

Thirty Credits – A View from the Top:
The CPA Licensing Requirement of Thirty Additional College Credit Hours
and Application of Those Thirty Hours

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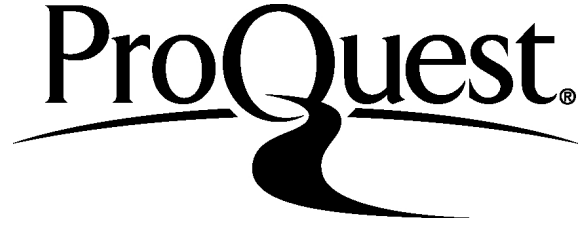
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Acknowledgements and Dedications

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This book is dedicated to my children (Matthew, Brendan, Connor, Bridget and Kevin McCann) and husband who make my life meaningful and joyful. They give me many reasons to keep trying to do my best. It is also dedicated to my dad, Lt. Colonel Gregory Walsh.

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Abstract

This dissertation helps accounting students, educators and practitioners who mentor young accountants, make decisions regarding complying with the 150-Hour Rule. It discusses the views on accounting education from the late 1800's to 2014. It notices that throughout the history of accounting education – communication, learning to learn, intellectualization, interpersonal skills, and integrity are key attributes required of accountants, which can be given the label of CLI³. It further notices that the views on the additional 30 hours of education take the form of advocating for extra education in specialized accounting (sa), liberal arts (la) or business subjects (bu). This creates essentially three means for obtaining the additional credits – CLI³-sa, CLI³-la, and CLI³-bu.

Given that students may choose their own course of additional study, and because the 150-Hour Rule is relatively new and further, because college education is a costly investment, what advice can be offered? One finds insight into this question by looking at the view from the top of the profession. How did Certified Public Accounting (CPA) partners obtain their additional 30 credits?

To answer this question, CPA partners across the country and under age 45 were surveyed. What was discovered follows: close to half of CPA partners (for whom the 150-Hour Rule applied) have a master's degree in accounting or tax, over 40% have a master's in business administration or second major or minor in another business subject and less than one-fifth have second majors or minors in liberal arts. The 150-Hour Rule has had a significant impact on the educational profile of the profession. If the Rule did not apply, then only 21% of partners had graduate degrees. If the Rule did apply, then

67% had master's degrees. Most CPA partners believe that students should use the additional 30 credits to study specialized accounting topics. Indeed, CPA partners cite accounting courses as the courses where they learned intellectual (critical) thinking. However, a combination of liberal arts, business and accounting courses were cited as contributing to communication skills. This research contributes to understanding accounting education as it is used and accounting knowledge by investment and explicit acquisition.

Key words: accounting education, 150-Hour Rule, CLI³, additional 30 credits, CPA education, critical thinking and accounting education, communication skills and accounting education, accounting education history, accounting in use (AiU), knowledge by investment, explicit knowledge acquisition.

Chapter 1: Introduction

If one works on a college campus, it is not uncommon to hear banter that sounds like the following from accounting professors:

“Tell Amy to take the new golf elective to earn credits towards the 150-Semester credit hours rule. She would like to work in a CPA firm and will benefit from the ability to network with colleagues on the golf course.” Or, “A master’s degree in accounting is the only way to go for our top student, Aaron, to get the credits for the 150-Hour Rule.” Or, “Communication skills are extremely useful for accountants – Alicia, how about gaining additional semester credits with a foreign language minor and study abroad?” Or, “We have a great MBA program, Yusef, just stay here and get your extra credits.”

Of course, one can also hear many variations of the above comments, as well as passionate discourse about the pros and cons of the relatively new “150-Hour Rule”.

I. What is the 150-Hour Rule?

The 150-Hour Rule requires an additional 30 credits, beyond the traditional 120 semester hours needed for a bachelor’s degree, for an individual to obtain licensure, as a certified public accountant (CPA) in all 50 states and United States jurisdictions. Hence, to become a CPA, 150-Hours as well as other requirements, are necessary for licensure. These college credits must be acquired from accredited college institutions. Chapter two includes additional discussion of CPA licensing rules and the adoption of the 150-Hour Rule as law, on a state by state basis.

II. What will be shown in Chapter 1?

This first chapter presents and answers, briefly, the purpose of this dissertation and the direction it takes. This format allows the reader to get the big picture, up front. It leaves discussion of its points of view to the subsequent chapters. Indeed, also included in this chapter is a visual map which depicts how different foundational concepts, theories, and past studies come together to support the research objective and questions that are elucidated in detail in chapter two.

III. What is the problem this dissertation addresses?

The problem, simply stated, is that while an additional 30 credits is required, most state CPA licensing boards and the American Institute of Certified Public Accountants (AICPA), do not indicate the manner of study for those additional 30 credits – leaving it up to students, educators who advise students, and mentors who employ graduates to decide how best to utilize those extra credits that exceed the amount typically needed for a bachelor's degree. This lack of specification is the problem that this dissertation addresses. What kind of advice, grounded in research, should college educators give to students when asked, “What should be studied, to meet the requirements of the 150-Hour Rule, to help those students achieve potential success in public accounting?” Note that this dissertation research provides just a small grain of knowledge to this large question, which has many facets and indeed is answered differently for individual students.

IV. Why is this problem important?

This problem is important for two reasons. First, public accountants serve a vital role in society. The Advisory Committee on the Auditing Profession, to the Department of

the Treasury said, in 2008 – “The role of the auditor is noble. Yet, the prestige of the profession is understated (Levitt & Nicolaisen, 2008, p. II:6).” Since auditors are noble, the matter of the educational preparation of public accounting auditors and professionals is important.

Second, the 150-Hour Rule mandates an additional year of college. The costs of college education continue to escalate. Indeed, the average cost of an additional thirty hours ranges from \$5,000 to above \$50,000 - just for tuition, depending on the institution. This does not include the cost of lost wages (opportunity cost) while the student is attending school. In the United States, student loan debt currently exceeds credit card debt (Scott & Pressman, 2011). The 150-Hour Rule will add to student loan debt.

Prior to the 150-Hour Rule enactment in each state, there was true disagreement about the potential benefits of the Rule. The American Legislative Exchange Council cited the additional cost as its key concern. This council estimated the burden of the fifth year of education would be borne by consumers, taxpayers and students – with student’s burden estimated at \$36,000 (Shapiro, 1995). The group further noted that 55% of CPA’s did not feel the rule was necessary (Shapiro, 1995).

In addition, past research made connections to the additional hours and lower numbers of students entering the profession who are from disadvantaged backgrounds. For example, the number of African Americans entering the profession has fallen since the 150-Hour Rule has been mandated (Booker, Hill, & Wright, 2010).

This dissertation does not argue for or against the 150-Hour Rule. It is law. However, it does address the important matter of how these additional 30 credits can be utilized by students. In other words, what made the additional 30 hours worthwhile for CPA

partners and what educational paths have CPA partners taken? The view from the top of the profession can be used as one factor (among many) that students may consider in making decisions as to how they can make the most of the additional 30 credits.

V. Is there a gap in the research?

While research studies have been performed in this domain, there are a number of gaps in the research and this dissertation speaks to just a small portion of that gap. One significant gap relates to the fact that previous studies look at matters from the point of view of - what is an ideal education for accountants or what do employers, educators or practitioners think is ideal? This research project is less concerned with what people think (opinions) is ideal. Rather, it is concerned with what have successful CPA's actually done (facts) with respect to the 150-Hour Rule. It studies accounting education in one of the situations in which it operates – that of CPA firms and their partners.

