prescribe Curriculum

Respondents were asked to rate which stakeholders should have the authority to prescribe accounting curriculum using a five point Likert-type scale from "1" as little authority to "5" as much authority. The groups or organizations from which to choose were: accounting educators, CPAs, accountants working in industry and government, NASBA and AACSB. Again, the question addressed which group should have the most authority or influence in prescribing curriculum: for example, "What level of authority should the following stakeholders have in prescribing accounting curriculum?"

Part III: Educational Requirements for CPA Licensure

Respondents were asked about the most appropriate time commitment and program structure to prepare individuals for the accounting profession. Respondents were given five different program structures and were asked to circle the one structure they believe is most appropriate. A sample program structure could appear as: "Four years earning a baccalaureate degree in accounting (120-130) credit hours".

Part IV: Work Experience Requirements for CPA Licensure

Respondents were asked to respond to two questions about the requisite work experience for CPA licensure. In question one the respondents were given five choices about the length of work experience and were asked to circle the length of work experience they believe most appropriate. The choices were:

1. No experience necessary;
2. No experience necessary if the minimum of 150-hours of education is completed;

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3. One year of experience regardless of education;
4. Two years of experience regardless of education; and,
5. Three years of experience regardless of education.

In question two, respondents were given five choices of the type of work experience and were asked to circle the type of work experience they believe most appropriate. The choices were based on the time frames and types of work experience discussed by researchers in the literature. The choices were:

1. Public accounting experience only – accounting and assurance experience only,
2. Public accounting experience only – any type of public accounting experience,
3. Public or private accounting of any kind,
4. Public, private or governmental accounting of any kind
5. Public, private, governmental or academic accounting experience (teaching or research in higher education).

Part V: Demographic and Background Information

Respondents were asked to provide demographic and background information about their highest professional position and education level, their sex, the number of years of experience in public accounting, their area of specialization, their employment status, and the number of accounting professionals in their firm.

Data Analysis Procedures

The data obtained from the surveys was analyzed using descriptive and inferential statistics. Descriptive statistics allow the researcher to display the data so an overview can quickly be obtained (Donnelly, 2009). A desktop computer provided by the researcher's employer with installed software from Statistical Package for the Social Sciences (SPSS) version

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17.0: SPSS Inc., Chicago, IL. USA was used to perform the statistical calculations. A dependent-means t-test or paired-samples t-test was used to assess whether the means of the two sets of perceptions, skills required by entry-level accountants as opposed to skills possessed by entry-level accountants, was statistically different. The Pearson Product Moment Correlation was used to find if any significant relationship existed between skills required by entry-level accountants and skills possessed by entry level accountants. ANOVA analysis was used to compare the means of each of the 18 skills required by entry-level accountants and a second ANOVA analysis was used to compare the means of each of the 18 skills possessed by entry-level accountants as perceived by Pennsylvania accounting practitioners. In addition, the researcher used the principle components factor analysis to reduce the 18 skills identified in Part I of the survey to two factors, hard and soft skills. The factor analysis was conducted using principle axis factor with two factors as the method of extraction with a varimax rotation. Also, Pearson's Chi-Square Test of Association compared the 65 variables to the demographics including position held, sex, highest education level, and years of experience.

Research questions one, two, and three investigated the relationship between skills deemed to be important for entry-level accountants to possess and entry-level accountants' competency in those skills as perceived by Pennsylvania accounting practitioners. Descriptive statistics were calculated including the means and standard deviations using the data from Part I of the survey to measure the variability of responses for each of the 18 skill types based on skills required by entry-level accountants and skills possessed by entry-level accountants. A two pair t-test or non-independent t-test was used to assess whether the means of the two sets of perceptions being compared-skills required by entry-level accountants-skills possessed by entry-level accountants is statistically different. The statistical findings will indicate if there are any

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significant differences between perceptions of Pennsylvania practitioners' about the skills required by entry-level accountants and the skills possessed by entry-level accountants. In addition, a test using Pearson Product Moment Correlation was used to find if any significant relationship existed between skills required by entry-level accountants and skills possessed by entry level accountants. The statistical findings will indicate what degree of agreement is established between the skills required by entry-level accountants and the skills possessed by entry-level accountants as perceived by the Pennsylvania accounting practitioners.

Research questions four, five and six investigated the preferences of Pennsylvania accounting practitioners regarding the education component and the work experience component of the 150-hour requirement. Frequency distributions for each alternative of the education requirement and the work experience requirement, using the data from Parts III and IV of the survey, were used to observe the frequency each alternative was selected for time commitment for certification, program structure for certification and experience requirement for certification by the respondents. In addition, Pearson's chi-square tests were used to determine if the alternatives selected by respondents were equally preferred.

Research question seven investigated what stakeholder Pennsylvania accounting practitioners believe should have the most authority to prescribe accounting curriculum. Descriptive statistics were calculated including the means and standard deviations using the data from Part II of the survey to measure the variability of responses for each of the five levels of authority. In addition an independent samples t-test was selected to compare the mean level of authority for accounting educators to a hypothesized mean of (4.25) the interpreted value for most authority to determine which level of authority was most preferred.

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Research question eight explored if demographics influenced perceptions of accounting practitioners. Responses were disaggregated by demographic information used from Part V of the survey to assess if there were any significant differences among sub-group. The sub-groups determined to be most important were sex, position in the firm, level of education, and years of experience. Independent sample-tests and a series of chi-square tests were used to identify any significant differences among the sub-groups. The independent variable was the respondent's sex, position in the firm, level of education and years of work experience. The dependent variable was the perception of Pennsylvania accounting practitioners.

Research question nine explored the possibility of further delineating the 18 skills specified in the study. Exploratory factory analysis was used to determine if the 18 skills could be characterized under two broad dimensions. A factor analysis, a method of data reduction, was used to prepare a component matrix. In order for factor analysis to be reliable it is necessary to have a sample size of at least 300 (O'Brien, 2007). The sample size in this study was 309. To determine if factor analysis was appropriate the researcher ran the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). The KMO for the factor analysis data was .808. Values between .8 and .9 are good values according to Dziuban and Shirkey (1974), therefore, the researcher is confident that the factor analysis is appropriate. The principal component extraction method was used to extract the factors, which were then rotated utilizing Varimax with Kaiser normalization rotation method.

Limitations

Even though mail surveys provide a speedy and economical means of gathering data about attitudes, problems exist in their use when insufficient attention is given to getting high levels of cooperation (Scheuren, 2004). Surveys can be very costly; the decisions that are made

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when designing the individual survey questions can affect the survey's cost, its ability to reliably meet the research objectives, and may limit the outcome of the research since the researcher is not a survey expert to judge tradeoffs against larger populations, cost and feasibility (Colassanto, n.d.). The inability to capture data from the entire sample is an unavoidable problem since many members of the sample will refuse to participate despite every reasonable effort made by the researcher (Scheuren, 2004). Scheuren continues to state that the no response rate for surveys has been growing in recent years and has been a consideration in the interpretation of results.

Furthermore, with mail surveys the researcher tends to remain objectively separated from the subject matter and may miss contextual detail enriched by information about the participants' explanations (Fink, 2003). Scheuren (2004) stated that response bias, defined as a respondent answering a survey question in a way which does not reflect his/her true feelings or thoughts, can adversely affect survey results. Social desirability in response is also a risk.

Since the data were collected from a single source, the Pennsylvania accounting practitioners providing both their perceptions on skills required by entry-level accountants and skills possessed by entry-level accountants, a bias could result due to common method variance. Podsakoff, MacKenzie, Lee, and Podsakoff (2003) stated "Common method variance refers to 'variance that is attributable to the measurement method rather than to the constraints the measures represent'" (p.1). Researchers have viewed relationships generated by a single source as likely to be biased by the halo effect. Here, the Respondent would use a common set of rules to evaluate items that represent conceptually distinct constructs causing artifactual covariation between the measures (Avolio, Yammarion, & Bass, 1991). Another limitation of a cross-sectional study is that it collects data from selected individuals during a single time period which does not provide sufficient perspective to make decisions (Gay, Mills & Airasian, 2006).

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Threats to Validity of the Study

According to Campbell, Stanley, Miller and Salkin (2003) threats to validity in research can be classified as internal or external. The authors define several internal threats such as history, testing instrumentation, mortality, and maturation; and external threats such as people, places, and time. While internal validity refers to the accuracy of the conclusions drawn from a study, external validity deals with the generalizability of the research results (Patrick, 2009). An internal threat to this study could be caused by the divergence between selection and maturation since the selection pool varies in age and experience. Another internal threat to validity of this study is the status of positions held by the selection pool which could influence the results of the survey. An external threat to this study is the population validity since the participants were randomly selected from accounting practitioners with different levels of education which could influence the attitudes of the respondents.

Ethics of the Study

Permission was obtained from the executive administration of the PICPA to use the membership database for selection of the population used in the study. The researcher submitted a copy of the survey to the Human Subjects Review Committee of the University where researcher is a DBA candidate and was granted approval to use the survey. A confidentiality statement was included in the cover letter (Appendix F) attached to the survey mailed to the participants. Participation was voluntary evidenced by the fact that the respondents voluntarily returned the survey to the researcher. The researcher has secured all data in a secure place and will retain the data for the required three years.

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Summary

The surveys provided information from a sample of Pennsylvania accounting practitioners which allowed for statistical inferences on the perceptions of Pennsylvania accounting practitioners concerning the 150-hour educational requirement. The data obtained from the surveys should influence accounting faculty at Pennsylvania colleges and universities faced with implementing curriculum to satisfy the 150-hour educational requirement. Understanding the importance of skills needed by the entry-level accountant can aid in the designing and putting into practice new courses and programs or in revising existing courses to comply with the new law.

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CHAPTER 4

ANALYSES AND RESULTS

This chapter discusses the response rates of the survey, describes the demographics of the respondents and selected demographics of the members of the PICPA, and illustrates the research findings. The research conducted in this study investigated five primary themes and are presented in this chapter as five sub-sections. The first theme investigated the relationship between the skills considered important for entry-level accountants and Pennsylvania accounting practitioners' views of entry-level accountant's competency in those skills. The second theme investigated the preferences of Pennsylvania accounting practitioners regarding the education component and the work experience component of the 150-hour requirement. The third theme investigated and prioritized who the Pennsylvania accounting practitioners think should have the most authority to prescribe accounting curriculum. The fourth theme explored whether demographics influenced the perceptions of Pennsylvania accounting practitioners. Finally, the fifth theme delved into a further breakdown of the 8 skills in the study. Data were collected from a survey consisting of five parts. Descriptive and inferential statistics were used to analyze the data. Each research question has been delineated into a research hypothesis, which has been tested using data from the study.

Response Rates

A total of 1,000 surveys were mailed to licensed CPAs practicing in Pennsylvania based on a random sample of members of the Pennsylvania Institute of Certified Public Accountants obtained from that organization. The motivation to complete the survey was a promise to award a $5 Starbucks gift card to the first 200 surveys returned. See Appendix F for a copy of the cover letter. Completing the survey was voluntary and those who wanted to be considered for

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the $5 Starbuck gift card provided their address. A total of 100 gift cards along with a thank you letter (Appendix H) were mailed to the first 200 respondents who offered a return address. The U.S. Post Office returned as undeliverable four surveys. CPAs returned 316 completed surveys and the US Post Office returned four unopened surveys with incorrect mailing addresses. Of the completed surveys, seven were unusable rendering a usable sample of 309 at a return rate of 30.9%.

Demographic Data

Table 1 presents the characteristics of the participants in the sample along with statistical demographics for the PICPA from its home office. The PICPA demographics include only those members identified as active and in good standing for the categories that were available. Analysis shows the sample to be representative of the PICPA membership with 221 respondents or 71.5 percent male and 88 or 28.5 percent female. The group was predominately male. The breakdown of the respondents' sex almost mirrored that of PICPA membership of 73.3 percent male and 26.7 percent female. The majority of the respondents 228 or 73.8 percent were in positions of authority such as partner, principal, or manager; while 81 or 26.2 percent of the respondents were not in positions of authority such as junior or senior accountants. As with sex, the study participants' positions almost mirrored that of PICPA membership. As a result, the study sample is representative of the PICPA membership.

Respondents with a bachelor degree totaled 234 or 75.7 percent; respondents with doctorates and masters degree totaled 75 or 24.3 percent. Respondents with over ten years of work experience dominated the group totaling 204 or 66.0 percent, while those with less than ten years totaled 105 or 34.0 percent. Respondents specializing in audit and assurance services totaled 101 or 32.7 percent; while those in taxation totaled 100 or 32.4 percent. The remaining

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respondents specialized in financial accounting and reporting totaling 45 or 14.6 percent; in management advisory and consulting services totaling 16 or 5.2 percent; in accounting systems totaling 4 or 1.3 percent; in another specialty totaling 11 or 3.5 percent; and in no specialty totaling 32 or 10.3 percent. Those Respondents working full-time totaled 291 or 94.2 percent; while those working part-time totaled 18 or 5.8 percent. The size of respondents' firms varied as follows: 156 or 50.5 percent from firms of more than 20 professionals; 28 or 9.1 percent from firms employing 11 to 20 professionals; 30 or 9.7 percent from firms employing 6 to 10 professionals; 28 or 9.1 percent from firms employing 3 to 5 professionals; and, 67 or 21.7 percent from firms employing less than 3 professionals. Respondents' annual supervisory duties varied as follows: 53 or 17.1 percent supervised no professionals; 123 or 38.8 percent supervised between 1 and 5 professionals; 50 or 16.2 percent supervised between 6 to 10 professionals; 46 or 14.9 percent supervised between 11 and 20 professionals; and 37 or 12.0 percent supervised more than 20 professionals.

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Table 1

Respondents Demographic Data and Selected Demographic Data of the PICPA

	Study Participants		PICPA Demographics	
Demographic Characteristics	n=309	%	n=2,868	%
Sex				
Male	221	71.5	2,105	73.3
Female	88	28.5	763	26.7
Position				
Partner	120	38.8	1,283	44.7
Principal	38	12.3	317	11.0
Manager	70	22.7	447	15.6
Senior Staff	47	15.2	349	12.2
Junior Staff	20	6.5	180	6.3
Other	14	4.5	292	10.2
Highest Education Level Achieved				
Bachelor's Degree	234	75.7		
Master's Degree	67	21.7		
Doctorate (terminal) Degree	8	2.6		
Years of Experience				
0-Five years	66	21.4		
Six-ten years	39	12.6		
Eleven-twenty years	64	20.7		
More than twenty years	140	45.3		
Area of Specialization				
Audit and Assurance	101	32.7		
Taxation	100	32.4		
Financial Accounting/Reporting	45	14.6		
Management/Advisory & Consulting	16	5.2		
Accounting Systems	4	1.3		
Other Specialty	11	3.5		
No Specialty	32	10.3		

Table Continued

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Table 1

Table Continued

	Study Participants		PICPA Demographics	
Demographic Characteristics	n=309	%	n=2,868	%
Employment Status				
Full-time	291	94.2		
Part-time	18	5.8		
Full-time Accounting professionals employed by firm				
Over twenty	156	50.4		
Eleven-twenty	28	9.1		
Six-ten	30	9.7		
Three-five	28	9.1		
Less than three	67	21.7		
Number of people supervised on a yearly basis				
One-five	123	39.8		
Six-ten	50	16.2		
None	53	17.1		
Eleven-twenty	46	14.9		
More than twenty	37	12.0		

Research Findings

Theme One: Importance of and Competency in Skills

The first theme investigated the relationship between important skills for entry-level accountants and their competency in those skills as perceived by Pennsylvania accounting practitioners. Research questions one through three addresses the first theme. Research question one asked participants what skills they thought to be important for entry-level accountants. To rate the skills for entry level accountants, participants used a five point Likert-like scale from "1"

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least important to "5" most important. Table 2 presents descriptive statistics (means and standard deviations) and the rankings of the findings according to the importance of these skills as perceived by Pennsylvania accounting practitioners. After the skills were ranked categories of importance were assigned interpretive guidelines as follows: above 4.25 or 85 to 100 percent equaled very important; between 3.50 and 4.25 or 70 to 85 percent equaled less important; between 2.75 and 3.50 or 55 to 70 percent equaled least important; and finally, below 2.75 equaled not important.

Research hypothesis for research question one:

$H1_0$: All of the listed skills are very important for entry-level accountants to possess as perceived by at least 50% of Pennsylvania accounting practitioners.