The academic literature on the 150-Hour Rule also supported the need for more research, in particular (Gramling & Rosman, 2013, p. 508). The research performed with this dissertation is unique and not previously studied, yet sheds light on the gap identified by Gramling & Rosman.

VI. What is the research objective?

The goal of the research is to obtain a “rule of thumb” for an educational course of study for students who desire to become partners in a CPA firm. This form of research is heuristic, in that its purpose is to discover the educational path of those that have achieved success in public accounting (with success defined as having been promoted to

partner). This is why this dissertation's running head is titled – “30 credits - a view from the top”.

This project does not address: what is best for students seeking a career in public accounting? In this way, this research project is not normative. In addition, this study does not attempt to determine what is in the best interest of any particular individual student or student type. Rather, this research discovers, describes and analyzes the educational profile of CPA's who have been promoted to partner and how they completed their college education prior to entering the field.

In general, there are three broad paths that one may take for the additional 30 credits - execute additional study in liberal arts, specialized accounting or business. In addition, descriptive information is gathered as to what specific courses CPA partners have found most worthwhile, most helpful in gaining intellectual skills and most helpful in gaining communication skills.

The research objective is inductive. It produces statistical relationships, such that one can say (using inductive reasoning) a certain course of study is more closely correlated with being a successful CPA.

VII. What are the research questions?

- 1) Are CPA partners more likely to fulfill the additional 30 hours (of the 150-Hour requirement) with: a) additional courses in accounting or a master's in accounting or a masters in tax, b) additional courses in liberal arts or a second degree (and in what subject?), or c) an MBA or additional business courses or second degree in business or other subject?

2) What does the educational path of a CPA partner look like in terms of courses?

What were the specific courses (to meet the 150-Hour Rule) that partners took that they found especially worthwhile to them?

VIII. In what manner are these research questions addressed (i.e. what is the methodology)?

Members of the American Institute of Certified Public Accountants (AICPA) were surveyed to determine what they had actually done to meet the 150-Hour Rule. A list of partners age 44 and under, in states where the 150-Hour Rule has been required for at least ten years was obtained. The survey was sent out via first class mail with a postage paid return envelope. One hundred surveys were received back. Chi square testing and other evaluation methods indicated that a valid and reliable sample was attained.

IX. What are the key limitations of this research?

This research is cannot be generalized to all CPA's. Many CPA's do not aspire to become partners in public accounting; and rather instead, spend a time in public accounting with the intent of moving on to careers in industry later on. Further, there are partners in CPA firms who are not members of the AICPA. In addition, it is outside of the scope of this study to compare those who made it to partner (and their educational path) with those who failed to make it to partner (and perhaps wanted to do so) and their education path. The educational path leading to success or failure may have been the same or different.

However, the most significant limitation to the survey is the fact that to make it to CPA partner more than just education is involved. In particular, socio-economic factors play a

large role in success as well as many other factors such as personality. These matters are also outside of the scope of this dissertation.

X. What are its conclusions and recommendations?

CPA partners for whom the 150-Hour Rule applied, met that rule by obtaining (primarily) masters' degrees in accounting, (secondarily) masters' degree in business and (thirdly) through second majors in business administration, finance and management information systems. Nearly all CPA partners were found to have bachelor's degrees in accounting. CPA partners value the specialized knowledge they received in their accounting courses. The path of liberal arts to obtain an additional 30 credits was not popular. However, liberal arts courses were found to be valuable by CPA's, particularly in relation to gaining CPA communication skills.

Chapter four provides the results of the survey in tables and graphs. Chapter five analyzes the results and a number of interesting nuances obtained through the research study. These nuances are explained through statistical correlations, logistic regression models, chi square and t-tests.

In chapter six, this dissertation recommends that accounting educators continue to build communication, life-long learning, intellectual, interpersonal, and integrity (CLI³) skills within the accounting curriculum. This recommendation is discussed in more detail, along with several other recommendations, in chapter six.

XI. How does this dissertation build on concepts, theories, models, synthesis and past research?

The process for developing this dissertation and the research objective, questions and design took the path of building a foundation. The foundation consists of six parts:

A) college matters for public accountants, B) groups involved in accounting education, C) historical matters, D) models of accounting education, E) prior studies and F) foundational theory. In general, chapter two begins with the first foundational matter and ends with the last. In addition, a synthesis of ideas occurs in chapter 2, which develops out of the foundation and also includes original contributions to the literature. The broad research questions, as well as the individual survey instrument questions are supported by the foundation, past studies, theory and synthesis of the foundation, studies and theory.

X1 (A). Foundational concept – College matters for public accountants

This foundational concept addresses the role of the auditor in society, the point of view that public accounting is not just an occupation. Rather, it is a profession which deserves an education appropriate with that status. Further, college makes a difference in people's development for critical thinking. The term critical thinking is also called intellectual thinking in this paper. If this foundation did not exist, then there would be no purpose in doing this research.

One can simply view the additional 30 credits as a cost barrier to entry into the field. It is a barrier that can be met by those both able and willing to sacrifice time and money with an accredited collegiate institution. If college does not matter, then how the

additional 30 hours is obtained, also does not matter. Without this foundational concept, there would be no purpose in this dissertation.

XI (B). Foundational concept – Groups involved in accounting education

The second aspect of the foundation relates to the various groups and interests involved in accounting education. Accounting is often called the language of business. But, that language speaks in more than one dialect. For example, the dialect associated with management accounting does not align perfectly with public accounting's interests. In addition, there are many groups and organizations that influence accounting education.

The names of those groups, as indicated by their typical acronym, are shown on the visual map in this chapter and discussed in chapter 2. Because there are so many players and differing interests, this is one reason why, there is no prescribed set of courses or path recommended for students to achieve the additional 30 credits.

XI (C). Foundational Concept – Historical matters

Certainly, it is appropriate to consider the historical reasons for why the 150-Hour Rule came into being. It came about at a time when there was a large expansion in the common body of knowledge, among other things, as discussed in chapter 2.

In addition, it is also germane to discuss the timetable for state implementation of the Rule. It is the timing of implementation that makes this dissertation important. The Rule has now been around long enough to study some of its effects on the practice of public accounting.

XI (D). Foundational Concept – Models for accounting education

From 1967 and going forward to 2014 a number of different models have been proposed for accounting education. In addition, many states have legal requirements as to the make-up of the education of a licensed CPA. For example, many states require 24 to 30 of accounting specific credits and 20-30 business credits. In addition a bachelor's degree is required from an accredited institution. College accrediting agencies typically specify a certain number of lower division credits to cover a broad range of educational goals. These are often called liberal arts courses and generally amount to 60 credits. Since, 30 accounting credits, plus 30 business, plus 60 liberal arts credits equals 120, the matter of the additional 30 credits to meet 150, is not specified by most states.

In addition, it makes sense to look at the proposed historical models by the groups discussed in the prior foundational concept. Understanding these models both illuminates the research questions and contributes to the evaluation of the data gathered.

XI (E). Foundational Concept – Prior Studies

While there have been no studies like this one, there are several studies that shed light on this topic. These include the AICPA's annual survey of new public accounting hires, a survey of recruiter's preferences for traits in new hires (Metrejean, Metrejean & Stocks), a survey ranking the importance of certain courses by accounting practitioners (Albrecht & Sacks) and a survey of recruiter's ranking degree preferences (Renner & Tanner).

The foundational concepts are then combined with a foundational theory.

XI. (F). Foundational Theory - Hopwood

The key theory used with respect to the research questions is the notion that accounting in theory (AiT) is different than accounting in use (AiU). This comes from the work of Anthony Hopwood. He advocated for studying accounting in the situation (circumstance) where it is found and not just from a theoretical point of view. The research of this dissertation will study accounting education as it is found in CPA firms among these firms' partners.

XII. Proposed New Theory – Lines of Thought and Avenues for 150-Hours of Education (CLI³ – sa, la or bu)

This dissertation proposes that accounting education and the means to achieve the 150-Hour Rule can be accomplished through three avenues of college education. Each of these three avenues (while distinct) inculcates knowledge in accounting and the skills of: communication (C), life-long learning and learning to learn (L), inter-personal (I), integrity (I) and intellectualization (I) (also called critical thinking); known as CLI³. These avenues include courses in specialized accounting, liberal arts and MBA/business. The third avenue includes a master's in business administration (MBA) as well as majors, minors and additional credits in business courses such as finance, management information systems (MIS), management and more.

These three avenues are added on to the five CLI³ traits above as follows:

CLI³- sa: for specialized accounting

CLI³ - la: for liberal arts

CLI³ - bu: for degrees and minors in business, including an MBA

The all three lines of thought that go with each avenue widely acknowledged that the common body of knowledge that an accountant must learn is large and expanding.

Where these lines deviate occurs with how best to prepare an accountant for acquiring that knowledge and skills. The first line of thought (CLI³-sa) believes that the best preparation for a career in public accounting occurs through additional accounting classes to meet the 150-Hour Rule. The second line of thinking (CLI³-la) believes that a broad and diverse education is a better preparation. The third line of thinking (CLI³-bu) believes that an MBA or additional business coursework is an optimal means of obtaining the additional 30 hours of education.

These three paths are also considered in light of productive knowledge acquisition theories that come from the management information systems (MIS) literature as well as the work on critical thinking and accounting done by Paul Kimmel.

The next page shows a basic map of how the different ideas in this dissertation come together. After the map, the second chapter begins.

Exhibit 1.0 - Visual Map

Foundational Concepts = left column
Theories and synthesis = right column

College Matters for Public Accountants
 ACAP - U.S. Department of the Treasury
 Role of the auditor in society
Horizons - Roy & MacNeill
 Members of a profession
College Affects Students -
 Pascarella E. & Terenzini

Groups Involved in Accounting Education
 Four dialects of accounting lead to many groups:

<u>Practioners</u>	<u>Educators</u>	<u>Government</u>
AICPA	AAA	NASBA
IMA	AACSB	State Laws

Historical Matters
 150-Hour Rule
 State implementation of 150-Hour Rule

Models for Accounting Education
 State legal requirements ~ 2013
 1967 Horizons
 1978 Albers
 1984 Bedford
 1988 AICPA
 1989 "Big 8" white paper
 1990 AECC
 2005 AICPA core competency framework
 2012 Pathways
 2012 NASBA
 2012 AACSB
 2014 IMA and AAA Competency Framework

Prior Studies
 AICPA
 Metrejean, Metrejan & Stocks
 Albrecht & Sack
 Renner & Tanner

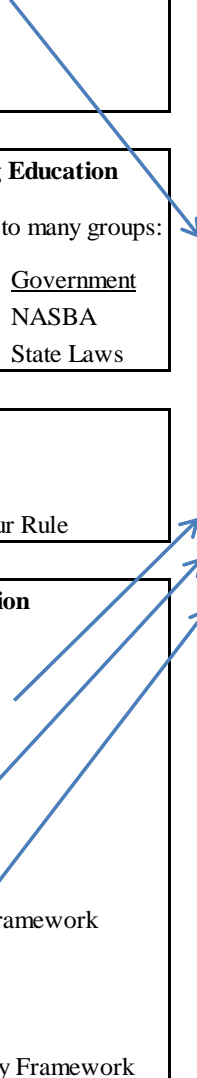
Research Questions
 The three main questions are supported by the AiU theory below, the past educational models state implementation dates and gap in the research.
 To prime the respondents to answer the key research questions, priming questions which shed light on new theory and MIS theories are also asked in the survey.

Gap in the research - Gramling & Rosman

Theory - AiU is different than AiT, accounting is a dynamic profession.
 Hopwood
 The view at the top impacts the future of accounting education.

New Theory - CLF³ and three paths to comply with 150-Hour Rule - broad liberal arts (la), specialized accounting (sa) and business based (bu).
 History and studies indicate that public accountants need communication, life-long learning, inter-personal, integrity and intellectualization skills to succeed.
 Key historical models - Horizons, "Big 8", Pathways.
 Two aspects of CLF³ are further explored - communications and intellectualization.
 Communications = Metrejean
 Intellectualization = Kimmel

MIS theories.
 Literature supports knowledge acquisition by investment (college) when it is **broad**. Rate of return on acquisition of knowledge by investment needs to be high, as well as salvage value. = Ryu.
 Specialized learning plays out well in firms = Argote & Ingram



Chapter 2: Literature Review

The literature on the issues surrounding accounting education is both long-standing and voluminous. To adequately explore this matter (the 150-Hour Rule and the education of successful CPA's) several factors are significant.

- I. The role of the auditor in society.
- II. Members of a profession.
- III. Key concept – view from the top will impact accounting going forward
- IV. College matters in the development of critical/intellectual thinking
- V. The education of public accountants in the United States
- VI. History of the 150-Hour Rule
- VII. Timeline of state adoption of the 150-Hour Rule
- VIII. State legal requirements
- IX. Proposed models for accounting education
- X. Key operating theory – accounting in use (AiU)
- XI. Reiteration of the research purpose/questions
- XII. Prior studies
- XIII. Introduction of new theory CLI³ – sa, la or bu

These items are discussed below.

I. The Role of the Auditor in Society

Consider the fact that most occupations do not require a license from the government to engage in them. Indeed an accountant, in general, does not need a license. Only those accountants, who desire to provide an independent opinion regarding the fair statement of financial information, must become certified by the government as a matter of law.

Individuals so licensed, are considered certified public accountants. Contemplate the following quote from the co-chairs of the Advisory Committee on the Auditing Profession (ACAP), to the Department of the Treasury in 2008.

The role of the auditor is noble. Yet, the prestige of the profession is understated... Confidence in the content of information of all kinds is necessary for a complex society to function and many play a role. The rule of law and a free and independent press are key structures in developing that confidence. So too is a strong and transparent auditing profession insofar as confidence in our economic enterprises and markets is concerned. A desired outcome is an environment in which savings can be invested with confidence, but the more important outcome is that we can live our economic lives relatively free of suspicion and mistrust about the bedrock of our infrastructure of investor safeguards. (Levitt & Nicolaisen, 2008, p. II:6).

Levitt & Nicolaisen place the role of the auditor as underpinning the economic infrastructure and market system of the United States. Note that this Advisory Committee was established by the U.S. Treasury Secretary to comment on the auditing profession in the post Sarbanes-Oxley environment. (Note that it is ACAP that recommends more study on the education of accountants and this leads to the Pathways Commission's education model discussed in XI (H) below.)