Table 2 presented the range of the mean scores in order of importance from 2.83 to 4.58. Pennsylvania accounting practitioners perceived that ethics (M=4.58), oral communications (M=4.44), spread sheeting (M=4.44), analytical/critical thinking (M=4.42), teamwork (M=4.38), interpersonal communications (M=4.38), and written communications (M=4.30) were very important. Word processing (M=4.05) and financial accounting (M=4.01) were considered important. While general business knowledge (M=3.70), auditing (M=3.64), federal taxes-corporate (M=3.41), federal taxes-personal (M=3.41), accounting and information systems (M=3.40), cultural awareness (M=3.37), legal and regulatory knowledge (M=3.16), managerial and cost accounting (M=3.09), and not-for-profit accounting (M=2.83) were skills considered least important. In fact, all of the skills were important to some degree with means being higher than 2.75. Only 7 of the 18 skills were perceived to be very important while four were perceived to be important and 7 were perceived to be least important. An independent samples t-test was selected to compare the mean importance for each skill to a hypothesized mean of (4.25) the

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interpreted value for very important. However, a Kolmogorov-Smirnov test confirmed that the data was not normally distributed. Since the normality assumption did not hold a Binomial test was conducted to determine if the mean importance of each skill was equal to 4.25 (very important). A test proportion of 50% was used since a normal distribution would assume a perfect 50/50 split to determine if the mean importance of each skill were distributed with 50% above 4.25. The results of the Binomial tests performed for each of the 18 skills are presented in Appendix I. Skills having a p-value greater than .05 were; oral communication (p=.909), spread sheeting (p= .426); interpersonal communications (p=2.55); analytical/critical thinking (p=1.00); and teamwork (p=.570); indicating insufficient evidence to conclude that the percentages of means for importance for these skills being above 4.25 is not 50%. The null hypothesis failed to be rejected for those skills.

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Table 2

Mean Ratings for Skills Pennsylvania Accounting Practitioners Perceive Important for Entry-Level Accountants to Possess in Ranking Order of Importance

Skill	n=309 Mean	Std.
Ethics	4.58	.657
Oral Communications	4.44	.603
Spread Sheeting	4.44	.665
Analytical/Critical Thinking	4.42	.637
Teamwork	4.38	.671
Interpersonal Communications	4.38	.641
Written Communication	4.30	.672
Word Processing	4.05	.912
Financial Accounting	4.01	.810
General Business Knowledge	3.70	.745
Auditing	3.64	.900
Federal Taxes-Corporate	3.41	.899
Federal Taxes-Personal	3.41	.920
Accounting Information Systems	3.40	.947
Cultural Awareness	3.37	.953
Legal & Regulatory Knowledge	3.16	.838
Managerial & Cost Accounting	3.09	.930
Not-for-Profit Accounting	2.83	.941

Research Question two 2 asked Pennsylvania accounting practitioners to rank the competency of entry-level accountants in these 18 skills identified in the literature as present within the profession. Participants were asked to rate how competent they perceived entry-level accountants to be in 18 skills identified in the literature as skills present in the accounting profession based on a five point scale with a "1" indicating that the entry-level accountant was perceived not to be competent in the skill and "5" indicating that the entry-level accountant was very competent in the skill. Descriptive statistics calculated the means (M) and standard deviations (SD) to identify the competency of entry-level accountants in the skill as perceived

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by Pennsylvania accounting practitioners. To rate the competency of entry-level accountants, participants used a five point Likert-like scale of "1" least competent to "5" most competent. Mean scores based on a five-point scale and ratings were as follows: above 4.25 or 85 to 100 percent equaled very competent; between 3.50 and 4.25 or 70 to 85 percent equaled less competent; between 2.75 and 3.50 or 55 to 70 percent equaled least competent; and finally, below 2.75 equaled not competent. These ranges coincide with those on page six ranking the importance of skills.

Research hypotheses for research question two:

$H2_0$: Entry-level accountants are very competent in all skills deemed to be important as perceived by at least 50% of Pennsylvania accounting practitioners

The range of the means is presented in Table 3 ranked in order of competencies. The data shows that none of the competencies had a mean above 3.88, and so participants did not perceive entry-level accountants very competent in any of the 18 skills. The statistics revealed that entry-level accountants are less competent in skills that are deemed to be highly important as perceived by Pennsylvania accounting professionals. The results show: spread sheeting (M=3.88), word processing (M=3.83), ethics (M=3.72) and teamwork (M=3.57) are perceived as less competent. Entry-level accountants are perceived to be least competent in interpersonal communications (M=3.32), financial accounting (M=3.27), oral communications (M=3.20), cultural awareness (M=3.14), analytical/critical thinking (M=3.06), written communications (M=3.03), general business knowledge (M=2.92), accounting information systems (M=2.90), auditing (M=2.89), federal taxes-personal (M=2.81),and managerial/cost accounting (M=2.76). Entry-level accountants are perceived to be not competent in legal/regulatory knowledge

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(M=2.62), federal taxes-corporate (M=2.57), and not-for-profit accounting (M=2.34) are perceived as not competent with entry-level accountants.

The perception of Pennsylvania accounting practitioners' is that entry- level accountants are not very competent in the 18 skills deemed to be important and at most average in the 18 skills deemed to be important as supported with the range of the means 2.34 (not competent) to 3.88 (less competent). An independent samples t-test was selected to compare the mean competency for each skill to a hypothesized mean of (4.25) the interpreted value for very competent. However, a Kolmogorov-Smirnov test confirmed that the data was not normally distributed. Since the normality assumption did not hold a Binomial test was conducted to determine if the mean competency of each skill was equal to 4.25 (very competent). A test proportion of 50% was used since a normal distribution would assume a perfect 50/50 split to determine if the mean competency in each skill were distributed with 50% above 4.25. The results of the Binomial tests performed for each of the 18 skills are presented in Appendix J. The results conclude that the percentages of means for competency in all 18 skills being above 4.25 is not 50%, therefore, the null hypothesis is rejected.

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Table 3

Mean Ratings of Competencies in Skills of Entry-Level Accountants as Perceived by Pennsylvania Accounting Practitioners in Ranking order of Competency

Skill	n=309 Mean	Std.
Spread Sheeting	3.88	.863
Word Processing	3.83	.854
Ethics	3.72	.912
Teamwork	3.57	.908
Interpersonal Communications	3.32	.812
Financial Accounting	3.27	.818
Oral Communications	3.20	.845
Cultural Awareness	3.14	.856
Analytical/Critical Thinking	3.06	.913
Written Communications	3.03	.852
General Business Knowledge	2.92	.754
Accounting Information Systems	2.90	.904
Auditing	2.89	.851
Federal Taxes-Personal	2.81	.879
Managerial & Cost Accounting	2.76	.841
Legal & Regulatory Knowledge	2.62	.869
Federal Taxes-Corporate	2.57	.868
Not-for-Profit Accounting	2.34	.846

Research question three addressed the differences between the 18 skills identified in Part I of the survey instrument deemed to be important for entry-level accountants to posses and how competent entry-level accountants were in those skills as perceived by Pennsylvania accounting practitioners.

Research hypotheses for research question three:

$H3_0$: There is no difference in the perception of the importance of skills required of entry-level accountants and competency in those skills as perceived by Pennsylvania accounting practitioners

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To determine if the difference between importance of skill and competency in skill was significant a paired sample *t* test was performed and results are presented in Table 4. The paired sample *t* test revealed a statistically significant difference in the perception of the importance of all of the 18 skills required of entry-level accountants and competency in those skills as perceived by Pennsylvania accounting practitioners p=.000, *a*=.05 (18 skills). The null hypothesis is rejected. Thus Pennsylvania accounting practitioners perceive entry-level accountants are, on average, less competent in important skills.

Table 4

Paired Sample t-Test Comparing the Difference between the Importance of Skill and Entry-Level Accountants Competency in the Skill as Perceived by Pennsylvania Accounting Practitioners

Skill	Importance of Skill Mean	Competency in Skill Mean	Statistic t	p
Written Communication	4.30	3.03	21.536	.000*
Oral Communication	4.44	3.20	22.764	.000*
General Business Knowledge	3.70	2.92	15.617	.000*
Financial Accounting	4.01	3.27	15.729	.000*
Managerial & Cost Acct	3.09	2.76	6.474	.000*
Not-for-Profit Acct	2.83	2.34	9.014	.000*
Federal Taxes-Personal	3.41	2.81	11.254	.000*
Federal Taxes-Corporate	3.41	2.57	16.206	.000*
Auditing	3.64	2.89	13.289	.000*
Spread Sheeting	4.44	3.88	10.548	.000*
Word Processing	4.05	3.83	4.056	.000*
Acct Information Systems	3.40	2.90	9.831	.000*
Interpersonal communications	4.38	3.32	20.315	.000*
Analytical/Critical Thinking	4.42	3.06	23.697	.000*
Teamwork	4.38	3.57	15.141	.000*
Ethics	4.58	3.72	16.132	.000*
Legal & Regulatory Knowledge	3.16	2.62	10.400	.000*
Cultural Awareness	3.37	3.14	3.556	.000*

*Denotes significances at .05 level
See Appendix K for complete statistical output for the paired sample t-test.

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In addition, a Pearson Product Moment Correlation was calculated between research question one and research question two for each of the skills listed in Part 1 of the survey instrument. The correlation was calculated to determine the degree of agreement between needed skills and possessed skills. Table 5 presents the relationship between skills deemed important for entry-level accountants and competency of entry-level accountants in the skills as perceived by Pennsylvania accounting practitioners.

The correlations were statistically significant at the .01 level for all skills except written communication. All correlations were positive**.** In general, the correlation between what skill is important and how competent entry-level accountants are in the skills have some correlation however, the correlations were weak to moderate with accounting information systems having the strongest correlation (r =.509).

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Table 5

Correlation between Skills Pennsylvania Accounting Practitioners Perceive as Important and Competence of Entry-Level Accountants in those Skills

Skill	Statistic r	p
Written Communication	.083	.147
Oral Communication	.169**	.003
General Business Knowledge	.392**	.000
Financial Accounting	.482**	.000
Managerial & Cost Acct	.473**	.000
Not-for-Profit Acct	.397**	.000
Federal Taxes-Personal	.483**	.000
Federal Taxes-Corporate	.462**	.000
Auditing	.357**	.000
Spread Sheeting	.275**	.000
Word Processing	.452**	.000
Acct Information Systems	.509**	.000
Interpersonal communications	.218**	.000
Analytical/Critical Thinking	.192**	.001
Teamwork	.322**	.000
Ethics	.320**	.000
Legal & Regulatory Knowledge	.442**	.000
Cultural	.238**	.000

**Correlation is significant at the 0.01 level

Theme Two: Educational and Work Experience Requirements for CPA Licensure

The second theme of the research study investigated the preferences of Pennsylvania accounting practitioners regarding the education component and the work experience component of the 150-hour requirement. Research questions four through six address theme two.

Research question four examined the education requirement Pennsylvania accounting practitioners believe to be most appropriate preceding entry into the public accounting profession. Respondents were instructed to select one education requirement from a list of five different alternatives.

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Research hypothesis for research question four:

$H4_0$: Pennsylvania accounting practitioners are indifferent with respect to the education requirement influenced by the 150-hour requirement

Table 6 presents a frequency table reporting the frequency of responses (n=frequency) and related proportions (%) for each alternative to the education requirement. The majority of the respondents 116 representing 37.5% identified four year-baccalaureate degree in accounting with a minimum of 150 credit hours of education, while 90 respondents representing 29.1% selected five year-four year baccalaureate degree in accounting with master's degree in accounting, and 89 respondents representing 28.8% selected four year-baccalaureate degree in accounting. The least time commitment and program structure selected was six years-four year baccalaureate degree in accounting plus two-year master's degree in accounting with 11 respondents representing 3.6% and 3 respondents representing 1.0% selecting six years-four year baccalaureate degree in liberal arts plus two-year master's degree in accounting. A chi-square test of goodness-of-fit was performed to determine whether education requirements were equally preferred. Preference for the education requirement was not equally distributed in the population, $\chi^2 (4, N = 309) = 170.07, p = <.001$. The null hypothesis is rejected as the majority of Pennsylvania accounting professionals indicated a four year-baccalaureate degree in accounting with a minimum of 150 credit hours of education to be most appropriate preceding entry into the accounting profession.

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Table 6

Frequency Distribution of Education Requirement Pennsylvania Accounting Practitioners' Believe to be Most Appropriate Preceding Entry into the Accounting Profession

Education Requirement	n=309	%.
Four years -baccalaureate degree in accounting (150 hours minimum)	116	37.5
Five years-four year baccalaureate degree in accounting integrated with master's degree in accounting	90	29.1
Four years -baccalaureate degree in accounting (120-130 hours)	89	28.8
Six years-four year baccalaureate degree in accounting plus two-year master's degree in accounting	11	3.6
Six years-four year baccalaureate degree in liberal arts plus two-year master's degree in accounting	3	1.0

Research question five examined the amount of work experience Pennsylvania accounting practitioners believe should precede a license to practice public accounting following formal education. Respondents were instructed to select the amount of work experience from a list of five different alternatives.

Research hypothesis for research question five:

$H5_0$: Pennsylvania accounting practitioners are indifferent among the alternative levels of the amount of work experience

Table 7 presents a frequency table reporting the frequency of responses (n=frequency) and related proportions (%) for each alternative for the amount of work experience. The majority of the respondents 213 representing 68.9% identified two years of experience regardless

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of education while 48 respondents representing 15.5% selected three years of experience regardless of education and 37 respondents representing 12.0% selected one year of experience regardless of education. The least amount of work experience was no experience if minimum of 150-hours of education was achieved as selected by 2.3% of respondents and no experience necessary selected by 1.3% of respondents. A chi-square test of goodness-of-fit was performed to determine whether the five choices for amount of work experience were equally preferred. Preference for the amount of work experience was not equally distributed in the population, χ^2 (4, N = 309) =485.612, p = <.001. The null hypothesis is rejected as the majority of Pennsylvania accounting practitioners indicated two years of work experience was preferred.

Table 7

Frequency Distribution of the Amount of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure

Amount of Work Experience	n=309	%
Two years of experience regardless of education	213	68.9
Three years of experience regardless of education	48	15.5
One year of experience regardless of education	37	12.0
No experience necessary if minimum of 150-hours of education achieved	7	2.3
No experience necessary	4	1.3

Research question six examined the type of work experience Pennsylvania accounting practitioners believe should precede a license to practice public accounting following formal

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education. Respondents were instructed to select the type of work experience from a list of five different alternatives.

Research hypothesis for research question six:

$H6_0$: Pennsylvania accounting practitioners believe all of the listed types of work experience are equally appropriate.

Table 8 presents a frequency table reporting the frequency of responses and related proportions (%) for each alternative type of work experience. The majority of the respondents 149 representing 48.2% identified any type of public accounting experience as most appropriate preceding CPA licensure. Followed by 71 respondents representing 23.0% believed only accounting and assurance experience in public accounting should be the qualifying experience while 38 representing 12.3% believed any kind of public, private or governmental accounting experience would be preferred. Only 27 respondents representing 8.7% believed any kind of public or private accounting experience would be appropriate and 24 respondents 7.8% believed public, private, governmental or academic accounting experience would be appropriate experience. A chi-square test of goodness-of-fit was performed to determine whether the five types of work experience identified in the study were equally preferred. Preference for the type of work experience was not equally distributed in the population, $\chi^2(4, N = 309) = 176.291$, $p = <.001$. The null hypothesis was rejected as the majority of Pennsylvania accounting practitioners indicated any type of public accounting experience was preferred.

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Table 8

Frequency Distribution of the Type of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure

Type of Work Experience	n=309	%
Public accounting experience only -any type of public accounting experience	149	48.2
Public accounting experience only -accounting and assurance experience only	71	23.0
Public, private or governmental accounting of any kind	38	12.3
Public or private accounting of any kind	27	8.7
Public, private, governmental or academic accounting experience	24	7.8

Theme Three: Stakeholders Prescribing Accounting Curriculum

Theme three investigated what stakeholders Pennsylvania accounting practitioners believe should have the most authority in prescribing accounting curriculum and is addressed in research question seven. Participants were asked to rank five stakeholders who have input into accounting curriculum on a five point Likert-like scale from "1" having little authority to "5" having much authority. Descriptive statistics were used calculating the means (M) and standard deviations (SD) to identify the stakeholder perceived to have the most authority to prescribe accounting curriculum as perceived by Pennsylvania accounting practitioners. As previously stipulated, a mean (M) above 4.25 was perceived to have the most authority while a mean (M) between 3.50 and 4.25 was perceived to have less authority, a mean (M) between 2.75 and 3.5 was perceived to have the least authority, and a mean (M) below 2.75 was perceived to have no authority.

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Research hypothesis for research question seven:

$H7_0$: Pennsylvania accounting practitioners believe accounting educators should have the most authority to prescribe accounting curriculum.