CPA's, in their role as auditors, and when they perform their jobs in accordance with the professional standards, reduce information risk by verifying financial statement information (Whittington & Pany, 2012, p. 7). This in turn provides confidence to investors that allows for the free flow of capital. One should keep in mind that an independent auditing profession is non-existent or new in some parts of the world. For example, while the United States (beginning in the state of New York) has had licensed accountants since 1896 (Previts & Merino, 1998, p. 141), Russia just began licensure of audit firms in 1994 (Vanasco, Skousen & Santagato, 1997, p. 345).

In addition, the relationship of the auditor or the auditing firm to its clients and society is complex. In larger companies, typically the financial statement auditor is hired by the audit committee which is a subset of the board of directors. In smaller companies, the owner-stockholder may hire the auditor. The auditor works with and is paid by the management of companies (often with approval by the board of directors or the audit committee). But, at the same time, it is the auditor who is required to be skeptical of management's preparation of financial reports. The auditor's responsibility is to provide an independent opinion on management's financial statements. This opinion is then used by third parties such as shareholders, potential shareholders, creditors and others to make decisions. Hence, the auditor's ultimate responsibility is to the public at large. The relationship is complex because auditors are required to be skeptical and challenging of management while at the same time it is management that pays them. Understanding this set of relationships is fundamental to understanding financial statement auditing in the United States.

Beginning with the Securities Act of 1933 and the Securities and Exchange Act of 1934, publicly held companies were required to be audited by those with the designation of licensed CPA. This requirement continues to this day, with one important difference. CPA's who audit publicly held companies now must also be registered by the Public Company Accounting Oversight Board (PCAOB) and must adhere to its standards for auditing and be subject to its review. The PCAOB came about with the Sarbanes-Oxley Act of 2002 and is a quasi-government organization that falls under the Securities and Exchange Commission (SEC).

The purpose of the above discussion is to point out the importance of the public accounting profession and in particular, auditing, to society and our economy. Hence it follows that the education of those who are to enter this profession, is an important matter of scholarly research and public discourse.

This phrase is worth repeating – the role of the auditor is noble. It is this sentiment that gives life to this dissertation and the research purpose. What educational path might lead a student of accounting to reach the noble place of auditor, and in particular partner in a public accounting firm? How can the relatively new requirement for public accountants to obtain an additional 30 semester hours of accredited college education be used to achieve success in this field? Note that for the remainder of this paper the term auditor and certified public accountant (CPA) will be used interchangeably.

II. Members of a Profession

Implicit in the noble role of the auditor is the fact that certified public accountants (CPA's) are members of a profession. As noted above, CPA's in the United States have enjoyed a particular legal status since 1896. However, a profession is more than simply a legal status. A seminal and oft cited work that lays out the case of public accounting as a profession, and not just an occupation, is found in the book "Horizons of a Profession" (Roy & MacNeill, 1967).

It is worthwhile to take the time to consider exactly what Roy and MacNeill defined as a profession. They indicated both objective and subjective criteria – both of which are relevant to the research purpose. In determining whether or not public accounting is a profession, these authors compared the traditional "learned professions", including physicians, clergymen and lawyers, to public accounting. These authors came to the

conclusion these different occupations met the following criteria which is common to professions.

Objective Criteria of a Profession:

- Each renders essential services to society,
- Each is governed by ethical principles which emphasize the virtues of self-subordination, honesty, probity, devotion to the welfare of those served.
- Each has requirements for admission to the profession which are regulated by law.
- Each has procedures for disciplining those whose conduct violates ethical standards.
- Each depends upon a body of specialized knowledge acquired through formal education.
- Each has developed a language of its own, in its more sophisticated forms understandable only to the initiated (Roy & MacNeill, 1967, p. 31).

The research purpose of this dissertation specifically applies to three of the objective criteria above – 1) the requirements of admission (which by law now include an additional 30 hours of college credit), 2) the amount and nature of the specialized knowledge to be acquired through formal college education and 3) the degree to which the sophisticated language should be transmitted as part of the college experience.

The subjective criteria of a profession are also relevant.

Subjective Criteria of a Profession:

- Professional stature is not achieved through self-recognition; there must be respect accorded by others as well.
- The native abilities of those who comprise the profession, their imagination, judgment, cultivation, presence, their inherent qualities as professional men and women must be sufficient to command both self-respect and the respect of those served.
- The breadth, depth and rigor of preparation for the profession must also be sufficiently demanding to command respect.
- The body of knowledge required for professional practice must be continually advanced through research, accompanied by the adoption and application of new techniques and methodologies.

- This growth in new knowledge must be accompanied by corresponding growth on the part of those in professional practice; they must demonstrate a capacity for self-development and self-renewal.
- The nature and extent of the service rendered to society must likewise grow, as a consequence of the availability and application of the new knowledge which has been postulated above (Roy & McNeil, 1967. P. 33).

With respect to the subjective criteria, it is important to consider three of the above matters, as these too relate directly to the research questions. First, certain inherent qualities (such as imagination and judgment) can be fostered during an additional 30 hours of education. Second, the breadth, depth and rigor must be sufficient to command respect. Indeed, the call for a more rigorous college education, that mirrors that of the law profession, has been longed for by many in the profession since the 1800's. Consider this quote from accounting educator Harold Q. Lagenderfer:

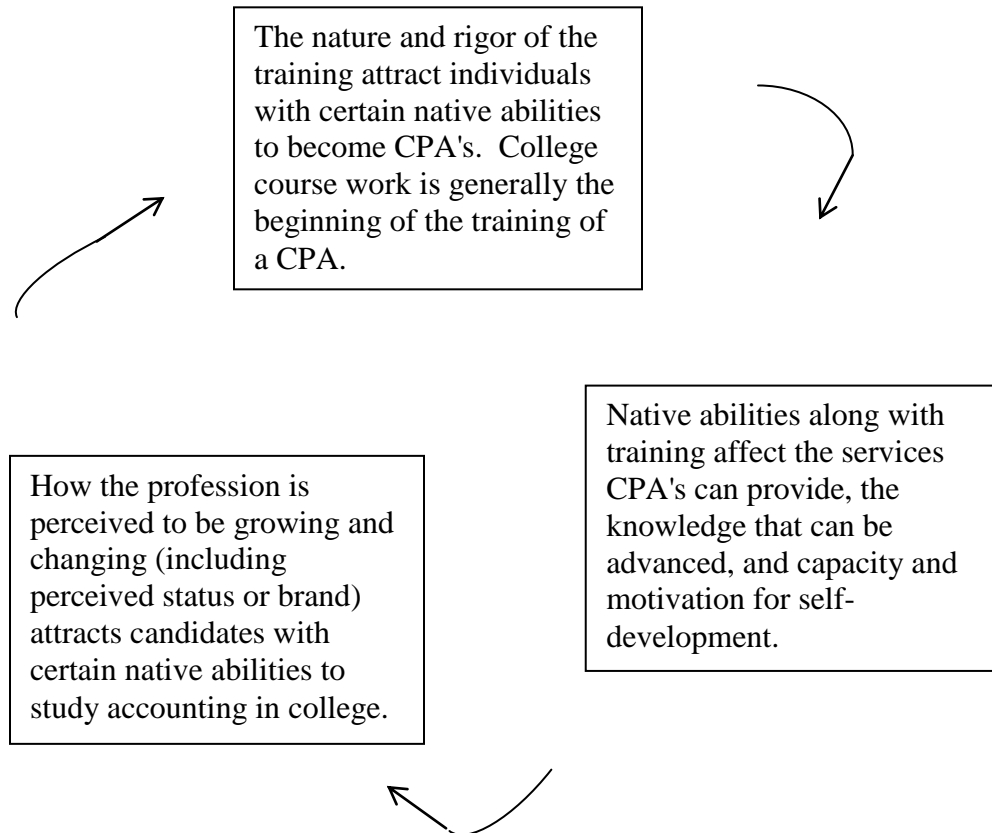
Since the first formal organization of accountants as a professional body approximately 100 years ago, its leaders have thirsted for one of the trappings of a true profession, namely, professional schools. Accounting leaders believed that schools of accountancy were needed to serve as the educational foundation to provide this profession with the theoretical underpinnings and respectability that are the hallmarks of the medical and legal professions (Langenderfer, 1987, p. 2).

Further, consider the fact that public accountants frequently interact with leaders at the highest levels of business, organizations and government. In addition, auditors, to perform their duty of rendering an opinion on the fair presentation of financial statements, must be skeptical of those leaders and must challenge those leader's assumptions. They must be able to contradict, in other words, say "no", to powerful individuals many of whom have advanced degrees and/or come from a variety of backgrounds and cultures. A broad, deep and rigorous education is one means to obtain parity - both in terms of the trappings and respectability that go with additional education,

as well as the increased knowledge and abilities that can be gained through more schooling.

Third, a rigorous college education also changes the kinds of people drawn to the public accounting profession. Roy and MacNeill (1967, p. 33), state “the challenge of rigorous training, the range and nature of service, the extent of advancement in applicable knowledge will tend to determine the inherent qualities of those who seek admission to the profession.” The requirement for an additional 30 hours of education changes the inherent (or native) characteristics of those entering the profession. And, when the native characteristics of those entering the profession change, this in turn changes the way the profession responds to its environment in terms of growth, self-renewal, research, and application of new knowledge. This realization by Roy and MacNeill may be depicted as follows in exhibit 2.0.

Exhibit 2.0 – Education and nature of the profession



The above depiction has important implications regarding the research purpose. Not only is it useful to know the educational profile of successful CPA's, this profile also sheds light on the profession's ability to grow, how it is perceived and the kind of people who will become attracted to the field.

In 1967, Roy and MacNeill further said in *Horizons*: "Consideration of the native abilities of those who enter any profession leads to a conclusion that is both obvious and virtuous: more and more talented people are needed... There is never enough talent to go around (p. 34)." This statement is then followed up later in their book with anecdotal evidence as well as the following hypothetical assumption:

...that it is feasible, perhaps better to hire for native ability and long-run professional potential rather than for technical competence and limited capability for future development. The implications of this are both subtle and profound: if accounting is a profession, as seems clearly to be the case, something more than knowledge which can be picked upon along the way is necessary (Roy & MacNeill, 1967, p. 50)

Roy and MacNeill further spell out the "something more" that is needed." They state the following:

"The most important and significant aspects of a CPA's services to his clients and to the public cannot be defined as knowledge, nor even as experience, but must be described by more elusive terms: wisdom, perception, imagination, circumspection, judgment, integrity. When to speak out, when to be silent, how to say or write that which is necessary but awkward, courage to face up to the need for doing so, talent to be firm yet diplomatic, imagination to see beneath and beyond the surface, perceptivity not only for what has happened but also for what may happen, constancy in ethical behavior, sagacity to avoid error of omission as well as those of commission; these and other attributes like them are *qualities*, not definable as knowledge but inherent in individuals. Without them a CPA can be nothing more than a technician, regardless of the scope of his knowledge; possessing these attributes plus requisite knowledge, he is a professional (Roy & MacNeill, 1967, p. 1).

The above discussion leads to the first item of synthesis that this dissertation research sheds light upon.

III. Key concept – the view from the top will impact accounting going forward

This dissertation research provides possible insight into what the profession will look like in the future, based on figure exhibit 2.0 above. Exhibit 2.0 and the research findings are correlated in chapter 5, at the conclusion of the discussion of the first research question.

IV. College matters in the development of critical/intellectual thinking

The underlying assumption – college matters – is more than conjecture. Two particularly authoritative researchers in this matter are Pascarella & Terenzini. In their book, “How College Affects Students: a Third Decade of Research” they lay out the case for numerous gains from freshman to senior year. From there, one possibility is that if four years is good, then five years of college is even better. Consider the following:

“Exposure to postsecondary education not only appeared to enhance significantly students’ general verbal and quantitative skills as well as oral and written communication but also had a statistically significant, positive net effect on their general intellectual and analytical skills, critical thinking, their use of reason and evidence in addressing ill-structured problems (reflective judgment-thinking), and their intellectual flexibility. Further, these effects could not be explained by maturation or differences between those who attended and those who did not attend college in tested intelligence, academic ability, or other precollege characteristics (Pascarella & Terenzini, 2005, p. 579).”

These researchers go on to quantify these net effects. Notably they estimate a .55 difference in standard deviation units on critical thinking and a .9 difference in reflective judgment-thinking in fourth year college students (Pascarella & Terenzini, 2005, p. 580).

Critical, reflective and judgment thinking are considered key skills of successful accountants as discussed below at X (B)(1). Critical thinking may also be thought of as intellectual thinking. In addition, the matter of intellectual thinking ties into synthesis item #1, which is discussed at X below. The research of Pascarella & Terenzini hints at the notion that an additional year of college may help students build additional intellectual skills.

V. The Education of Public Accountants in the United States

Education of accountants is impacted by the fact that there are different ways in which accounting is spoken and there are different groups that put pressure on accounting education. Accounting may be considered to speak four dialects – financial reporting, cost (managerial), compliance and tax. These dialects have different needs for education. The following groups also impact accounting education: (1) practitioners, (2) state governments (regulators) through their licensing of accountants and (3) educators. This section (III) will discuss the dialects the three groups mentioned above.

V(A). Early Accounting in the U.S. - the Railroads and Seeds of Accounting's Four Dialects

Auditing dates back to ancient times where one can find references to auditors overseeing the tax collections to kings. However, the need for independent auditors greatly expanded in relationship with the Industrial Revolution and the expansion of corporate ownership associated with that revolution. Roy & MacNeill state the role of the accountant with respect to those complexities: “This, the world of affairs, is the domain of the accountant. It is his mission to perceive it, to analyze it, to bring order to it, to portray it (1967, p. 44).”

As the number and diversity of corporate owners grew in the late 1800's in the United States, so too did the need for auditors. Corporations, such as the railroads, needed to raise large amounts of capital from many potential investors. These investors desired to have verification of financial information issued by management in connection with the sale and re-sale of stocks and bonds. The center of this investment activity took place in New York and not surprisingly, New York became the first state to license accountants in 1896.

Railroad investment activity required financial reporting, and financial reporting is accounting's best known dialect (King, 2006, p.13). The railroad industry provides seeds for the other three dialects of accounting. The four dialects include: financial, tax, cost (also known as managerial), and statutory (concerned with compliance with regulations) accounting (King, 2006, p. 207). The dialects are important to consider because they have, at times, competing interests with respect to accounting education.

The railroads, in addition to needing financial reporting also required information on costs to plan and control the large railroad enterprise. Indeed, a railroad manager in the 1800's was expected to be "part engineer, part business leader and part accountant", (Wren & Bedeian, 2009, p. 102). Early railroad business issues included financial reporting fraud, particularly showing operating expenses as construction costs to enable higher dividend payouts, (Wren & Bedeian, 2009, p. 92).