As presented in Table 9, Pennsylvania accounting practitioners believe CPA's should have the most authority in prescribing accounting curriculum (M=4.26) followed by accountants working in industry (M=3.75), and accounting educators (M=3.71). State boards of accountancy (M=3.61) and educational accrediting agencies (M=3.16) should have the least authority. An independent samples t-test was selected to compare the mean level of authority for accounting educators to a hypothesized mean of (4.25) the interpreted value for most authority. A t-test revealed a statistically reliable difference between the mean value of level of authority for accounting educators (M=3.71, s= .970) and 4.25, t(308)=-9.809, p<.05, a=.05. The null hypothesis is rejected.

Table 9

Mean Ratings for Level of Authority to Prescribe Accounting Curriculum as Perceived by Pennsylvania Accounting Practitioners in Ranking Order of Authority

Level of Authority	Mean	Std.
Public Accounting Practitioners (CPAs)	4.26	0.80
Accountants Working in Industry or Government	3.75	0.97
Accounting Educators	3.71	0.97
State Boards of Accountancy (NASBA)	3.61	0.97
Educational Accrediting Agencies (AACSB)	3.16	1.07

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Theme Four: Influence of Respondents Demographics

The fourth theme of the study explored if demographics influenced perceptions of Pennsylvania accounting practitioners and is addressed in research question eight. Responses were disaggregated by demographic information to assess if there were any significant differences among sub-groups. The sub-groups determined to be most important were sex, position in the firm, level of education, and years of experience. Research question eight led to the investigation of significant differences between sub-groups which may have influenced perceptions of Pennsylvania accounting professionals.

The differences in the perceptions of entry-level accounting skills and aspects of the 150-hour requirement among Pennsylvania accounting professionals based on demographic information were answered using independent sample t-tests and a series of chi-square tests. The independent variable was the respondent's sex, position in the firm, level of education and years of work experience. The dependent variable was the perception of Pennsylvania accounting practitioners. The following analyses on sub-sets of data were run to identify any significant differences between the subgroups.

Demographic characteristic-sex.

$H8.1a_0$: There is no difference in Pennsylvania accounting practitioners perceptions of skills deemed to be important for entry-level accountants based on respondents' sex.

Independent sample t-tests were performed for each of the 18 skills to identify any significant differences in importance of skills based on respondents' sex. The results of the t-tests are summarized in Table 10. The results revealed a significant difference based on sex between the mean importance of written communication skill, males (M=4.25, s=.706) and

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females (M=4.42 s=.562), t (307) =1.982, p=.048, *a* =.05 and a slight difference based on sex between the mean importance of not-for-profit-accounting, males (M=2.77, s= .918) and females (M=3.00, s= .983), t (307)=1.955, p=.051, *a* =.05. The independent sample t-tests failed to reveal a statistically significant difference between the mean importances of 16 of the skills as perceived by Pennsylvania accounting practitioners based on sex. The null hypothesis is rejected for one skill, written communication.

Table 10

Comparison of Mean Importance of Skill Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Sex

Skill	Importance Female (n=88)		Importance Male (n=221)		Statistic	
	Mean	Std.	Mean	Std.	t	p
Written Communication	4.42	.562	4.25	.706	1.982	.048*
Oral Communication	4.49	.547	4.42	.624	.952	.342
General Business Knowledge	3.82	.736	3.65	.745	1.780	.076
Financial Accounting	4.08	.887	3.98	.777	1.001	.318
Managerial & Cost Acct	3.24	.897	3.03	.939	1.810	.071
Not-for-Profit Acct	3.00	.983	2.77	.918	1.955	.051
Federal Taxes-Personal	3.33	.991	3.43	.930	.878	.381
Federal Taxes-Corporate	3.43	.980	3.40	.866	.257	.798
Auditing	3.70	.886	3.61	.906	.826	.410
Spread Sheeting	4.42	.738	4.44	.634	.274	.784
Word Processing	4.13	.855	4.02	.934	.930	.353
Acct Information Systems	3.44	1.004	3.39	.886	.426	.670
Interpersonal communications	4.41	.618	4.37	.651	.526	.599
Analytical/Critical Thinking	4.48	.643	4.39	.635	1.041	.299
Teamwork	4.47	.677	4.34	.667	1.445	.149
Ethics	4.59	.600	4.58	.680	.141	.888
Legal & Regulatory Knowledge	3.28	.816	3.10	.844	1.709	.089
Cultural	3.51	.935	3.31	. 957	1.662	.098

*denotes significance at .05

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$H8.1b_0$: There is no difference in Pennsylvania accounting practitioners perceptions of entry-level accountants competencies in skills based on respondents' sex.

Independent t-tests revealed significant differences in the perception of entry-level accountants' competencies in 9 of the 18 skills based on sex as presented in Table 11. The skills with the most significant differences in competencies were: general business knowledge males (M=2.81, s=.715) and females (M=3.21, s=.780), t(307)=4.280, p=.000, *a* =.05; teamwork males (M=3.46, s=.892) and females (M=3.84, s=.896), t(307)=3.371,p=.001, *a* =.05; financial accounting males (M=3.18, s=.787) and females (M=3.49, s=.858), t(307)=3.067,p=.002, *a* =.05; written communication males (M=2.94, s=.834) and females (M=3.25, s=.861), t(307)=2.953,p=.003, *a* =.05; federal taxes corporate males (M=2.49, s=.801) and females (M=2.76, s=.994), t(307)=2.515,p=.012, *a* =.05; interpersonal communications males (M=3.24, s=.806) and females (M=3.50, s=.802), t(307)=2.520,p=.012, *a* =.05; managerial/cost accounting males (M=2.69, s=.793) and females (M=2.93 s=.932), t(307)=2.268,p=.024, *a* =.05; the other three skills presented as follows: legal/regulator knowledge male (M=2.56, s=.816) and females (M=2.78, s=.976), t(307)=2.088, p=.038, *a* =.05 and word processing (M=3.77, s=.839) and females (M=3.99, s=.877), t(307)=2.006,p=.046, *a* =.05. The null hypothesis is rejected for nine of the 18 skills; written communication, general business knowledge, financial accounting, managerial/cost accounting, federal taxes-corporate, word processing, interpersonal communications, teamwork, and legal/regulatory knowledge. An interesting observation to note is the mean of each skill is higher for females than for males.

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Table 11

Comparison of Mean Competence in Skill Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Sex

Skill	Competency Female (n=88) Mean	Std.	Competency Male (n=221) Mean	Std.	Statistic t	p
Written Communication	3.25	.861	2.94	.834	2.953	.003*
Oral Communication	3.35	.885	3.14	.824	1.956	.051
General Business Knowledge	3.21	.780	2.81	.715	4.280	.000*
Financial Accounting	3.49	.858	3.18	.787	3.067	.002*
Managerial & Cost Acct	2.93	.932	2.69	.793	2.268	.024*
Not-for-Profit Acct	2.41	.971	2.31	.791	.978	.329
Federal Taxes-Personal	2.95	.970	2.75	.835	1.844	.066
Federal Taxes-Corporate	2.76	.994	2.49	.801	2.515	.012*
Auditing	3.00	.858	2.84	.846	1.479	.140
Spread Sheeting	3.97	.903	3.84	.846	1.143	.254
Word Processing	3.99	.877	3.77	.839	2.006	.046*
Acct Information Systems	2.94	1.054	2.89	.839	.498	.619
Interpersonal communications	3.50	.802	3.24	.806	2.520	.012*
Analytical/Critical Thinking	3.24	.922	2.99	.902	2.204	.028*
Teamwork	3.84	.896	3.46	.892	3.371	.001*
Ethics	3.82	.878	3.68	.924	1.175	.241
Legal & Regulatory Knowledge	2.78	.976	2.56	.816	2.088	.038*
Cultural	3.28	.958	3.09	.807	1.843	.066

*denotes significance at .05

H8.1c_0: There is no difference in Pennsylvania accounting professionals preferences to the education requirement based on respondents' sex.

Table 12 presents a frequency distribution of education requirement Pennsylvania accounting practitioners' believe to be most appropriate preceding entry into the accounting profession by sex. A chi-square test was used to determine if there was a relationship between type of education requirement selected and respondent's sex. The data indicates there is no relationship between type of education requirement selected and respondent's sex χ^2 (4, N =

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309) =1.576, p = <.813. In addition both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore, the hypothesis fails to be rejected.

Table 12

Frequency Distribution of Education Requirement Pennsylvania Accounting Practitioners' Believe to be Most Appropriate Preceding Entry into the Accounting Profession by Demographic Characteristic Sex

Education Requirement	Female n=88	%	Male n=221	%
Four years -baccalaureate degree in accounting (150 hours minimum)	33	37.5	83	37.6
Five years-four year baccalaureate degree in accounting integrated with master's degree in accounting	25	28.5	65	29.4
Four years -baccalaureate degree in accounting (120-130 hours)	26	29.5	63	28.5
Six years-four year baccalaureate degree in accounting plus two-year master's degree in accounting	4	4.5	7	3.2
Six years-four year baccalaureate degree in liberal arts plus two-year master's degree in accounting	0	0	3	1.3

H8.1d_0: There is no difference in Pennsylvania accounting professionals preferences of the amount of work experience based on sex.

Table 13 presents a frequency distribution of the amount of work experience requirement Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure

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by sex. A chi-square test was used to determine if there was a relationship between amount of work experience selected and respondent's sex. The data indicates there is no relationship between amount of work experience elected and respondent's sex χ^2 (4, N = 309) =2.291, p =.682. In addition both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore, the hypothesis fails to be rejected.

Table 13

Frequency Distribution of the Amount of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Sex

Amount of Work Experience	Female n=88	%	Male n=221	%
Two years of experience regardless of education	62	70.5	151	68.3
Three years of experience regardless of education	11	12.5	37	16.7
One year of experience regardless of education	13	14.8	24	10.9
No experience necessary if minimum of 150-hours of education achieved	1	1.1	6	2.7
No experience necessary	1	1.1	3	1.4

H8.1e$_0$: There is no difference in Pennsylvania accounting professionals preferences to the type of work experience based on sex.

Table 14 presents a frequency distribution of the type of work experience Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure by sex. A chi-square test was used to determine if there was a relationship between type of work experience selected and respondent's sex. The data indicates there is no relationship between type of work

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experience selected and respondent's sex χ^2 (4, N = 309) =4.003, p =.406. In addition both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore, the hypothesis fails to be rejected.

Table 14

Frequency Distribution of the Type of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Sex

Type of Work Experience	Female n=88	%	Male n=221	%
Public accounting experience only -any type of public accounting experience	40	45.5	109	49.3
Public accounting experience only -accounting and assurance experience only	16	18.2	55	24.9
Public, private or governmental accounting of any kind	14	15.9	24	10.9
Public or private accounting of any kind	9	10.2	18	8.1
Public, private, governmental or academic accounting experience	9	10.2	15	6.8

H8.1f_0: There is no difference in Pennsylvania accounting professionals preferences for stakeholders having authority to prescribe accounting curriculum based on sex.

The differences in preferences for stakeholders having authority to prescribe accounting curriculum based on sex were determined by performing five independent sample t-Tests. The results are presented in Table 15. The data indicate there are significant differences (α = .05) between female respondents (M=3.89, s= .850) and male respondents (M=3.50, s= .998), t(307)=3.406, p=.001, α =.05 regarding the level of authority to prescribe accounting curriculum

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by State Boards of Accountancy (NASBA) and Educational Accrediting Agencies (AACSB) female respondents (M=3.38, s= 1.021) and male respondents (M=3.08, s= 1.078), $t(307)=2.226$, p=.027, α =.05. The null hypothesis is rejected for 2 levels of stakeholder's authority to prescribe accounting curriculum (NASBA and AACSB).

Table 15

Comparison of Mean Ratings for Level of Authority to Prescribe Accounting Curriculum as Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Sex

Stakeholder	Female (n=88) Mean	Std.	Male (n=221) Mean	Std.	Statistic **t**	**p**
Accounting Educators	3.75	.986	3.69	.965	.471	.638
Public Accounting Practitioners (CPAs)	4.27	.638	4.25	.858	.217	.829
Accountants Working in Industry or Government	3.85	.865	3.71	1.003	1.165	.245
State Boards of Accountancy (NASBA)	3.89	.850	3.50	.998	3.406	.001*
Educational Accrediting Agencies (AACSB)	3.38	1.021	3.08	1.078	2.226	.027*

*Denotes significance at the .05 level

Demographic characteristic-position in firm.

H8.2a_0: There is no difference in Pennsylvania accounting practitioners perceptions of skills deemed to be important for entry-level accountants based on respondent's position in their firm.

Independent sample t-tests were performed for each of the 18 skills to identify any significant differences in importance of skills based on position respondent indicated they held in

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their firm. The demographic position in firm was grouped into two categories those who were in authority to hire and supervise entry-level accountants (partner, principal and manager) and those who were not in authority to hire and supervise entry-level accountants (senior staff, junior staff and other). The results of the t-tests are summarized in Table 16. The results revealed a statistically significant difference between the mean importance of two of the 18 skills, managerial/cost accounting those in authority (M=3.00, s=.898) and staff (M=3.32 s=.985), t (307) =2.656, p=.008, a=.05 and importance of financial accounting those in authority (M=3.95, s=.806) and staff (M=4.17 s=.803), t (307) = 2.165 p=.031, a=.05. The null hypothesis is rejected for 2 of the skills, financial accounting and managerial/cost accounting.

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Table 16

Comparison of Mean Importance of Skills Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Position in Firm

Skill	Importance Those in Authority (n=228) Mean	Std.	Importance Staff (n=81) Mean	Std.	Statistic t	p
Written Communication	4.32	.657	4.23	.712	1.036	.301
Oral Communication	4.43	.616	4.44	.570	.131	.896
General Business Knowledge	3.66	.748	3.80	.732	1.457	.146
Financial Accounting	3.95	.806	4.17	.803	2.165	.031*
Managerial & Cos t Acct	3.00	.898	3.32	.985	2.656	.008*
Not-for-Profit Acct	2.79	.916	2.98	1.000	1.567	.118
Federal Taxes-Personal	3.43	.924	3.33	1.012	.787	.432
Federal Taxes-Corporate	3.43	.909	3.37	.872	.473	.636
Auditing	3.64	.926	3.63	.828	.092	.927
Spread Sheeting	4.42	.662	4.48	.673	.702	.483
Word Processing	3.99	.915	4.21	.890	1.861	.064
Acct Information Systems	3.36	.920	3.56	.908	1.688	.092
Interpersonal communications	4.41	.641	4.28	.637	1.550	.122
Analytical/Critical Thinking	4.44	.637	4.36	.639	.977	.329
Teamwork	4.37	.681	4.40	.646	.256	.798
Ethics	4.62	.629	4.48	.726	1.614	.107
Legal & Regulatory	3.12	.825	3.25	.874	1.145	.253
Cultural Awareness	3.35	.952	3.42	.960	.558	.577

*denotes significance at .05

H8.2b$_0$: There is no difference in Pennsylvania accounting practitioners perceptions of entry-level accountants competencies in skills based on respondents' position in firm.

Independent sample t-tests were performed for each of the 18 skills to identify any significant differences in perceived competences of entry-level accountants in the 18 skills based on the position held in the firm by the respondents. The results of the t-tests are summarized in Table 17. The results revealed a statistically significant difference in the perception of entry-

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level accountants' competencies in 7 of the 18 skills; general business knowledge those in authority (M=2.83, s=.713) and staff (M=3.19, s=.808), t(307)=3.739, p=.000, a=.05; managerial/cost accounting those in authority (M=2.67, s=.779) and staff (M=3.02, s=.948), t(307)=3.341, p=.001, a=.05;written communications those in authority (M=2.94, s=.845) and staff (M=3.26, s=.833), t(307)=2.903, p=.004, a=.05;analytica;/critical thinking those in authority (M=2.98, s=.900) and staff (M=3.27, s=.922), t(307)=2.468, p=.014, a=.05; oral communication those in authority (3.14, s=.806) and staff (M=3.38, s=.930), t(307)=2.230, p=.026, a=.05; word processing those in authority (M=3.77, s=.845) and staff (M=4.01, s=.859), t(307)=2.190, p=.029, a=.05; and not-for-profit accounting those in authority (M=2.28, s=.793) and staff (M=2.50, s=.968), t(307)=1.993, p=.047, a=.05. The null hypothesis is rejected for 7 of the skills: written communication, oral communication, general business knowledge, managerial/cost accounting, not-for-profit-accounting, word processing, and analytical/critical thinking.