Accounting's statutory dialect also arose in relation to the railroads. Railroad companies controlled an enormous amount of power and wealth. In addition, railroads charged differentiated prices based on long or short hauls of freight. These two matters – power and pricing - made people question, the fairness of rates charged by the railroads

to customers. This led to the Interstate Commerce Act of 1887 and put accountants in a position to determine compliance with the Act's statutory requirement for fair and reasonable rates.

In 1909, with the imposition of a federal corporate income tax, reporting of profits to the federal government became a new accounting dialect relevant to the big business of railroads. While financial and tax accountants align themselves with public accounting, the cost or management accountants, at times, have distanced themselves from public accountants. This distancing has led to disagreements about accounting education.

Consider the following quote from accounting educator, Glenn Van Wyhe:

The historical overview informs us that the profession of public accounting had everything to do with establishing and growing accounting education. Around the time of the Second World War, however, forces were set in motion that would try to pull accounting education from the grasp of public accounting. The belittling of public accounting, first in the name of the new management accounting and then by the Foundation Reports, combined with public accounting leaders' ongoing desire for a five-year education requirement above all other educational reforms resulted in accounting higher education's inability to single-mindedly identify its goals and work toward them (Van Wyhe, 2007, p. 165).

Accounting's dialect of financial reporting and tax return preparation are more closely identified with the American Institute of Certified Public Accountants (AICPA). The focus of this dissertation is on auditors of financial reports. Therefore, matters regarding educational models, as endorsed by the AICPA or its members, take predominance in this dissertation.

Management accountants' interests are more closely aligned with the Institute of Management Accountants (IMA). The statutory dialect is first the domain of management who must comply with the laws. The statutory dialect is also of interest to

the auditor, who has a responsibility to consider the impact of non-compliance with laws that directly and indirectly affect financial statements (Whittington & Pany, 2012, p. 41). Colleges educate far more individuals who become management accountants than become public accountants. One should note that 73 percent (and likely higher) of accounting graduates ultimately (after attrition from public accounting firms) choose careers outside of public accounting (Siegel, Sorenson, Klammer, and Richtermeyer, 2010, p. 50). Accordingly, accounting educators are concerned with satisfying the needs of both the auditing profession and the accounting profession as a whole. The IMA has not pushed for a 150-Hour Rule as part of its membership and certification requirement.

Besides the AICPA and IMA, there are several other organizations germane to this dissertation. These include the National Association of State Boards of Accountancy (NASBA), the American Accounting Association (AAA) and the Association to Advance Collegiate Schools of Business (AACSB). There are many other organizations that represent accountants and are concerned about accounting education, but for purposes of this dissertation, these are the most significant ones and a discussion of each follows.

V (B). Influences on Accounting Education – Practitioners, Regulators and Educators

It follows that because accounting has many dialects and purposes, the players involved in accounting education come from a number of different groups within society. In general, though, the groups that influence accounting education can be thought of in three categories – practitioners, educators and regulators. It is important to note that there are many organizations and groups that represent practitioners, educators and regulators.

The point here is not to provide an exhaustive list of those involved in accounting education, but rather to consider the particularly influential organizations.

1. Practitioners

- i. Those who practice public accounting (i.e. auditors) are represented by the American Institute of Certified Public Accountants (AICPA).
- ii. Individuals who practice in corporations and management are represented by the Institute of Management Accountants (IMA).

2. Government Regulators

Those associated with regulation of accountants include the state governments, who are to some extent organized as one body by the National Association of State Boards of Accountancy (NASBA).

3. Educators

Those associated with education include the:

- i. American Accounting Association (AAA).
- ii. Association to Advance Collegiate Schools of Business (AACSB). Each of these organizations will be discussed further below.

V (B)(1)(i). American Institute of Certified Public Accountants (AICPA)

Financial accounting and the external auditing that goes with financial reporting, are most closely represented by the AICPA. (Tax accountants employed by public accounting firms are also represented by the AICPA.) The AICPA can trace its roots back to New York State and the late 1800's. The AICPA has long advocated that accounting is a profession. It has long been involved in the political aspects of financial

reporting standards and tax reporting issues, developing and grading the uniform CPA examination, maintaining generally accepted auditing standards (GAAS), providing continuing education, providing practical guidance and tools for accountants, promulgating a code of ethics and professional conduct for its membership, and advocating for accounting education.

Up until quite recently, the AICPA was the self-regulating entity of public accountants in most domains. In other words, it set policy as to what to do in financial reporting, auditing, tax and ethical matters. However, it had little power to enforce its policy, with the exception of the fact that it could publicly revoke a member's right to remain a member in good standing. However, in legal proceedings, if members were sued and showed the court that they complied with the AICPA's standards (i.e. a reasonable man would follow his/her professional standards), this was generally considered grounds for not being negligent in carrying out their duties (Whittington & Pany, 2012, p. 108).

In addition, for many years, the AICPA was at the forefront of determining what was considered Generally Accepted Accounting Principles (GAAP). It developed and promulgated GAAP through committees and organizations directed by the AICPA. However, in 1973 a new organization was formed to establish GAAP – the Financial Accounting Standards Board (FASB). The AICPA requires its members to follow the FASB's rules on GAAP. The FASB is part of a structure that is independent of all other business and professional organizations (FASB, 2014). The FASB has no specific enforcement power and only determines GAAP.

The AICPA remains the self-regulating entity for accountants that audit privately held companies with respect to auditing standards. With the passage of the Sarbanes-Oxley Act in 2002, a new government regulation entity called the Public Accounting Oversight Board (PCAOB) now has authority over CPA's and public accounting firms that audit companies who are registered in accordance with the Securities and Exchange Commission (SEC), in other words – publicly held companies. The PCAOB has the authority to establish its own auditing standards as well as its own reporting standards. The PCAOB does have enforcement power in that it may issue fines (among other penalties) to publicly held companies and auditors that fail to abide by its regulations.

However, the PCAOB and the SEC continue to work and dialog with the AICPA. These organizations also work with the FASB and international auditing and reporting organizations. Indeed, the PCAOB's initial auditing standards were taken directly from the AICPA's standards, just as the FASB's initial GAAP was taken from the AICPA's APB's (Accounting Principle Board) opinions. In large measure, the auditing standards of the PCAOB and AICPA are similar. Likewise the financial reporting standards of the FASB are in large measure similar to those required of the SEC. Hence, one can see that the AICPA remains an influential professional organization in the United States from a political point of view due to its standard setting and professional membership requirements.

The AICPA estimates that there were about 82,000 students graduating with accounting degrees in the 2011-2012 academic year (AICPA, 2013). The AICPA further estimates that 40,000 students were hired in 2012 by public accounting firms. Clearly, educators must satisfy the market demand for accountants that choose to go into industry,

management accounting, non-profit or government work as well as those that choose public accounting. The AICPA's membership is about 386,000 professionals (AICPA, 2014).

It was the AICPA that eventually brought about the 150-Hour Rule. In 1988, the AICPA asked its membership to vote on whether or not 150 hours would be required for its new members beginning in the year 2000. By a substantial majority, the membership voted in the affirmative for this new rule. The AICPA then proceeded to promote legislation in all 50 states and U.S. jurisdictions requiring 150 hours of education for licensure. The AICPA was (eventually) successful in obtaining this educational requirement across the entire United States.