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Table 17

Comparison of Mean Competencies in Skills Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Position in Firm

Skill	Competency Those in Authority (n=228) Mean	Std.	Competency Staff (n=81) Mean	Std.	Statistic t	p
Written Communication	2.94	.845	3.26	.833	2.903	.004*
Oral Communication	3.14	.806	3.38	.930	2.230	.026*
General Business Knowledge	2.83	.713	3.19	.808	3.739	.000*
Financial Accounting	3.21	.781	3.41	.905	1.825	.069
Managerial & Cost Acct	2.67	.779	3.02	.948	3.341	.001*
Not-for-Profit Acct	2.28	.793	2.50	.968	1.993	.047*
Federal Taxes-Personal	2.78	.844	2.90	.970	1.100	.272
Federal Taxes-Corporate	2.53	.862	2.68	.878	1.362	.174
Auditing	2.90	.836	2.85	.896	.429	.668
Spread Sheeting	3.87	.874	3.89	.837	.144	.886
Word Processing	3.77	.845	4.01	.859	2.190	.029*
Acct Information Systems	2.88	.897	2.96	.928	.699	.485
Interpersonal communications	3.28	.801	3.43	.836	1.487	.138
Analytical/Critical Thinking	2.98	.900	3.27	.922	2.468	.014*
Teamwork	3.53	.868	3.69	1.008	1.408	.160
Ethics	3.69	.911	3.80	.914	.928	.354
Legal & Regulatory Knowledge	2.61	.792	2.65	1.063	.397	.692
Cultural	3.10	.815	3.26	.959	1.433	.153

*denotes significance at .05

$H8.2c_0$: There is no difference in Pennsylvania accounting professionals preferences to the education requirement based on respondents' position in firm.

Table 18 presents a frequency distribution of education requirement Pennsylvania accounting practitioners believe to be most appropriate preceding entry into the accounting profession by position respondent held in the firm. A chi-square test was used to determine if there was a relationship between type of education requirement selected and respondent's position in the firm. The data indicate there is no relationship between type of education

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requirement selected and respondent's position in the firm. χ^2 (4, N = 309) =2.891, p = <.576 therefore, the hypothesis fails to be rejected.

Table 18

Frequency Distribution of Education Requirement Pennsylvania Accounting Practitioners' Believe to be Most Appropriate Preceding Entry into the Accounting Profession by Demographic Characteristic Position in Firm

Education Requirement	Those in Authority n=228	%	Staff n=81	%
Four years -baccalaureate degree in accounting (150 hours minimum)	82	36.0	34	42.0
Five years-four year baccalaureate degree in accounting integrated with master's degree in accounting	67	29.4	23	28.4
Four years -baccalaureate degree in accounting (120-130 hours)	69	30.3	20	24.7
Six years-four year baccalaureate degree in accounting plus two-year master's degree in accounting	7	3.0	4	4.9
Six years-four year baccalaureate degree in liberal arts plus two-year master's degree in accounting	3	1.3	0	0

H8.2d_0: There is no difference in Pennsylvania accounting professionals preferences of the amount of work experience based on respondents' position in firm.

Table 19 presents a frequency distribution of amount of work experience requirement Pennsylvania accounting practitioners believe to be most appropriate preceding CPA licensure by position in firm. A chi-square test was used to determine if there was a relationship between

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amount of work experience selected and respondent's position in firm. The data indicate there is no relationship between amount of work experience selected and respondent's position in firm χ^2 (4, N = 309) =2.281, p =.684.

Table 19

Frequency Distribution of the Amount of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Position in Firm

Amount of Experience	Those in Authority n=228	%	Staff n=81	%
Two years of experience regardless of education	158	69.3	55	67.9
Three years of experience regardless of education	38	16.7	10	12.3
One year of experience regardless of education	24	10.5	13	16.1
No experience necessary if minimum of 150-hours of education achieved	5	2.2	2	2.5
No experience necessary	3	1.3	1	1.2

H8.2e_0: There is no difference in Pennsylvania accounting professionals preferences to the type of work experience based on respondents' position in firm.

Table 20 presents a frequency distribution of the type of work experience Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure by position in firm. A chi-square test was used to determine if there was a relationship between type of work experience selected and respondent's position in firm. The data indicate there is a relationship between type of work experience selected and respondent's position in firm χ^2 (4, N = 309) =9.976, p =.041.

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Table 20

Frequency Distribution of the Type of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Position in Firm

Type of Work Experience	Those in Authority n=228	%	Staff n=81	%
Public accounting experience only -any type of public accounting experience	118	51.8	31	38.3
Public accounting experience only -accounting and assurance experience only	55	24.1	16	19.8
Public, private or governmental accounting of any kind	22	9.6	16	19.8
Public or private accounting of any kind	17	7.5	10	12.3
Public, private, governmental or academic accounting experience	16	7.0	8	9.9

H8.2f$_0$: There is no difference in Pennsylvania accounting professionals preferences for stakeholders having authority to prescribe accounting curriculum based on respondents' position in firm.

The differences in preferences for stakeholders having authority to prescribe accounting curriculum based on position in firm were determined by performing five independent sample t-Tests. The results are presented in Table 21. The data indicate there are significant differences ($\alpha = .05$) between those in authority (M=3.54, s= .999) and staff (M=3.80, s= .872), $t(307)=2.204$, p=.029, $\alpha = .05$ regarding the level of authority to prescribe accounting curriculum by State Boards of Accountancy (NASBA) and Educational Accrediting Agencies (AACSB) those in authority (M=3.09, s= 1.071) and those in authority (M=3.37, s= 1.042), $t(307)=2.055$,

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p=.041, α =.05. The null hypothesis is rejected for two levels of stakeholder's authority to prescribe accounting curriculum based on position held in firm, State Boards of Accountancy (NASBA) and Educational Accrediting Agencies (AACSB).

Table 21

Comparison of Mean Ratings for Level of Authority to Prescribe Accounting Curriculum as Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Position in Firm

Stakeholder	Those in Authority (n=228) Mean	Std.	Staff (n=81) Mean	Std.	Statistic t	p
Accounting Educators	3.76	.974	3.56	.949	1.659	.098
Public Accounting Practitioners (CPAs)	4.28	.813	4.20	.765	.803	.423
Accountants Working in Industry or Government	3.71	.990	3.85	.896	1.096	.274
State Boards of Accountancy (NASBA)	3.54	.999	3.80	.872	2.204	.029*
Educational Accrediting Agencies (AACSB)	3.09	1.071	3.37	1.042	2.055	.041*

*Denotes significance at the .05 level

Demographic characteristic-level of education.

H8.3a_0: There is no difference in Pennsylvania accounting practitioners perceptions of skills deemed to be important for entry-level accountants based on the respondents' level of education.

Independent sample t-tests were performed for each of the 18 skills to identify any significant differences in importance of skills based on respondents' level of education. To

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allow more meaning to the t-test the variables for education are categorized as graduate (doctorate degree and master degree) and undergraduate (bachelor's degree). The results of the t-tests are summarized in Table 22. The test revealed significant differences in the importance of 1 of the 18 skills based on level of education, legal/regulatory knowledge graduate (M=3.35, s=.830) and undergraduate (M=3.09, s=.834), t (307) =2.286, p=.023, a=.05. The null hypothesis is rejected for 1 skill, legal/regulatory knowledge.

Table 22

Comparison of Mean Importance of Skill Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Level of Education

Skill	Importance Graduate (n=75) Mean	Std.	Importance Undergraduate (n=234) Mean	Std.	Statistic t	p
Written Communication	4.41	.639	4.26	.679	1.669	.096
Oral Communication	4.47	.622	4.43	.598	.491	.624
General Business Knowledge	3.76	.750	3.68	.744	.814	.416
Financial Accounting	4.08	.731	3.98	.834	.903	.367
Managerial & Cost Acct	3.23	.994	3.04	.907	1.493	.137
Not-for-Profit Acct	2.71	.969	2.88	.930	1.359	.175
Federal Taxes-Personal	3.47	.949	3.38	.948	.652	.515
Federal Taxes-Corporate	3.39	.928	3.42	.891	.269	.788
Auditing	3.69	.885	3.62	.906	.616	.538
Spread Sheeting	4.39	.634	4.45	.674	.752	.453
Word Processing	4.07	.905	4.04	.916	.197	.844
Acct Information Systems	3.41	.856	3.41	.941	.060	.952
Interpersonal communications	4.33	.644	4.39	.641	.702	.483
Analytical/Critical Thinking	4.52	.601	4.38	.646	1.605	.110
Teamwork	4.33	.723	4.39	.655	.671	.503
Ethics	4.63	.632	4.57	.666	.668	.505
Legal & Regulatory Knowledge	3.35	.830	3.09	.834	2.286	.023*
Cultural Awareness	3.43	.975	3.35	.948	.602	.548

*denotes significance at .05

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H8.3b_0: There is no difference in Pennsylvania accounting practitioners perceptions of entry-level accountants competencies in skills based on respondents' level of education.

Independent sample t-tests were conducted for each of the 18 skills to identify significant differences in perceived competences of entry-level accountants in the 18 skills based on respondents' level of education. Results of the independent t-tests are presented in Table 23. The test revealed significant differences in the competence in Managerial and Cost Accounting; (M=2.97, s=.822) and undergraduate (M=2.70, s=.832), t (307) =2.513, p=..012, a=.05.and a slight difference in the competence in financial accounting (M=3.34, s=.791) and undergraduate M=3.21, s=.822), t (307) =1.971, p=.050, a=.05. The null hypothesis is rejected for two of the 18 skills, managerial/cost accounting and financial accounting.

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Table 23

Comparison of Mean Competencies in Skill Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Level of Education

Skill	Competence Graduate (n=75) Mean	Std.	Competence Undergraduate (n=234) Mean	Std.	Statistic t	p
Written Communication	3.07	.905	3.01	.836	.475	.635
Oral Communication	3.23	.909	3.20	.826	.268	.789
General Business Knowledge	2.93	.741	2.92	.758	.145	.884
Financial Accounting	3.43	.791	3.21	.822	1.971	.050*
Managerial & Cost Acct	2.97	.822	2.69	.836	2.513	.012*
Not-for-Profit Acct	2.40	.854	2.32	.841	.709	.479
Federal Taxes-Personal	2.88	.869	2.79	.882	.803	.423
Federal Taxes-Corporate	2.67	.890	2.53	.860	1.151	.251
Auditing	3.00	.930	2.85	.823	1.326	.186
Spread Sheeting	3.93	.890	3.86	.855	.649	.517
Word Processing	3.96	.907	3.79	.834	1.460	.145
Acct Information Systems	2.96	.936	2.88	.893	.629	.530
Interpersonal communications	3.31	.838	3.32	.805	-.128	.898
Analytical/Critical Thinking	3.11	1.008	3.04	.883	.527	.599
Teamwork	3.45	.949	3.61	.893	-1.276	.203
Ethics	3.61	1.038	3.76	.867	-1.183	.238
Legal & Regulatory Knowledge	2.72	.909	2.59	.856	1.130	.259
Cultural Awareness	3.03	.805	3.18	.870	-1.347	.179

*denotes significance at .05

$H8.3c_0$: There is no difference in Pennsylvania accounting professionals preferences to the education requirement based on respondent's level of education.

Table 24 presents a frequency distribution of education requirement Pennsylvania accounting practitioners' believe to be most appropriate preceding entry into the accounting profession by respondents' level of education. A chi-square test was used to determine if there was a relationship between type of education requirement selected and respondent's level of education. The data indicate there is a significant relationship between type of education

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requirement selected and respondent's level of education $\chi^2(4, N = 309) = 16.280, p = <.003$. In addition, both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was significant therefore, the hypothesis is rejected.

Table 24

Frequency Distribution of Education Requirement Pennsylvania Accounting Practitioners' Believe to be Most Appropriate Preceding Entry into the Accounting Profession by Demographic Characteristic Level of Education

Education Requirement	Graduate n=75	%	Undergraduate n=234	%
Four years -baccalaureate degree in accounting (150 hours minimum)	21	28.0	95	40.6
Five years-four year baccalaureate degree in accounting integrated with master's degree in accounting	19	25.3	71	30.4
Four years -baccalaureate degree in accounting (120-130 hours)	26	34.7	63	26.9
Six years-four year baccalaureate degree in accounting plus two-year master's degree in accounting	7	9.3	4	1.7
Six years-four year baccalaureate degree in liberal arts plus two-year master's degree in accounting	2	2.7	1	.4

H8.3d_0: There is no difference in Pennsylvania accounting professionals preferences of the amount of work experience based on respondent's education level.

Table 25 presents a frequency distribution of work experience requirement Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure by

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respondents' level of education. A chi-square test was used to determine if there was a relationship between amount of experience selected and respondent's level of education. The data indicate there is no relationship between amount of work experience selected and respondent's level of education χ^2 (4, N = 309) =7.718, p =.102. In addition both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore, the hypothesis fails to be rejected.

Table 25

Frequency Distribution of the Amount of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Level of Education

Amount of Work Experience	Graduate n=75	%	Undergraduate n=234	%
Two years of experience regardless of education	48	64.0	165	70.5
Three years of experience regardless of education	11	14.7	37	15.8
One year of experience regardless of education	12	16.0	25	10.7
No experience necessary if minimum of 150-hours of education achieved	1	1.3	6	2.6
No experience necessary	3	4.0	1	.4

H8.3e$_0$: There is no difference in Pennsylvania accounting professionals preferences to the type of work experience based on respondents' level of education.

Table 26 presents a frequency distribution of the type of work experience Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure by respondents' level of education. A chi-square test was used to determine if there was a

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relationship between type of work experience selected and respondent's level of education. The data indicate there is no relationship between type of work experience selected and respondent's level of education χ^2 (4, N = 309) =1.066, p =.900. In addition, both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore; the hypothesis fails to be rejected.

Table 26

Frequency Distribution of the Type of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Level of Education

Type of Work Experience	Graduate n=75	%	Undergraduate n=234	%
Public accounting experience only -any type of public accounting experience	36	48.0	113	48.3
Public accounting experience only -accounting and assurance experience only	16	21.3	55	23.5
Public, private or governmental accounting of any kind	8	10.7	30	12.8
Public or private accounting of any kind	8	10.7	19	8.1
Public, private, governmental or academic accounting experience	7	9.3	17	7.3

H8.3f_0: There is no difference in Pennsylvania accounting professionals preferences for stakeholders having authority to prescribe accounting curriculum based on respondents' level of education.

The differences in preferences for stakeholders having authority to prescribe accounting curriculum based on level of education were determined by performing five independent sample

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t-Tests. The results are presented in Table 27. The data indicate there are significant differences ($\alpha = .05$) between graduate (M=2.92, s= 1.148) and undergraduate (M=3.24, s= 1.033), t (307) = -2.226, p=.024, α =.05 regarding the level of authority to prescribe accounting curriculum by Educational Accrediting Agencies (AACSB. The null hypothesis is rejected for 1 level of stakeholder's authority to prescribe accounting curriculum based on respondents' level of education, Educational Accrediting Agencies (AACSB).

Table 27

Comparison of Mean Ratings for Level of Authority to Prescribe Accounting Curriculum as Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Level of Education

Stakeholder	Graduate (n=75) Mean	Std.	Undergraduate (n=234) Mean	Std.	Statistic t	p
Accounting Educators	3.79	1.004	3.68	.960	.799	.425
Public Accounting Practitioners (CPAs)	4.27	.759	4.26	.815	.096	.923
Accountants Working in Industry or Government	3.77	.967	3.74	.969	.232	.817
State Boards of Accountancy (NASBA)	3.48	1.070	3.65	.938	-1.349	.178
Educational Accrediting Agencies (AACSB)	2.92	1.148	3.24	1.033	-2.226	.024*

*Denotes significance at the .05 level

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Demographic characteristic-years of experience.

H8.4a_0: There is no difference in Pennsylvania accounting practitioners perceptions of skills deemed to be important for entry-level accountants based on respondent's years of experience.

Independent sample t-tests were performed for each of the 18 skills to identify any significant differences in importance of skills based on respondents' years of experienced. The test results are summarized in Table 27. The t-test revealed significant differences in importance of 6 of the 18 skills, word processing 0 to 10 years of experience (M=4.22.33, s=.862) and 11 to over 20 years of experience (M=3.96, s=.927), t(307)=2.363, p=.019, a=.05; financial accounting 0 to 10 years of experience (M=4.22.33, s=.862) and 11 to over 20 years of experience (M=3.96, s=.927), t(307)=2.363, p=.019, a=.05;, general business knowledge, 0 to 10 years of experience (M=4.22.33, s=.862) and 11 to over 20 years of experience (M=3.96, s=.927), t(307)=2.363, p=.019, a=.05; federal taxes personal, 0 to 10 years of experience (M=4.22.33, s=.862) and 11 to over 20 years of experience (M=3.96, s=.927), t(307)=2.363, p=.019, a=.05; spread sheeting 0 to 10 years of experience (M=4.22.33, s=.862) and 11 to over 20 years of experience (M=3.96, s=.927), t(307)=2.363, p=.019, a=.05; and not-for-profit=accounting 0 to 10 years of experience (M=4.22.33, s=.862) and 11 to over 20 years of experience (M=3.96, s=.927), t(307)=2.363, p=.019, a=.05. The null hypothesis was rejected for 6 of the 18 skills, general business knowledge, financial accounting, not-for-profit accounting, federal taxes-personal, spread sheeting, and word processing.

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Table 28

Comparison of Mean Importance of Skill Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Years of Experience

Skill	Importance Less than 10 yrs. (n=105) Mean	Std.	Importance More than 10 yrs. (n=204) Mean	Std.	Statistic t	p
Written Communication	4.30	.722	4.30	.646	.071	.943
Oral Communication	4.50	.590	4.41	.609	1.221	.223
General Business Knowledge	3.84	.722	3.63	.748	2.371	.018*
Financial Accounting	4.15	.744	3.93	.834	2.288	.023*
Managerial & Cost Acct	3.23	.963	3.01	.907	1.922	.056
Not-for-Profit Acct	2.99	.985	2.75	.909	2.096	.037*
Federal Taxes-Personal	3.24	.946	3.49	.939	-2.230	.026*
Federal Taxes-Corporate	3.29	.852	3.48	.917	-1.764	.079
Auditing	3.73	.812	3.59	.940	1.344	.180
Spread Sheeting	4.55	.650	4.38	.666	2.205	.028*
Word Processing	4.22	.866	3.96	.925	2.375	.018*
Acct Information Systems	3.47	1.038	3.38	.854	.807	.420
Interpersonal communications	4.43	.618	4.35	.653	.982	.327
Analytical/Critical Thinking	4.50	.606	4.37	.650	1.733	.084
Teamwork	4.43	.691	4.35	.661	.938	.349
Ethics	4.50	.722	4.63	.619	-1.679	.094
Legal & Regulatory Knowledge	3.24	.861	3.11	.826	1.246	.214
Cultural Awareness	3.46	.941	3.32	.959	1.168	.244

*denotes significance at .05

H8.4b$_0$: There is no difference in Pennsylvania accounting practitioners perceptions of entry-level accountants competencies in skills based on respondents' years of experience.

Independent sample t-tests were performed for each of the 18 skills to identify any significant differences between the competencies of entry-level accountants in the 18 skills based on respondents' years of experience. Results of the t-test are summarized Table 29. The independent t-test revealed significant differences in the competencies of four of the 18 skills

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based on years of experience, general business knowledge 0 to 10 years of experience (M=3.14, s=.777) and 11 to over 20 years of experience(M=2.81, s=.717), t(307)=3.781, p=.000, a=.05, managerial/cost accounting 0 to 10 years of experience (M=2.97, s=.914) and 11 to over 20 years of experience(M=2.65, s=.780), t(307)=3.206, p=.001, a=.05, financial accounting 0 to 10 years of experience (M=3.45, s=.782) and 11 to over 20 years of experience(M=3.17, s=.821), t(307)=2.946, p=.003, a=.05 and written communications 0 to 10 years of experience (M=3.22, s=.828) and 11 to over 20 years of experience(M=2.93, s=.850), t(307)=2.881, p=.004, a=.05. . The null hypothesis is rejected for 4 of the skills, written communication, general business knowledge, financial accounting, and managerial/cost accounting.

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Table 29

Comparison of Mean Competencies in Skills Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Years of Experience

Skill	Competence Less than 10 yrs. (n=105) Mean	Std.	Competence More than 10 yrs. (n=204) Mean	Std.	Statistic t	p
Written Communication	3.23	.823	2.92	.850	3.038	.003*
Oral Communication	3.33	.884	3.14	.819	1.940	.053
General Business Knowledge	3.14	.777	2.81	.714	3.778	.000*
Financial Accounting	3.47	.773	3.16	.823	3.147	.002*
Managerial & Cost Acct	2.98	.909	2.65	.776	3.326	.001*
Not-for-Profit Acct	2.40	.957	2.31	.780	.899	.369
Federal Taxes-Personal	2.88	.927	2.77	.853	.963	.336
Federal Taxes-Corporate	2.62	.903	2.54	.850	.766	.445
Auditing	2.88	.895	2.89	.829	-.156	.876
Spread Sheeting	3.88	.874	3.88	.859	-.012	.990
Word Processing	3.94	.875	3.78	.840	1.598	.111
Acct Information Systems	2.90	1.024	2.90	.836	.026	.979
Interpersonal communications	3.41	.840	3.27	.795	1.438	.152
Analytical/Critical Thinking	3.10	.960	3.03	.890	.642	.522
Teamwork	3.67	.977	3.52	.868	1.351	.178
Ethics	3.79	.885	3.69	.926	.951	.342
Legal & Regulatory Knowledge	2.66	.949	2.60	.827	.519	.604
Cultural Awareness	3.20	.881	3.11	.843	.848	.397

*denotes significance at .05

$H8.4c_0$: There is no difference in Pennsylvania accounting professionals preferences to the education requirement based on respondents' years of experience.

Table 30 presents a frequency distribution of education requirement Pennsylvania accounting practitioners' believe to be most appropriate preceding entry into the accounting profession by respondents' years of experience. A chi-square test was used to determine if there was a relationship between type of education requirement selected and respondent's years of experience. The data indicate there is no relationship between type of education requirement

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selected and respondent's years of experience χ^2 (4, N = 309) =6.198, p = .185. In addition both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore, the hypothesis fails to be rejected.

Table 30

Frequency Distribution of Education Requirement Pennsylvania Accounting Practitioners' Believe to be Most Appropriate Preceding Entry into the Accounting Profession by Demographic Characteristic Years of Experience

Education Requirement	Less than 10 yrs. n=105	%	More than 10 yrs. n=204	%
Four years -baccalaureate degree in accounting (150 hours minimum)	37	35.2	79	38.7
Five years-four year baccalaureate degree in accounting integrated with master's degree in accounting	36	34.3	54	26.5
Four years -baccalaureate degree in accounting (120-130 hours)	26	24.8	63	30.9
Six years-four year baccalaureate degree in accounting plus two-year master's degree in accounting	6	5.7	5	2.5
Six years-four year baccalaureate degree in liberal arts plus two-year master's degree in accounting	0	0	3	1.5

H8.4d_0: There is no difference in Pennsylvania accounting professionals preferences of the amount of work experience based on respondents' years of experience.

Table 31 presents a frequency distribution for amount of work experience Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure by

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respondents' years of experience. A chi-square test was used to determine if there was a relationship between amount of work experience selected and respondent's years of experience. The data indicate there is no relationship between amount of work experience elected and respondent's years of experience $\chi^2(4, N = 309) = 5.676, p = .225$. In addition, both the Phi and Cramer's V tests of the strength of association indicated the association between the variables was very weak therefore, the hypothesis fails to be rejected.

Table 31

Frequency Distribution of the Amount of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Years of Experience

Amount of Work Experience	Under 10 yrs. n=105	%	Over 10 yrs. n=204	%
Two years of experience regardless of education	65	61.9	148	72.5
Three years of experience regardless of education	17	16.2	31	15.2
One year of experience regardless of education	17	16.2	20	9.8
No experience necessary if minimum of 150-hours of education achieved	4	3.8	3	1.5
No experience necessary	2	1.9	2	1.0

H8.4e_0: There is no difference in Pennsylvania accounting professionals preferences for the type of work experience based on respondents' years of experience.

Table 32 presents a frequency distribution of the type of work experience Pennsylvania accounting practitioners' believe to be most appropriate preceding CPA licensure by years of experience. A chi-square test was used to determine if there was a relationship between type of

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work experience selected and respondent's years of experience. The data indicate there is a relationship between the type of work experience selected and the respondent's years of experience χ^2 (4, N = 309) =10.531, p =..032. In addition, both the Phi and Cramer's V tests of the strength of association indicated an association between the variables, therefore, the hypothesis is rejected.

Table 32

Frequency Distribution of the Type of Work Experience Requirement Perceived by Pennsylvania Accounting Practitioners' to be most Appropriate Preceding CPA Licensure by Demographic Characteristic Years of Experience

Type of Work Experience	Under 10 yrs. n=105	%	Over 10 yrs. n=204	%
Public accounting experience only -any type of public accounting experience	39	37.1	110	48.2
Public accounting experience only -accounting and assurance experience only	25	23.8	46	22.5
Public, private or governmental accounting of any kind	17	16.2	21	10.3
Public or private accounting of any kind	14	13.3	13	6.4
Public, private, governmental or academic accounting experience	10	9.5	14	6.9

H8.4f_0: There is no difference in Pennsylvania accounting professionals preferences for stakeholders having authority to prescribe accounting curriculum based on respondents' years of experience.

The differences in preferences for stakeholders having authority to prescribe accounting curriculum based on respondents' level of education were determined by performing five

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independent sample t-Tests. The results are presented in Table 33. The data indicate there are significant differences (α = .05) between respondents with over 10 years of experience (M=3.80, s= .995) and respondents with less than 10 years of experience (M=3.51, s= .970), *t*(307)=2.462, p=.014, α =.05 regarding the level of authority to prescribe accounting curriculum by State Boards of Accountancy (NASBA). The null hypothesis is rejected for one level of stakeholder's authority to prescribe accounting curriculum based on respondents' years of experience, State Boards of Accountancy (NASBA).

Table 33

Comparison of Mean Ratings for Level of Authority to Prescribe Accounting Curriculum as Perceived by Pennsylvania Accounting Practitioners by Demographic Characteristic Years of Experience

Stakeholder	Over 10 yrs. (n=105) Mean	Std.	Under 10 yrs. (n=204) Mean	Std.	Statistic t	p
Accounting Educators	3.75	.938	3.69	.987	.567	.571
Public Accounting Practitioners (CPAs)	4.31	.751	4.23	.825	.872	.384
Accountants Working in Industry or Government	3.87	.971	3.69	.961	1.515	.131
State Boards of Accountancy (NASBA)	3.80	.995	3.51	.970	2.462	.014*
Educational Accrediting Agencies (AACSB)	3.28	1.061	3.10	1.071	1.351	.178

*Denotes significance at the .05 level

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Significant findings in other demographics.

Demographic characteristic-number of people supervised.

There was a statistically significant difference between groups determined by one-way ANOVA and the importance of three skills: managerial/accounting (F (4,308) =2.831, p=.025, federal taxes-personal (F (4,308) = 3.649, p=.006 and accounting information systems (F *(4,308)* =2.266, p=.029. There was a statistically significant difference between groups determined by one-way ANOVA and the competency in six: written communication (F (4,308) =3.953, p=.004, oral communication (F (4,308) = 3.302, p=.011, general business knowledge (F *(4,308)* =6.426, p=.000, managerial/cost accounting (F (4,308) =2.516, p=.042, federal taxes-personal (F (4,308) =3.472, p=.009, and analytical/critical thinking (F (4,308) =2.593, p=.037.

Demographic characteristic-number of employees in firm.

There was a statistically significant difference between groups determined by one-way ANOVA and the importance of seven skills: managerial/cost accounting (F (4,308) =4.392, p=.002, not-for-profit accounting (F (4,308) = 3.3110, p=.016, federal taxes-personal (F (4,308) =8.003 p=.000, auditing (F (4,308) =6.267, p=.000, teamwork (F (4,308) = 2.615, p=.035, ethics (F (4,308) = 2.963, p=.020, and legal/regulatory knowledge (F (4,308) = 3.105, p=.016. There was a statistically significant difference between groups determined by one-way ANOVA and the competency in two skills: auditing, (F (4,308) =3.629, p=.007, and analytical;/critical (F (4,308) = 4.266, p=.002.

Demographic characteristic-area of specialization.

There was a statistically significant difference between groups determined by one-way ANOVA and the importance of six skills: general business knowledge (F (4,308) =2.215, p=.042, financial accounting F (4,308) = 2.494, p=.023, managerial/cost accounting (F (4,308) =

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3.162, p=.005, federal taxes-personal (F (4,308) =5.869 p=.000, federal taxes-corporate (F (4,308) = 4.827, p=.000, and auditing (F (4,308) =2.593, p=.018. There was no statistically significant difference between groups determined by one-way ANOVA and the competency in skills.

Theme Five: Further Delineating the 18 Skills

The fifth theme of the study explored the possibility of further delineating the 18 skills specified in the study and is the focus of research question nine. To determine if the 18 skills could be characterized under two broad dimensions, the skills were analyzed using exploratory factor analysis. Part I of the survey questionnaire was designed to determine the importance of 18 skills that entry-level accountants should have acquired. A factor analysis, a method of data reduction, was used to prepare a component matrix. In order for factor analysis to be reliable, it is necessary to have a sample size of at least 300 (O'Brien, 2007). The sample size in this study was 309. To determine if factor analysis was appropriate, the researcher ran the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO). The KMO for the factor analysis data was .808. Values between .8 and .9 are good values according to Dziuban and Shirkey (1974), therefore, the researcher is confident that the factor analysis is appropriate. The principal component extraction method was used to extract the factors, which were then rotated utilizing Varimax with Kaisr normalization rotation method.

Research hypotheses for research question nine.

$H9_0$: The 18 skills in the study cannot be broadly characterized as soft skills and hard skills.

The clearest factor loadings occur with two factors, Table 34 presents the rotated factor loadings which show the correlation between the variable and the factor. The rotated factor matrix displays the factor loading for each of the 18 skills onto two factors. Since the researcher

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selected for output to be sorted by size, the factors are listed in the order of the size of factor loadings. There are two factors and skills load very highly onto only one of the two factors. Skills loading on factor one were: federal taxes-corporate, legal and regulatory knowledge, federal taxes-personal, not-for-profit accounting, financial accounting, managerial & cost accounting, accounting information systems, general business knowledge and auditing. Skills loading on factor two were: interpersonal communications, oral communications, teamwork, written communication, analytical/critical thinking, cultural awareness, word processing, spread sheeting, and ethics. Examining the content of skills of each factor the researcher identified common subject matter. The skills that load highly on factor one relate to technique skills or occupational skills, therefore, they will be labeled hard skills. The skills that load highly on factor two relate to character traits or interpersonal skills, therefore, they will be labeled soft skills.

The result of the factor analysis revealed that the 18 skills could be characterized under two broad dimensions therefore the null hypothesis is rejected.

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Table 34

Rotated Component Matrix

Skill	Component One	Two.
Federal Taxes-Corporate	.749	
Legal and Regulatory Knowledge	.711	
Federal Taxes-Personal	.695	
Not-for-Profit Accounting	.687	
Financial Accounting	.680	
Managerial & Cost Accounting	.670	
Accounting Information Systems	.665	
General Business Knowledge	.594	
Auditing	.585	
Interpersonal Communications		.774
Oral Communications		.710
Teamwork		.659
Written Communication		.626
Analytical/Critical Thinking		.545
Cultural Awareness		.541
Word Processing		.523
Spread Sheeting		.470
Ethics		.458

Rotation Converged in Three Iterations

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CHAPTER 5

SUMMARY, CONCLUSIONS, AND AREAS FOR FUTURE RESEARCH

Summary

In this study, participants consisting of Pennsylvania accounting practitioners ranked 18 skills by level of importance for entry-level accountants. The study then explored the participants' perception of entry-level accountants' competency in those skills. In addition, the study examined the participants' preferences regarding the educational and work experience requirements for CPA licensures and for selecting stakeholders to develop curriculum.

The target population for the study was Pennsylvania accounting practitioners. A simple random sample of participants was selected from the membership roster of the PICPA by mailing a survey to 1,000 active members of whom 309 or 30.9 percent responded with usable input. In this cross-sectional descriptive study, Pennsylvania accounting practitioners were asked to complete a questionnaire. The survey focused on the following:

- Ranking the importance of 18 skills for entry-level accountants;
- Assessing entry-level accountants' competencies in these skills;
- Evaluating participants' attitudes towards the new Pennsylvania CPA licensure requirements including the delivery of the 150-hour of educational credits and the type and length of work experience; and,
- Weighing participants' views on selecting the stakeholders to promulgate accounting education according to sex, employment level and duration, and educational demographics.

The study's results will provide accounting educators with information about curriculum changes to strengthen accounting programs by equipping recently graduated accounting students

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with skills that future employers perceive to be important for entry in to the profession. Moreover, with the enactment of Act 73, the study will provide Pennsylvania legislators with indicators on the delivery of additional educational credits and the type and length of work experience for CPA licensure in Pennsylvania.

With five primary themes, the study focused on the following corresponding objectives:

1. To determine the skills that Pennsylvania accounting practitioners perceived as important for entry level accountants, to evaluate their competency in those skills, and to measure any difference between the importance of the skills and entry-level accountants' competency in those skills;
2. To identify Pennsylvania accounting practitioners' preferences regarding the 150-hour educational requirement and the type and length of work experience to precede CPA licensure;
3. To evaluate Pennsylvania accounting practitioners' views on rating and selecting stakeholders to prescribe accounting curriculum;
4. To compare participants' perceptions based on demographics: most importantly, sex, employment level and duration, and educational; and,
5. To further separate and define the 18 skills in the study into two classifications: hard and soft.