The AICPA first went to the National Association of State Boards of Accountancy (NASBA) to gain its support for the 150-Hour Rule. Together the membership of the AICPA and the individual state boards of accountancy, in coordination with NASBA, lobbied state legislatures to adopt the 150-Hour Rule as law. This increased the amount of college education required to become a CPA from 120 hours to 150. For colleges in the U.S., 120 hours are the minimum hours required to receive a bachelor's degree. So, that means that to become a CPA, a bachelor's degree plus an additional 30 hours are required. Most states have not made any specific course requirements for the additional 30 hours. This matter is discussed further later in this chapter. Besides collegiate education, states have other requirements to become a CPA such as passing the uniform CPA exam. Further, many states require a minimum amount of experience and passing an ethics exam to become certified. On top of that states generally also require annual

continuing professional education (by an authorized provider of such education) to maintain the CPA license.

V (B)(1)(ii). Institute of Management Accountants (IMA)

For the managerial dialect of accounting a distinct certification may be obtained from the Institute of Management. However, this certification is not required as a matter of law. Managerial accountants typically work for firms and provide information for decision making and internal control as well as financial reporting. The IMA traces its roots back to New York State and to the year 1919. Accountants who aspire to be certified by the IMA need only a college degree with 120 accredited hours, sufficient number of documented relevant years of experience, and successful completion of a comprehensive exam. The IMA examination includes accounting and finance topics. Its membership is about 70,000 accountants (IMA, 2014).

The focus of this dissertation is on public accountants and particularly auditors. Management accountants are not part of the study group. However, management accountants do have a significant influence on accounting education. Management accountants have been accused of thwarting additional college education for accountants as was noted by Glenn Van Whye in III (A) above.

V (B)(2). National Association of State Boards of Accountancy (NASBA)

This organization represents, with one voice, the state boards of accountancy. There are 55 boards – one for each state and jurisdiction in the United States. It is the state boards that license certified public accountants. State boards review a CPA candidate's educational records to determine if a candidate is eligible to take the exam (and among

other requirements – meets the 150-Hour Rule.) State boards also communicate the CPA exam results to candidates. To provide an audit opinion or hold oneself out as a CPA, one must obtain and regularly renew one's license. A CPA need not be a member of the AICPA (although most are members). Individual state boards of accountancy have the authority to sanction or fine a CPA and suspend or revoke a CPA's license due to misconduct. NASBA works with the AICPA, the federal government and state legislatures regarding CPA matters.

V (B)(3)(i). American Accounting Association (AAA)

This organization traces its roots back 1916. Its website touts that it is:

The largest community of accountants in academia...we have a rich and reputable history built on leading-edge research and publications. The diversity of our membership creates a fertile environment for collaboration and innovation. Collectively, we shape the future of accounting through teaching, research and a powerful network, ensuring our position as thought leaders in accounting (AAA, 2014).

This organization sponsors many conferences and publications for accountants who work primarily in higher education. It publishes articles and research on teaching accounting. It has partnered with the AICPA on many endeavors, including the document, *The Pathways Commission – Charting a Strategy for the Next Generation of Accountants*, which outlines the goals of a college education for accountants. *Pathways* is discussed in section XI (H). The AAA believes that its strategic purpose is to maximize thought leadership. It believes thought leadership includes – defining education curricula and pedagogy, participation in policy and public processes, strategic relationships with other organizations and visibility of citations of AAA publications (AAA, 2010). Its membership is around 12,000 people.

V (B)(3)(ii). Association to Advance Collegiate Schools of Business (AACSB)

Like the AAA, this organization was also founded in 1916. It is devoted to the advancement of management education and aspires to be the leading authority on the education of managers. AACSB accreditation is known worldwide, as the longest standing, most recognized form of specialized/professional accreditation an institution and its business programs can earn (AACSB, 2014). It accomplishes its mission by requiring schools desiring its accreditation to meet a number of standards. These standards include continuous improvement and requirements surrounding curriculum and faculty qualification. Qualifications include performance of research by faculty and the publication of that research in a peer reviewed journals such as those published by the AAA and other academic journals.

The AACSB not only issues and monitors accreditation standards for business schools as a whole, but it also issues and monitors standards for accounting programs at the undergraduate and graduate levels. The AACSB began publishing accreditation standards for accounting programs in 1980 (Black, 2012). Its 2012 standards for accounting education are discussed in IX (B). There are 694 universities accredited by the AACSB (including some universities outside the U.S.). About 175 of these universities are also accredited for their accounting education. Now that the players involved in accounting education (AICPA, IMA, NASBA, AAA, and AACSB) have been identified, the next section discusses the history of the 150-Hour Rule.

VI. The History of the 150-Hour Rule

The controversy (or problem) surrounding the 150-Hour Rule - in the simplest terms - revolves around a broad versus a specialized education for public accountants, with essentially three avenues available for using the additional 30 hours.

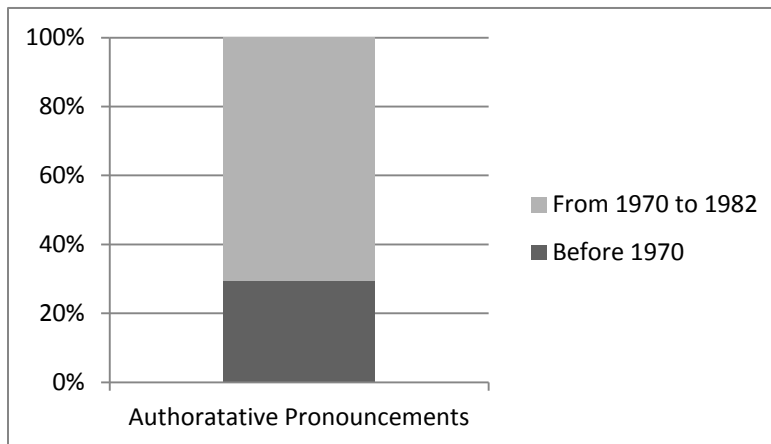
- a. Additional **specialization in accounting** (denoted as **sa**)
- b. Additional education in **liberal arts** (denoted as **la**)
- c. Additional education in **business** (denoted as **bu**)

Several different possibilities for preparing accountants have been proposed. For example, even back in the late 1800's many people believed that accounting should have its own advanced degree similar to law or medicine. However, others believed that passing a rigorous standardized exam was sufficient. At present, to enter the profession, combinations of passing a rigorous standard exam, apprenticeship, and college accounting (and in most states business) courses and a baccalaureate degree are required. The CPA exam is central to becoming certified, in addition to obtaining college credit hours. The amount of apprenticeship varies slightly among states

The rule requiring 150 hours was voted upon by the AICPA membership in 1988. Many members of the AICPA voted in favor of the 150-Hour Rule and hence it passed as a new requirement. The AICPA implemented the 150-Hour rule for individuals seeking AICPA membership beginning with of the year 2000. While the change was approved in 1988, as noted above, there has been some support (going back to the late 1800's) to make accounting a profession more on par with the additional education requirements of the law profession.

It is helpful to consider from a historical perspective the common body of knowledge of accountants as of about 1982. Prior to 1970 about 110 accounting pronouncements were issued. From the period of 1970 to 1982, 264 pronouncements were issued (Ellyson, 1983, p. 39). This can be shown as follows:

Exhibit 2.1 – Authoritative pronouncements



After the membership voted for this change, the AICPA went on to lobby the legislatures of all 50 states to have the 150-Hour Rule made mandatory for licensing. States adopted the rule at various times and this chapter includes a time table on a state by state basis for when the 150 hours became mandatory. See section VIII below.