Theme One: Importance of and Competency in Skills

The first objective was to pinpoint skills by order of importance and to determine entry-level accountants' competency in those skills. Among the selected skills, nine skills had a mean importance over 4.0: ethics, oral communication, spread sheeting, analytical/critical thinking, teamwork, interpersonal communications, written communications, word processing and

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financial accounting. However, in rating competency in the same skills, none had a mean over 4.0 indicating that participants, all Pennsylvania accounting practitioners, perceived entry-level accountants to be not highly competent in the most important skills. Furthermore, the paired sample t-Test (see Table 4) showed a significant difference between importance and competency in all 18 skills. This clearly demonstrates that academic institutions are not preparing students to enter the accounting profession to meet the needs of the profession. This result supports the premise that accounting educators should coordinate revising curriculum with accounting professionals so as to both meet Act 73's 150-hour educational requirement and to better prepare students for the profession.

The study shows that the profession values soft skills. For instance, two soft skills-written and oral communications-were ranked number one and two in importance (see Table 2). However in competency, written communication was ranked number 7 and oral communication was ranked number 10 (see Table 3).

Theme Two: Educational and Work Experience Requirements for CPA Licensure

The second objective was to determine the most appropriate delivery of the additional credit hours and the type and length of work experience to satisfy the new law. The five delivery methods to satisfy the 150-hour educational requirement were as follows: (a) four-year baccalaureate degree in accounting with 150 minimum hours of educational credits, (b) four-year baccalaureate degree in accounting integrated with a master's degree in accounting, (c) four-year baccalaureate degree in accounting with the traditional 120-130 hours in educational credits, (d) four-year baccalaureate degree in accounting and a two-year master's degree in accounting, and (e) four-year baccalaureate degree in liberal arts and a two-year master's degree in accounting. Candidates may currently sit for the CPA Uniform Exam after earning a baccalaureate degree

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with a minimum of 120 educational credit hours including 24 in any combination of accounting, auditing, tax, business law or finance subjects (http://www.picpa.org). While much has been said about accountants needing a master's degree to satisfy the 150-hour requirement, a plurality of Pennsylvania accounting practitioners or 37.5 percent think a four-year baccalaureate degree in accounting with a minimum of 150 hours of education credit was most appropriate. Next, 29.1 percent backed a four-year baccalaureate degree in accounting integrated with a master's degree in accounting as most appropriate followed by 28.8 percent endorsing the traditional four year- baccalaureate degree in accounting as most appropriate.

The five choices for length of work experience were as follows: (a) two years regardless of education, (b) three years regardless of education, (c) one year regardless of education, (d) no experience if candidate has met minimum of 150-hours of educational credit, and (e) no experience necessary. In addition to passing the Uniform CPA Exam, Pennsylvania licensure presently requires two years of experience but the new law would require only one year of experience (http://www.picpa.org). However, 68.9 percent of Pennsylvania accounting practitioners believes that two years of experience is more appropriate while only 12 percent prefers one year. Interestingly, 15.5 percent preferred three years.

The five choices for type of work experience were as follows: (a) any type of public accounting experience, (b) public accounting experience in accounting and assurance only, (c) public, private or governmental accounting experience of any kind, (d) public or private accounting experience of any kind, and (e) public, private, governmental or academic accounting experience. Under Act 73, the type of work experience remains as before and is satisfied as follows: (a) public accounting, (b) internal auditing if the internal audit function reports to an independent board or similar body, or (c) auditing with a unit of federal, state or local

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government. In addition, a licensed CPA must supervise all positions (http://www.picpa.org). Nonetheless, 48.2 percent of Pennsylvania accounting practitioners favors public accounting as most appropriate for CPA licensure. Next, 23.0 percent favors accounting and assurance experience as most appropriate. The gap between public and private accounting experience is significant as 71.2 percent prefer public accounting while only 28.8 percent prefer private.

Theme Three: Best Stakeholders to Prescribe Accounting Curriculum

The third objective was to determine the most preferred stakeholder to prescribe accounting curriculum. The five choices for stakeholders were as follows: (a) public accounting practitioners (CPAs), (b) accountants working in industry or government, (c) accounting educators, (d) state boards of accountancy (NASBA), or (e) educational accrediting agencies (AACSB). Pennsylvania accounting practitioners most favored CPAs to prescribe accounting curriculum with a mean of 4.26. Usually, accounting educators develop curriculum to meet the standards of educational accrediting agencies such as the AACSB, which notably, participants selected least with a mean of 3.16.

Theme Four: Influence of Participants' Demographics

Participants' data were disaggregated into demographics including sex, position in firm, level of education, and years of experience.

Demographic Characteristic-Sex

Male and female perceptions differed. For example, the importance of written communication skills differed significantly with a p-value of .048 between males and females (see Table 10). Female participants rated written communication (M= 4.42) higher than males (M= 4.25). Overall, female participants rated 17 skills higher in importance, leaving males to rate only one skill, spread sheeting as slightly higher. Table 35 shows the 18 skills in order of

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importance for females and males. Both groups ranked ethics, a soft skill, as most important. As notable, other soft skills such as oral communications and analytical/critical thinking ranked in the top four with both males and females.

Table 35

Female and Male Mean Ranking of Importance of Skills

Female Rank	Skill	Mean	Male Rank	Skill	Mean
1.	Ethics	4.59	1.	Ethics	4.58
2.	Oral Communication	4.49	2.	Spread Sheeting	4.44
3.	Analytical/Critical Thinking	4.48	3.	Oral Communication	4.42
4.	Teamwork	4.47	4.	Analytical/Critical Thinking	4.39
5.	Written Communication	4.42	5.	Interpersonal Communication	4.37
6.	Spread Sheeting	4.42	6.	Teamwork	4.34
7.	Interpersonal Communication	4.41	7.	Written Communication	4.25
8.	Word Processing	4.13	8.	Word Processing	4.02
9.	Financial Accounting	4.08	9.	Financial Accounting	3.98
10.	General Business Knowledge	3.82	10.	General Business Knowledge	3.65
11.	Auditing	3.70	11.	Auditing	3.61
12.	Cultural	3.51	12.	Federal Taxes-Personal	3.43
13.	Acct Information Systems	3.44	13.	Federal Taxes-Corporate	3.40
14.	Federal Taxes-Corporate	3.43	14.	Acct Information Systems	3.39
15.	Federal Taxes-Personal	3.33	15.	Cultural	3.31
16.	Legal/ Regulatory Knowledge	3.28	16.	Legal/Regulatory Knowledge	3.10
17.	Managerial & Cost Acct.	3.24	17.	Managerial & Cost Acct.	3.03
18.	Not-for-Profit Acct	3.00	18.	Not-for-Profit Acct	2.77

Even though participants did not consider entry-level accountants as highly competent in any of the 18 skills, female participants rated entry-level accountants' competency higher than males in all skills. Significant statistical differences occurred in assessing competency of general business knowledge (p= .000), financial accounting (p= .002), written communication (p= .003), federal taxes corporate (p= .012), interpersonal communication (p= .012), management and cost

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accounting (p= .024), analytical and critical skills (p= .028), legal regulations (p= .038), and word processing (p= .046) (see Table 11).

On the other hand, no significant statistical differences occurred between female and male preferences for the 150-hour educational requirement and for the type and length of work experience. Both males and females selected four year-baccalaureate degree in accounting with 150 hours as most favored with females at 37.5 percent and males at 37.6 percent. After this choice, the similarity stopped as 29.4 percent of males favored the five-year baccalaureate degree in accounting integrated with master's degree in accounting, while 29.5 percent of females favored the four-year baccalaureate degree in accounting. Next, 68.3 percent of males and 70.5 percent of females selected two years of experience regardless of education as most favored. Thereafter, they differ as 16.7 percent of males selected three years of experience regardless of education while 14.8 percent of females selected one year of experience regardless of education. And yet 49.3 percent of males and 45.5 percent of females, the highest percentages of both groups, selected public accounting experience as most preferred, followed by 18.2 percent of females and 24.9 percent of males choosing public accounting experience-accounting and assurance as most preferred.

As expected, both females with a mean of 4.27 and males with a mean of 4.25 identified CPAs as the preferred stakeholder to prescribe accounting curriculum.

Demographic Characteristic-Position in Firm

The position within a firm was grouped into two categories: those with authority to hire and supervise entry-level accountants and those who without.

For those in authority the three skills with the highest mean were as follows: analytical /critical thinking (M=4.44), oral communications (M=4.43), and interpersonal communications

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(M=4.41). For those without authority the three skills with the highest mean were as follows: spread sheeting (4.48), oral communication (M=4.44), and teamwork (4.40). Table 36 lists the 18 skills in order of importance by mean. Only two skills had significant differences in importance between the two groups: financial accounting with a p-value of .031 and managerial/cost accounting with a p-value of .008 (see Table 16). Those without authority rated these hard skills higher than their counterpart who slightly preferred soft skills. Research suggests that hiring officers in public accounting firms prefer entry-level accountants with strong soft skills since training in hard skills appears easier.

Table 36

Mean Ranking of Importance of Skills for Those in Authority and for Staff

Those in Authority			Staff		
Rank	Skill	Mean	Rank	Skill	Mean
1.	Ethics	4.62	1.	Spread Sheeting	4.48
2.	Analytical/Critical Thinking	4.44	2.	Ethics	4.48
3.	Oral Communication	4.43	3.	Oral Communication	4.44
4.	Spread Sheeting	4.42	4.	Teamwork	4.40
5.	Interpersonal communications	4.41	5.	Analytical/Critical Thinking	4.36
6.	Teamwork	4.37	6.	Interpersonal communications	4.28
7.	Written Communication	4.32	7.	Written Communication	4.23
8.	Word Processing	3.99	8.	Word Processing	4.21
9.	Financial Accounting	3.95	9.	Financial Accounting	4.17
10.	General Business Knowledge	3.66	10.	General Business Knowledge	3.80
11.	Auditing	3.64	11.	Auditing	3.63
12.	Federal Taxes-Personal	3.43	12.	Acct Information Systems	3.56
13.	Federal Taxes-Corporate	3.43	13.	Cultural Awareness	3.42
14.	Acct Information Systems	3.36	14.	Federal Taxes-Corporate	3.37
15.	Cultural Awareness	3.35	15.	Federal Taxes-Personal	3.33
16.	Legal/Regulatory	3.12	16.	Managerial & Cos t Acct	3.32
17.	Managerial & Cos t Acct	3.00	17.	Legal/Regulatory	3.25
18.	Not-for-Profit Acct	2.79	18.	Not-for-Profit Acct	2.98

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Regarding competency levels, those in authority responded significantly different from those without in 7 of the 18 skills: written communication (p=.004), oral communication (p= .026), general business knowledge (p=.000), managerial/cost accounting (p=.001), not-for-profit accounting .047), word processing (.029), and analytical/critical thinking (p= .014) (see Table 17). Moreover, those in authority did not rank any of the 18 skills above a mean of 4.0 for competency. In the opposite, those without ranked only one skill, word processing above a mean of 4.0 for competency. Apparently, Pennsylvania accounting practitioners do not perceive entry-level accountants as highly competent in the 18 skills.

The highest percentage from both groups-with 36.0 percent of those with authority and 42 percent of those without-selected a four-years baccalaureate degree in accounting with 150 hours minimum as most appropriate, followed respectively by 29.4 percent and 28.4 percent selecting a five-year degree in accounting integrated with a master's degree in accounting. Literature suggests a five-year degree in accounting integrated with a master's degree in accounting most efficiently satisfies the 150-hour educational requirement. However, it is uncertain whether a high percentage of participants chose the four as opposed to five-year program after considering containing the cost of education. Nevertheless, completing 150 credits in four years may be taxing, and so many may intend to take four but end up taking five years to complete an undergraduate degree. On the other hand, completing a five-year baccalaureate/master will increase costs by an additional year. In meeting the recently enacted 150-hour educational requirement, the four-year program, if completed on time, may contain costs; however the five-year program would not. As a result, many students will pay more in higher education costs to prepare for CPA licensure in Pennsylvania.

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The highest percentage from both groups with 69.3 percent of those with authority and 67.9 percent of those without, chose two years of experience regardless of education as the most appropriate to precede CPA licensure followed by 16.7 percent of those with authority choosing three years of experience as most appropriate and 16.1 percent of those without choosing one year of experience. While 51.8 percent of those with authority perceived as most appropriate any type of public accounting experience, 38.3 percent of those without perceived as most appropriate public accounting experience only.

Both those in authority with a mean of 4.28 and those without with a mean of 4.20 perceived CPAs as the most appropriate stakeholder to prescribe accounting curriculum.

Demographic Characteristic: Level of Education

Participants were grouped as those with an earned graduate degree and those with an earned undergraduate degree. Between the two groups, a statistically significant difference appeared in only one of the 18 skills, legal/regulatory knowledge with a p-value of .023 (see Table 22). The four with the highest means for graduate degree participants were all soft skills: ethics, analytical/critical thinking, oral communication, and written communication. The top four for undergraduate degree participants were also soft skills: ethics, oral communication, interpersonal communication, and analytical/critical thinking. Although Table 37 shows the mean ranking of importance of all 18 skills, soft skills stand out as the most important for entry-level accountants.

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Table 37

Graduate and Undergraduate Degree Participants' Mean Ranking of Importance in Skills

Graduate Rank	Skill	Mean	Undergraduate Rank	Skill	Mean
1.	Ethics	4.63	1.	Ethics	4.57
2.	Analytical/Critical Thinking	4.52	2.	Spread Sheeting	4.45
3.	Oral Communication	4.47	3.	Oral Communication	4.43
4.	Written Communication	4.41	4.	Interpersonal Communication	4.39
5.	Spread Sheeting	4.39	5.	Teamwork	4.39
6.	Interpersonal Communication	4.33	6.	Analytical/Critical Thinking	4.38
7.	Teamwork	4.33	7.	Written Communication	4.26
8.	Financial Accounting	4.08	8.	Word Processing	4.04
9.	Word Processing	4.07	9.	Financial Accounting	3.98
10.	General Business Knowledge	3.76	10.	General Business Knowledge	3.68
11.	Auditing	3.69	11.	Auditing	3.62
12.	Federal Taxes-Personal	3.47	12.	Federal Taxes-Corporate	3.42
13.	Cultural Awareness	3.43	13.	Acct Information Systems	3.41
14.	Acct Information Systems	3.41	14.	Federal Taxes-Personal	3.38
15.	Federal Taxes-Corporate	3.39	15.	Cultural Awareness	3.35
16.	Legal/Regulatory Knowledge	3.35	16.	Legal/Regulatory Knowledge	3.09
17.	Managerial & Cost Acct.	3.23	17.	Managerial & Cost Acct.	3.04
18.	Not-for-Profit Acct.	2.71	18.	Not-for-Profit Acct.	2.88

Between the two groups, a statistically significant difference appeared in the competency level for two skills: financial accounting with a p-value of .050, and managerial/cost accounting with a p-value of .012 (see Table 23). None of the 18 skills had a mean over 4.0 for competency in skills. Notably, spread sheeting and word processing received the highest mean for competency by both groups with graduate degree participants at a mean of 3.96 for word processing and 3.93 for spread sheeting, and undergraduate degree participants at a mean of 3.86 for spread sheeting and 3.79 for word processing.

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A plurality of graduate degree participants or 34.7 percent perceived a four-year baccalaureate degree in accounting with 120-130 educational credits as most appropriate for entry into the accounting profession, while a plurality of undergraduate degree participants or 40.6 percent perceived the four-year baccalaureate degree in accounting with 150 education credits as most appropriate. The highest percentage from both groups with 64.0 percent of graduate degree and 70.5 percent of undergraduate degree participants selected two years of experience regardless of education as most appropriate to precede CPA licensure. Both groups also perceived public accounting experience of any type as most appropriate to precede CPA licensure. Finally, both groups equally perceived CPAs as the most appropriate stakeholder to prescribe accounting curriculum with graduate degree participants at a mean of 4.27, and likewise, undergraduate degree at 4.26.

Demographic Characteristic – Years of Experience

Based on years of experience, participants were grouped as having more or less than ten.

Between the two groups, a statistically significant difference appeared in 6 of the 18 skills: general business knowledge (p=.018), financial accounting (p=.023), not-for-profit accounting (p=.037), federal taxes-personal (p=.026), spread sheeting (p=.028), and word processing (p=.018) (see Table 28). Once more, both groups rated topmost soft skills such as oral communications, analytical/critical thinking, and ethics as most important for entry-level accountants. Table 38 shows the mean ranking of skills based on years of experience in the accounting profession.

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Table 38

Respondents Mean Ranking of Importance in Skills Based on Years of Experience

Less than 10 years			More than 10 years		
Rank	Skill	Mean	Rank	Skill	Mean
1.	Spread Sheeting	4.55	1.	Ethics	4.63
2.	Oral Communication	4.50	2.	Oral Communication	4.41
3.	Analytical/Critical Thinking	4.50	3.	Spread Sheeting	4.38
4.	Ethics	4.50	4.	Analytical/Critical Thinking	4.37
5.	Interpersonal Communication	4.43	5.	Interpersonal Communication	4.35
6.	Teamwork	4.43	6.	Teamwork	4.35
7.	Written Communication	4.30	7.	Written Communication	4.30
8.	Word Processing	4.22	8.	Word Processing	3.96
9.	Financial Accounting	4.15	9.	Financial Accounting	3.93
10.	General Business Knowledge	3.84	10.	General Business Knowledge	3.63
11.	Auditing	3.73	11.	Auditing	3.59
12.	Acct Information Systems	3.47	12.	Federal Taxes-Personal	3.49
13.	Cultural Awareness	3.46	13.	Federal Taxes-Corporate	3.48
14.	Federal Taxes-Corporate	3.29	14.	Acct Information Systems	3.38
15.	Federal Taxes-Personal	3.24	15.	Cultural Awareness	3.32
16.	Legal/Regulatory Knowledge	3.24	16.	Legal/Regulatory Knowledge	3.11
17.	Managerial & Cost Acct.	3.23	17.	Managerial & Cost Acct.	3.01
18.	Not-for-Profit Acct.	2.99	18.	Not-for-Profit Acct.	2.75

Finally, between the two groups, a statistically significant difference appeared in competency levels in four skills: written communication (p=.003), general business knowledge (p=.000), financial accounting (p=.002) and managerial/cost accounting (p=.001) (see Table 29). And again, entry-level accountants were perceived not to be highly competent in any of the 18 skills.

Theme Five: Further Delineating the 18 Skills

A factor analysis was performed to classify and detect a relationship among the 18 skills. In addition, using the principal component extraction method, the skills were characterized as

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either hard or soft. Skills loaded on one of two factors. Hard skills, identified in the first factor, included the following: federal taxes-corporate, legal and regulatory knowledge, federal taxes-personal, not-for-profit accounting, financial accounting, managerial/cost accounting, accounting information systems, general business knowledge, and auditing. Soft skills, identified in the second factor, included the following: interpersonal communications, oral communications, teamwork, written communication, analytical/critical thinking, cultural awareness, word processing, spread sheeting, and ethics.

CONCLUSIONS

The study allowed for conclusions about pinpointing and implementing curriculum that incorporates the important skills for entry-level accountants, about determining and then improving students' competency in those skills through course work, and about recommending compliance options to educators, administrators, and legislators regarding recently enacted Act 73.

Implication of the Study Results for Accounting Educators

Accounting educators develop and revise curriculum by acquiring new content and skills identified from attending conferences, reading texts and journals and by peer-reviewing colleagues' teaching (Simon, 2010). The evidence suggested that accounting educators must break somewhat from 20 years of tradition. According to Russell (2003), the same pedagogical approach that allowed accounting programs to be successful until the early 1990s continues to be used which focuses on hard skills to aid candidates in passing the Uniform CPA Exam. But this same approach does not prepare students for success in the accounting profession. Accounting educators in the 21st century should show how the accounting curriculum is keeping up with the demands of modern employers. Together, accounting educators and future employers should

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determine the necessary skills for an ever-changing work force. According to Brubaker (2008), to insure quality in the accounting curriculum, educators should continuously monitor the needs of its users, the accounting practitioners. Supporting this study's results, Ainsworth (2001) suggested a model for accounting curriculum to be consistent with the needs of the profession.

The model program should provide students with the following:

1. Hard skills to understand the general field of accounting;
2. Hard skills to understand the subfields or specialties of accounting; and,
3. Soft skills such as written, oral and interpersonal communications, analytical or critical thinking, and ethics to enjoy a productive and rewarding career.

Again, supporting this study's results, Hurt (2007) found the following four essential abilities to succeed in the profession: (a) writing, (b) professionalism and ethics, (c) critical thinking, and (d) oral communications, especially with clients. In addition, Kai-Wen (2007) suggested change in academic preparedness to reduce the gap between what the business community expects of a well-prepared student, and all too frequently, what it gets. He suggested that institutions should supplement courses with communication skills and use case studies to develop analytical skills. Once more Kai-Wen's findings support those in this study. Kerby and Romine (2010) also support an accounting curriculum to develop written and oral communication skills, leadership skills, and teamwork-all soft skills.

This study should be used to improve accounting education. Higher education institutions with accounting programs can integrate into their course work those areas identified as important by Pennsylvania accounting practitioners including primarily soft skills. Despite this recommendation, institutions resist by adding accounting and business courses to support the objectives of the 150-hour educational requirement (De Derry, 2003). According to Shinn

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(2009) accounting curriculum, despite ongoing changes, is more likely to introduce new hard skills courses such as International Financial Reporting Standards (IFRS) even though research shows that soft skills are paramount to an entry-level accountant's success. Without delay accounting curriculum should be on developing the same soft skills delineated from the 18 skills used in the study and identified as: interpersonal communications, oral communications, teamwork, written communication, analytical/critical thinking, cultural awareness, word processing, spread sheeting, and ethics. Of the nine skills identified in the study with a mean importance over 4.0, eight were soft skills. However, none of the soft skills had a mean competency over 4.0 indicating that Pennsylvania accounting practitioners did not perceive entry-level accountants to be highly competent in those skills. Practitioners throughout the accounting industry have called for advances in accounting curricular beyond traditional technical skills (Hazelton and Haigh, 2010). Academia should integrate soft skills into the curriculum by considering them as core concepts of accounting. By integrating soft skills into the accounting curriculum, programs will provide practitioners with qualified graduates.
In addition to providing employers with qualified candidates by integrating soft skills into the accounting curriculum, Hazelton and Haigh (2010) stated these changes can influence sustainability within accounting programs.

Predictably, the results of this study show that entry level accountants are not competent in soft skills. It also shows that CPAs should contribute to curriculum development. The study identified the CPA as the most appropriate stakeholder to prescribe accounting curriculum with a mean of 4.26. Sinning & Dykxhoorn (2001) surveyed 133 schools with accounting programs to determine the process used for curriculum revisions. Their study found that accounting faculty (37%), faculty curriculum committees (30%), and department chairs (33%) provided revision

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input, while professionals, businesses and other organizations were not even considered. This finding supports the results of this study identifying the need for dialogue between the users of accounting graduates, the business community, and the suppliers, accounting programs. Development of an accounting curriculum advisory board consisting of both faculty and professionals would ensure dialogue and aid in curriculum revisions.

Implications of the Study Results for Pennsylvania Legislators

The new education requirements under Act 73 of 2008 require CPA candidates to have graduated with a bachelor's degree and to have completed 150 credit hours of higher education with 36 semester credits in accounting subjects (http://www.picpa.org). However, at most higher education institutions, accounting majors complete from 120 to 130 undergraduate credit hours to graduate (Carpenter, 2005). Under this model, students would require a fifth year at the undergraduate level to complete the additional 20 to 30 credits, unless of course, institutions adopted a four year, 150 credit curriculum, which 37.5 percent of Pennsylvania accounting practitioners preferred . However, with this accelerated program, students would take at least 19 credits for eight semesters and many may end up enrolled for an additional year because they could not handle the overload. This scenario does not add an advanced degree to the student's credentials since he or she obtained the additional 20 to 30 credit hours at the undergraduate level. Therefore, earning a master's degree would render better results so far as costs and career advancement. Even so, the new law does not require a master's degree nor does it specifically identify courses to satisfy the additional credits. The state legislators or the Pennsylvania Department of Education along with the State Board of Accountancy should detail permissible degree completion methods and course requirements to be in compliance with Act 73. As important, this study suggests that these government entities should confer with accounting

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professionals and should incorporate soft skills into additional course work as identified in the research and in appendices B (Perceived Importance of Desired Competencies), C (AICPA Core Competencies) and D (Qualities Important to Prospective Employers).

The research has shown that the majority of Pennsylvania accounting practitioners or 68.9 percent believes that two years of work experience should precede CPA licensure. However, the new experience requirements under Act 73 of 2008 require only one year of work experience. Pennsylvania legislators should reexamine this change by soliciting feedback from the accounting profession, the primary stakeholders affected by the change. The study also serves to alert the Pennsylvania State Board of Accountancy that professionals deem two years of work experience as idyllic.

Areas for Future Research

Some believe that fewer may sit for CPA licensure due to the 150-hour educational requirement. According to Carpenter (2005), the number of candidates sitting for the Uniform CPA Exam is remarkably lower than it was in the 1900s. However, it is not evident in the research that the 150-hour educational mandate has resulted in this decline. A further study should examine whether the 150-hour educational requirement has deterred CPA licensure or entry in to the profession in Pennsylvania. A future study should also examine compensation tiers pitting CPA's salaries against those without licensure in public accounting firms.

Proponents of the 150-hour educational requirement argue that additional educational produces higher quality students who are better prepared for the Uniform CPA Exam. Passing the Uniform CPA Exam is important to practitioners as they often complain they cannot promote staff to management positions if they have not passed the exam (Barilla, 2008). Future studies should look to validate the success of the 150-hour educational mandate in Pennsylvania by

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specifically studying candidates' results of the Uniform CPA Exam before January, 2012, the enactment of the 150-hour mandate and after.

Finally, additional research could broaden this study which concentrated on the perceptions of accounting practitioners in public practice in Pennsylvania. Future studies could address the views of accountants in private practice and in education in Pennsylvania.

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Acronyms

AAA	American Accounting Association
AACSB	Association to Advance Collegiate Schools of Business
AICPA	American Institute of Certified Public Accountants
CPA	Certified Public Accountant
CPE	Continuing Professional Education
FSA	Federation of Schools of Accountancy
NASBA	National Association of State Boards of Accountancy
PICPA	Pennsylvania Institute of Certified Public Accountants
SOX	Sarbanes-Oxley Act
UAA	Uniform Accountancy Act

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Appendix A

Current Status of the 150-Hour Requirement by State

States that have enacted the 150-hour requirement prior to November 1, 2011

State	Effective Date	State	Effective Date
Alabama	01/01/95	Montana	07/01/97
Alaska	01/01/01	Nebraska	01/01/98
Arizona	06/30/04	Nevada	01/01/01
Arkansas	01/01/98	New Mexico	07/01/04
Connecticut	01/01/00	New York	08/01/09
District of Columbia	01/02/00	New Jersey	07/01/00
Florida	08/01/83	North Carolina	01/01/01
Georgia	01/01/98	North Dakota	01/01/00
Hawaii	12/31/00	Ohio	01/01/00
Idaho	07/01/00	Oklahoma	07/01/03
Illinois	01/01/01	Oregon	01/01/00
Indiana	01/01/00	Rhode Island	07/01/99
Iowa	01/01/01	South Carolina	07/01/97
Kansas	06/30/97	South Dakota	01/01/98
Kentucky	01/01/00	Tennessee	04/14/93
Louisiana	12/31/96	Texas	08/31/97
Maine	05/01/03	Utah	07/01/00
Maryland	07/01/99	Virginia	01/01/06
Massachusetts	07/01/02	Washington	07/01/00
Michigan	07/01/03	West Virginia	02/15/00
Minnesota	07/01/06	Wisconsin	01/01/01
Mississippi	02/01/95	Wyoming	01/01/00
Missouri	06/30/99		

States working towards adoption of the 150-hour requirement as of November 1, 2011

California	01/01/14	New Hampshire	07/01/14
Colorado	07/0/1/15	Pennsylvania	12/31/11
Delaware	N/A	Vermont	N/A

Source: AICPA (2003d) and currently updated

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Appendix B

Perceived Importance of Desired Competencies

Competency	Rating *
Written Communication Skills	4.86
Oral Communication	4.86
Problem Solving Skills	4.84
Ability to Utilize Technology and Computer Skills	4.78
Knowledge of General Business	4.70
Interpersonal Skills	4.67
External Financial Reporting Knowledge	4.63
Organizational Skills	4.54
Ability to Motivate and Develop People	4.53
Ability to Analyze and /Solve Structured and Unstructured Problems	4.52
Tax Accounting Knowledge	4.50
Knowledge of Accounting Information Systems	4.49
Ability to Resolve Issues and Apply Values-based Reasoning	4.48
Ability to Assign Priorities	4.47
Delegation Skills	4.39
Knowledge of Auditing	4.39
Knowledge of Mathematics	4.19
Quantitative Applications Knowledge and Skills	4.17
Ability to Work in Groups	4.10
Ability to Influence Others	4.09
Knowledge of Managerial Accounting	4.09
Knowledge of Marketing	4.04
Knowledge of Business Law	3.96
Knowledge of Forces Affecting Organizations	3.88
Microeconomics Knowledge	3.44
Macroeconomics Knowledge	3.33
Knowledge of Globalization	3.20
Knowledge of Literature	3.09
Foreign Language Knowledge	2.71
Knowledge of Accounting History	2.51
Knowledge of Science	2.21

*Ratings are on a scale of 1.0 (very unimportant) to 5.0 (very important)
Source: Moreland & Angue (2006)

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Appendix C

AICPA Core Competencies

Functional Competencies	Personal Competencies	Broad Business Perspective Competencies
• Decision modeling • Risk Analysis • Measurement • Reporting • Research • Leverage technology to develop and enhance functional competencies	• Professional demeanor • Problem solving and decision making • Interaction • Leadership • Communication • Project management • Leverage technology to develop and enhance personal competencies	• Strategic/critical thinking • Industry/sector perspective • Resource management • Legal/regulatory perspective • Marketing/client focus • Leverage technology to develop and enhance a broad business perspective

Source: AICPA (2000)

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Appendix D

Qualities Important to Prospective Employers

Skill	Ratings*
Communication skills (verbal & written)	4.6
Strong work ethic	4.6
Teamwork skills (works well with others)	4.5
Initiative	4.4
Interpersonal skills (relates well to others)	4.4
Problem-solving skills	4.4
Analytical skills	4.3
Flexibility/ adaptability	4.2
Computer skills	4.1
Technical skills	4.1
Detail orientation	4.0
Organizational skills	4.0

*Ratings are on a scale of 1.0 (very unimportant) to 5.0 (very important)
Source: Beard, Surendran & Surendran

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Appendix E

Education Models

8th year			Professional
7th year		Professional	Education
6th year		Education	(4 years)
5th year	?	(3 years)	
	Baccalaureate Degree	Baccalaureate Degree	Baccalaureate Degree
4th year To 1st year	Professional Education In Accounting (1 year) Business Education (1 year) Liberal Arts and Other Course Work	Liberal Arts and Other Course Work	Liberal Arts and Other Course Work
	Accounting	Law	Medicine

Source: Williams (1990)

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Appendix F

Survey Cover Letter

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One Neumann Drive, Aston, PA 19014-1298
(610) 558-5594 FAX (610) 558-5574
e-mail: jmassey@neumann.edu

Dear Accounting Professional,

You are invited to participate in a research study which is an integral component of my dissertation as a candidate for a doctoral degree; your professional assistance will be greatly appreciated. The purpose of the study is to examine the broad question of the extent to which undergraduate accounting programs are effectively preparing students for entry level accounting positions in light of the 150-hour requirement. Your expert opinion will be of great significance to the study and will help in supplying important information that could potentially influence accounting curriculum. The information from the survey may also be used to improve the licensure requirements for the Certified Public Accountant candidate. You can participate in this study by completing the enclosed survey which should take less than 10 minutes.

CONFIDENTIALITY:

The information in the study records will be kept strictly confidential. Data will be stored securely and will be made available only to persons conducting the study. No reference will be made in oral or written reports that could link you to the study. Your participation is voluntary; your name is not required on the survey instrument. Return of completed survey constitutes your consent to participate in the study. You may receive a copy of the completed study upon request.

CONTACT:

If you have any questions about the study or the procedures, you may contact the researcher, Janet Massey, CPA at Neumann University at jmassey@neumann.edu or call at 610-558-5588.

Thank you for your time and consideration and sharing your expert opinion for this study. Please return your survey in the postage paid envelope enclosed. **In appreciation of your time, the first 200 respondents postmarked before July 15, 2010 will receive a $5.00 Starbucks gift card. Please include your name and address to receive the gift card, confidentially will be maintained; your name will only be used for mailing of the gift card.**

Sincerely,
Janet Massey, CPA
Janet Massey, CPA, MBA, DBA candidate

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Appendix G

Survey Instrument

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PART I

SKILLS REQUIRED AND POSSESSED BY ENTRY-LEVEL ACCOUNTANTS

How important is it for an entry-level accountant to be competent in the listed skill area? Directions: Circle One					Skill Area	How competent is the entry-level accountant in the listed skill area? Directions: Circle One				
Not Important				Very Important		Incompetent				Very Competent
1	2	3	4	5	1. Written Communications	1	2	3	4	5
1	2	3	4	5	2. Oral Communications	1	2	3	4	5
1	2	3	4	5	3. General Business Knowledge	1	2	3	4	5
1	2	3	4	5	4. Financial Accounting	1	2	3	4	5
1	2	3	4	5	5. Managerial and Cost Accounting	1	2	3	4	5
1	2	3	4	5	6. Nor-For-Profit-Accounting	1	2	3	4	5
1	2	3	4	5	7. Federal Taxes-Personal	1	2	3	4	5
1	2	3	4	5	8. Federal Taxes-Corporate	1	2	3	4	5
1	2	3	4	5	9. Auditing	1	2	3	4	5
1	2	3	4	5	10. Spread sheeting	1	2	3	4	5
1	2	3	4	5	11. Word Processing	1	2	3	4	5
1	2	3	4	5	12. Accounting Information Systems	1	2	3	4	5
1	2	3	4	5	13. Interpersonal Communications	1	2	3	4	5
1	2	3	4	5	14. Analytical/Critical Thinking	1	2	3	4	5
1	2	3	4	5	15. Teamwork	1	2	3	4	5
1	2	3	4	5	16. Ethics	1	2	3	4	5
1	2	3	4	5	17. Legal and Regulatory Knowledge	1	2	3	4	5
1	2	3	4	5	18. Cultural Awareness	1	2	3	4	5

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PART II

AUTHORITY TO PRESCRIBE CURRICULUM

Please answer the question by circling one number from 1 through 5 to the right of each category.

What level of authority should the following stakeholders have in prescribing accounting curriculum?

1. Accounting educators	1	2	3	4	5
2. Public accounting practitioners (CPAs)	1	2	3	4	5
3. Accountants working in industry or government	1	2	3	4	5
4. State Boards of Accountancy (NASBA)	1	2	3	4	5
5. Educational accrediting agencies (AACSB)	1	2	3	4	5

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PART III

EDUCATION REQUIREMENT

Direction: Please circle only one answer.

Assuming there is a 150-hour education requirement for certification or licensure, which time commitment and program structure do you believe is most appropriate preceding entry into the public accounting profession?

A. Four years – baccalaureate degree in accounting (120-130 hours)
B. Four years – baccalaureate degree in accounting (150 hours minimum)
C. Five years – four year baccalaureate degree in accounting integrated with master's degree in accounting
D. Six years – four year baccalaureate degree in accounting plus two-year master's degree in accounting
E. Six years – four year baccalaureate degree in liberal arts plus two-year master's degree in accounting

PART IV

WORK EXPERIENCE REQUIREMENT

1. Following formal education, how much work experience do you believe should precede a license to practice public accounting?

   A. No experience necessary
   B. No experience necessary if minimum of 150-hours of education achieved
   C. One year of experience regardless of education
   D. Two years of experience regardless of education
   E. Three years of experience regardless of education

2. Following formal education, which type of work experience requirement do you believe should precede a license to practice public accounting?

   A. Public accounting experience only –accounting and assurance experience only
   B. Public accounting experience only- any type of public accounting experience
   C. Public or private accounting of any kind
   D. Public, private or governmental accounting of any kind
   E. Public, private, governmental or academic (teaching or research in higher education) accounting experience

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PART V

DEMOGRAPHIC AND BACKGROUND INFORMATION

Directions**:** Please circle only one answer for each question:

1. What is your position or job title?

   A. Partner
   B. Principle
   C. Manager
   D. Senior Staff
   E. Junior Staff
   F. Other

2. What is your Gender?

   A. Male
   B. Female

3. What is your age category?

   A. 20-29
   B. 30-39
   C. 40-49
   D. 50-59
   E. 60 or over

4. What is the highest education level achieved?

   A. Doctorate (terminal) degree
   B. Master's degree
   C. Bachelor's degree
   D. Other

5. How many years of experience do you have in public accounting?

   A. 0-five years
   B. Six-ten years
   C. Eleven-twenty years
   D. More than twenty years

6. What is your area of specialization?
   A. Financial Accounting and Reporting
   B. Management Advisory and Consulting
   C. Audit and Assurance
   D. Accounting Systems
   E. Taxation
   F. Other specialty
   G. No specialty

7. What is your employment status?
   A. Full-time
   B. Part-time

8. How many full-time accounting professionals are employed by your firm?

   A. Less than three
   B. Three-five
   C. Six-ten
   D. Eleven-twenty
   E. Over twenty

9. How many people do you supervise on a yearly basis?

   A. None
   B. One-five
   C. Six-ten
   D. Eleven-twenty
   E. More than twenty

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Appendix H

Survey Appreciation Letter

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One Neumann Drive, Aston, PA 19014-1298
(610) 558-5594 FAX (610) 558-5574
e-mail: jmassey@neumann.edu

Dear Accounting Professional,

I want to thank you for participating in my research study which was an integral component of my dissertation as a candidate for a doctoral degree; your professional assistance was greatly appreciated. The purpose of the study was to examine the broad question of the extent to which undergraduate accounting programs are effectively preparing students for entry level accounting positions in light of the 150-hour requirement. Your expert opinion was of great significance to the study and helped me in supplying important information that could potentially influence accounting curriculum.

Thank you for your time and consideration and sharing your expert opinion for this study. Please accept the $5.00 Starbucks gift card enclosed as a token of my appreciation

Sincerely,
Janet Massey, CPA
Janet Massey, CPA, MBA, DBA candidate

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Appendix I

Binomial Test-Mean Importance of Skills

Skill		Category	N	Observed Prop.	Test Prop.	Asymp. Sig. (2-tailed)
Importance of Written Communication	Group 1	<= 4.25	182	.59	.50	.002[a]
	Group 2	> 4.25	127	.41		
	Total		309	1.00		
Importance of Oral Communications	Group 1	<= 4.25	156	.50	.50	.909[a]
	Group 2	> 4.25	153	.50		
	Total		309	1.00		
Importance of General Business Knowledge	Group 1	<= 4.25	268	.87	.50	.000[a]
	Group 2	> 4.25	41	.13		
	Total		309	1.00		
Importance of Financial Accounting	Group 1	<= 4.25	220	.71	.50	.000[a]
	Group 2	> 4.25	89	.29		
	Total		309	1.00		
Importance of Managerial & Cost Accounting	Group 1	<= 4.25	283	.92	.50	.000[a]
	Group 2	> 4.25	26	.08		
	Total		309	1.00		
Importance of Not-for-Profit Accounting	Group 1	<= 4.25	290	.94	.50	.000[a]
	Group 2	> 4.25	19	.06		
	Total		309	1.00		
Importance of Federal Taxes-Personal	Group 1	<= 4.25	268	.87	.50	.000[a]
	Group 2	> 4.25	41	.13		
	Total		309	1.00		
Importance of Federal Taxes-Corporate	Group 1	<= 4.25	272	.88	.50	.000[a]
	Group 2	> 4.25	37	.12		
	Total		309	1.00		
Importance of Auditing	Group 1	<= 4.25	255	.83	.50	.000[a]
	Group 2	> 4.25	54	.17		
	Total		309	1.00		

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Importance of Spread Sheeting	Group 1	<= 4.25	147	.48	.50	.426[a]
	Group 2	> 4.25	162	.52		
	Total		309	1.00		
Importance of Word Processing	Group 1	<= 4.25	193	.62	.50	.000[a]
	Group 2	> 4.25	116	.38		
	Total		309	1.00		
Importance of Accounting Information Systems	Group 1	<= 4.25	270	.87	.50	.000[a]
	Group 2	> 4.25	39	.13		
	Total		309	1.00		
Importance of Interpersonal Communications	Group 1	<= 4.25	165	.53	.50	.255[a]
	Group 2	> 4.25	144	.47		
	Total		309	1.00		
Importance of Analytical/Critical Thinking	Group 1	<= 4.25	155	.50	.50	1.000[a]
	Group 2	> 4.25	154	.50		
	Total		309	1.00		
Importance of Teamwork	Group 1	<= 4.25	160	.52	.50	.570[a]
	Group 2	> 4.25	149	.48		
	Total		309	1.00		
Importance of Ethics	Group 1	<= 4.25	102	.33	.50	.000[a]
	Group 2	> 4.25	207	.67		
	Total		309	1.00		
Importance of Legal & Regulatory Knowledge	Group 1	<= 4.25	294	.95	.50	.000[a]
	Group 2	> 4.25	15	.05		
	Total		309	1.00		
Importance of Cultural Awareness	Group 1	<= 4.25	273	.88	.50	.000[a]
	Group 2	> 4.25	36	.12		
	Total		309	1.00		

a. Based on Z Approximation.

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Appendix J

Binomial Test-Mean ratings of Competencies in Skills

Skill		Category	N	Observed Prop.	Test Prop.	Asymp. Sig. (2-tailed)
Competence in Written Communications	Group 1	<= 4.25	288	.93	.50	.000[a]
	Group 2	> 4.25	21	.07		
	Total		309	1.00		
Competence in Oral Communication	Group 1	<= 4.25	283	.92	.50	.000[a]
	Group 2	> 4.25	26	.08		
	Total		309	1.00		
Competence in General Business Knowledge	Group 1	<= 4.25	299	.97	.50	.000[a]
	Group 2	> 4.25	10	.03		
	Total		309	1.00		
Competence in Financial Accounting	Group 1	<= 4.25	289	.94	.50	.000[a]
	Group 2	> 4.25	20	.06		
	Total		309	1.00		
Competence in Managerial & Cost Accounting	Group 1	<= 4.25	300	.97	.50	.000[a]
	Group 2	> 4.25	9	.03		
	Total		309	1.00		
Competence in Not-for-Profit Accounting	Group 1	<= 4.25	304	.98	.50	.000[a]
	Group 2	> 4.25	5	.02		
	Total		309	1.00		
Competence in Federal Taxes-Personal	Group 1	<= 4.25	299	.97	.50	.000[a]
	Group 2	> 4.25	10	.03		
	Total		309	1.00		
Competence in Federal Taxes-Corporate	Group 1	<= 4.25	303	.98	.50	.000[a]
	Group 2	> 4.25	6	.02		
	Total		309	1.00		
Competence in Auditing	Group 1	<= 4.25	301	.97	.50	.000[a]
	Group 2	> 4.25	8	.03		
	Total		309	1.00		

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Competence in Spread Sheeting	Group 1	<= 4.25	236	.76	.50	.000[a]
	Group 2	> 4.25	73	.24		
	Total		309	1.00		
Competence in Word Processing	Group 1	<= 4.25	238	.77	.50	.000[a]
	Group 2	> 4.25	71	.23		
	Total		309	1.00		
Competence in Accounting Information Systems	Group 1	<= 4.25	297	.96	.50	.000[a]
	Group 2	> 4.25	12	.04		
	Total		309	1.00		
Competence in Interpersonal Communications	Group 1	<= 4.25	284	.92	.50	.000[a]
	Group 2	> 4.25	25	.08		
	Total		309	1.00		
Competence in Analytical/Critical Thinking	Group 1	<= 4.25	286	.93	.50	.000[a]
	Group 2	> 4.25	23	.07		
	Total		309	1.00		
Competence in Teamwork	Group 1	<= 4.25	262	.85	.50	.000[a]
	Group 2	> 4.25	47	.15		
	Total		309	1.00		
Competence in Ethics	Group 1	<= 4.25	238	.77	.50	.000[a]
	Group 2	> 4.25	71	.23		
	Total		309	1.00		
Competence in Legal & Regulatory Knowledge	Group 1	<= 4.25	300	.97	.50	.000[a]
	Group 2	> 4.25	9	.03		
	Total		309	1.00		
Competence in Cultural Awareness	Group 1	<= 4.25	289	.94	.50	.000[a]
	Group 2	> 4.25	20	.06		
	Total		309	1.00		

a. Based on Z Approximation.

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Appendix K

Complete Paired Sample t-Test

		Paired Differences					T	Sig. (2-tailed)
					95% Confidence Interval of the Difference			
	Skill	Mean	Std. Deviation	Std. Error Mean	Lower	Upper		
Pair 1	Importance of Written Communication - Competence in Written Communications	1.275	1.041	.059	1.159	1.392	21.536	.000
Pair 2	Importance of Oral Communications - Competence in Oral Communication	1.233	.952	.054	1.126	1.340	22.764	.000
Pair 3	Importance of General Business Knowledge - Competence in General Business Knowledge	.775	.870	.050	.678	.873	15.617	.000
Pair 4	Importance of Financial Accounting - Competence in Financial Accounting	.741	.828	.047	.648	.834	15.729	.000
Pair 5	Importance of Managerial & Cost Accounting - Competence in Managerial & Cost Accounting	.337	.910	.052	.234	.439	6.474	.000
Pair 6	Importance of Not-for-Profit Accounting - Competence in Not-for-Profit Accounting	.505	.981	.056	.395	.615	9.014	.000

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Pair 7	Importance of Federal Taxes-Personal - Competence in Federal Taxes-Personal	.595	.930	.053	.491	.700	11.254	.000
Pair 8	Importance of Federal Taxes-Corporate - Competence in Federal Taxes-Corporate	.845	.916	.052	.742	.947	16.206	.000
Pair 9	Importance of Auditing - Competence in Auditing	.751	.993	.056	.640	.862	13.289	.000
Pair 10	Importance of Spread Sheeting - Competence in Spread Sheeting	.560	.933	.053	.455	.664	10.548	.000
Pair 11	Importance of Word Processing - Competence in Word Processing	.214	.926	.053	.110	.317	4.056	.000
Pair 12	Importance of Accounting Information Systems - Competence in Accounting Information Systems	.506	.904	.052	.405	.608	9.831	.000
Pair 13	Importance of Interpersonal Communications - Competence in Interpersonal Communications	1.061	.918	.052	.959	1.164	20.315	.000
Pair 14	Importance of Analytical/Critical Thinking - Competence in Analytical/Critical Thinking	1.359	1.008	.057	1.246	1.472	23.697	.000

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Pair 15	Importance of Teamwork - Competence in Teamwork	.809	.939	.053	.704	.914	15.141	.000
Pair 16	Importance of Ethics - Competence in Ethics	.861	.938	.053	.756	.966	16.132	.000
Pair 17	Importance of Legal & Regulatory Knowledge - Competence in Legal & Regulatory Knowledge	.534	.903	.051	.433	.635	10.400	.000
Pair 18	Importance of Cultural Awareness - Competence in Cultural Awareness	.227	1.120	.064	.101	.352	3.556	.000

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Appendix L

Open-Ended Comments of Survey Respondents

1. Differentiate between Public and Private
2. Personally, I don't feel the 150 hr requirement is necessary at all.
3. Personally, I have learned so much more through work experience than educational courses could have ever taught me. Education prepared me with a good base but not experience. I feel, is the key to success in this industry (of course paired with the continuing CPE courses to keep updated).
4. Schooling isn't the issue. Real work experience is needed in the field.
5. Financial Planning would be a good concentration or specialty.
6. How much education do you need to establish strong ethics, morals, and integrity?
7. We all understand what you learn in college and what is learned in practice is often very different.
8. As long as the large firms continue to practice and teach unethical accounting practices what is the difference how much education you have!
9. Priorities at college: internship and time management, networking, team skills
10. Priorities at work: ask questions, assume responsibilities for your performance and associates performance, expect to learn 20% in college, 80% on the job, care about what you are doing and your client.
11. Important at the University – time management skills, encourage classes at all levels of career position. University classes being taught by professionals. More team projects at the undergraduate level.
12. An exam prepared by professionals.

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13. Academia produces individuals who tend to have a decent (at best) grasp on theoretical application of basic Accounting Principles. The communication skills learned are woefully inadequate…in the Real World.
14. The Governing Bodies' attempts to control the education requirements have only made matters worse. We tend to find most individuals' fresh from school will take 3-5 years of on the job training to become productive and reliable workers.
15. It would not be a bad idea to integrate a course on how to go about preparing for the CPA exam and the different kinds of study materials/methods offered.
16. Before getting a Masters, a graduate needs experience, and then graduate education will be more meaningful.
17. The benefit of experience in audit and assurance before licensure is the exposure to many different business types, management styles, observance of internal controls and their effectiveness. An amazing amount of learning occurs in those two years.
18. One of my major concerns is the retention rate for first year accounting majors. It seems even in the past 30 years times have not changed. Accounting students find taking these first accounting courses get frustrated over the debit/credit concept and wind up changing their major. The students who are successful are those that had a bookkeeping course in High School. The University should require a credited bookkeeping course, which would prevent the greater dropout rate among first year majors.
19. Need to offer a seminar for upper level accounting students on these topics.
20. 30 hrs of additional coursework at this stage (entry level) of their careers is not much benefit.
21. Professionals in practice do not have the time or interest in prescribing curriculum.

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