The AICPA's stated reasons for a post-baccalaureate education requirement for the CPA profession (in July of 1983) were as follows:

“1. Due to significantly increased knowledge requirements and to a changing accounting profession and environment, a baccalaureate accounting program is no longer an adequate education for entry into the CPA profession. The result is a compelling need to move forward with the implementation of a post baccalaureate education requirement.

2. Significant benefits will accrue to society, CPA firms and individuals entering the profession if a post-baccalaureate education is required. (AICPA, 1983, p. 1).”

“Some facts are indisputable – for example, the growth of the body of accounting knowledge and the increasing responsibility placed on CPA’s – and these provide a basis for support of a post-baccalaureate requirement (AICPA, 1983, p. 5).”

To further elucidate what was meant at the time about number one above (knowledge and the changing professional environment) a managing partner at a national firm (Robert Ellyson of Coopers & Lybrand) delivered a speech in which he said,

“...an analysis of authoritative pronouncements showed 110 accounting and auditing pronouncements issued prior to 1970 and 264 issued from 1970 to 1982. Combine these figures with the growth in SEC pronouncements, tax laws and other knowledge in related and supporting disciplines, and collectively they raise serious challenge to the adequacy of a baccalaureate education for entry to the public accounting profession...

The changing structure and environment of accounting practice encompasses such things as the rising public expectation with respect to the responsibility CPA’s should assume and the dramatic increase in complexity of business, including the proliferation of regulations, new forms of business transactions, and new concepts of corporate governance (Ellyson, 1983, p. 39).”

To further elucidate what was meant by significant benefits in number two above consider the following summarization of benefits believed to be obtainable with an additional year of college education.

- “An increase in the competence levels, especially improved analytical skills, communication abilities, computer literacy, and ethical perspective.
- Improved quality of accounting students and a greater commitment to the accounting profession on the part of students.
- Reduced personnel turnover in CPA firms.
- Better use of training resources by CPA firms.
- Raising the status of the profession to that of other professions that require a graduate education.
- Raising the success rate of candidates taking the CPA examination.
- Avoiding the sacrifice of any college undergraduate curriculum that is devoted to humanities and liberal arts.” (Holder, Larsen & Williams, 1985, p. 36-37).”

One notes here that it is not just additional knowledge that was to be the benefit of the 150-Hour Rule. Rather, increased communication and analytical skills were also needed of accountants entering the profession.

Yet another benefit, from above that warrants highlighting is – raising the status of the profession. Holder, Larsen & Williams provide the context for why raised status was a concern.

An example of possible erosion of societal confidence in the accounting profession is found in a recent edition of *Newsweek* (Dec. 3, 1984) which stated:
...The entire (accounting) profession is adrift in a sea of criticism...If accountants continue to okay financial results that turn out to be fraudulent, investors soon will pay no more attention to the auditors' statement of approval than they do to the slick pictures in the annual report (Holder, Larson & Williams, 1985, p. 38).

These themes – more technical accounting knowledge, more complex business knowledge, more communication and analytical skills, greater ethical perspective and increased prestige could each call for a different approach to how best to utilize an additional 30 credit hours of education. Nonetheless, the AICPA does not offer one particular course of action of attaining the additional 30 hours or attempt to overcome the fact that the demand for accountants with just bachelor degrees (about 120 hours) was strong at the time (early 1980's). Rather it recognizes that: "The profession cannot wait until there is no controversy, the evidence is incontrovertible, or until there is unanimity of support. The commitment to move forward is long overdue (AICPA, 1983, p. 6)."

Needless to say the most significant objection to the additional 30 hours was the cost of another year of education. Critics argued that additional cost would fall especially hard on minorities and disadvantaged individuals. Further the additional time and

expense could deter highly motivated students from choosing accounting (Holder, Larson & Williams, 1985, p. 40).

While not explicitly stated in any resources found, it is implied that those who advocated for the 150-Hour Rule and those AICPA members who voted for it in 1988, believed that firms (without the help of colleges and universities) were incapable of addressing the themes surrounding the preparation of accountants through on-the-job training. One can speculate that this could be due to an inability or unwillingness to bear the cost of additional on-the-job training, or a recognition that the kind of training in communication, analytical skills and ethical perspective was better accomplished (more efficient and/or more effective) through higher education or that increased prestige needed to come from an outside source – such as a graduate level degree or additional college credentials. In the advocacy circles, costs were downplayed in the following manner – “If the preponderance of evidence indicates that post-baccalaureate study is essential for adequate academic preparation for entry into the accounting profession, then the resources *must* and *will* be found (Holder, Larson & Williams, 1985, p. 44).” The next section goes into dates for when the 150-Hour Rule became law.

VII. Timeline of State Implementation of the 150-Hour Rule

All states and most U.S. jurisdictions require those seeking licensure as public accountants to obtain 150 college credit hours. The number of hours translates into about five years of college education – essentially an undergraduate degree and thirty additional hours. The requirement is new for some states and old for others. The table below provides a general timeline of implementation of the 150-Hour Rule.

Exhibit 2.2

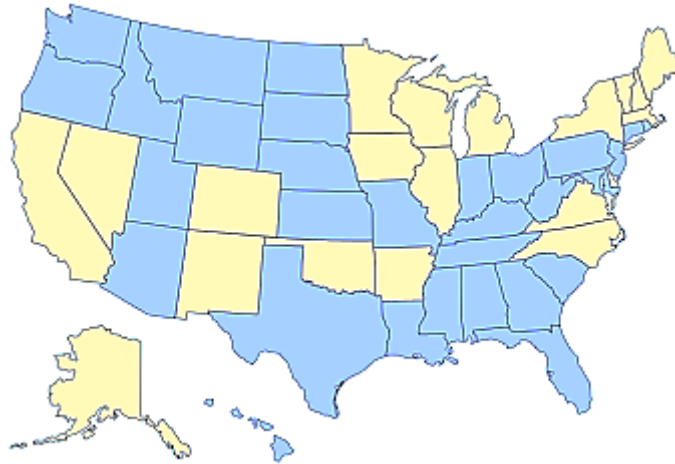
Timeline for Effect of 150-Hour Rule

<u>Year</u>	<u>Number of States</u>	<u>Composition</u>
Before 1998	11	Florida, Tennessee, Utah, Alabama, Arizona, Mississippi, Louisiana, Kansas, Montana, South Carolina, Texas
1998	3	Georgia, Nebraska, South Dakota
1999	3	Maryland, Missouri, Rhode Island
2000	13	Connecticut, Hawaii, Idaho, Indiana, Kentucky, New Jersey, North Dakota, Ohio, Oregon, Pennsylvania, Washington, West Virginia, Wyoming (and U.S. jurisdictions DC, Guam and Puerto Rico)
2001	6	Alaska, Illinois, Iowa, Nevada, North Carolina, Wisconsin
2002	1	Massachusetts
2003	3	Maine, Michigan, Oklahoma
2004	2	Arkansas, New Mexico
2006	2	Minnesota, Virginia
2009	1	New York
2012	1	Delaware (and U.S. jurisdiction Northern Mariana Islands, 2013)
2014	3	California, New Hampshire, Vermont
2015	1	Colorado

The above information was determined from the NASBA website (2013) and from a review of the requirements as listed at the AICPA's web page (2013) – This Way to CPA.

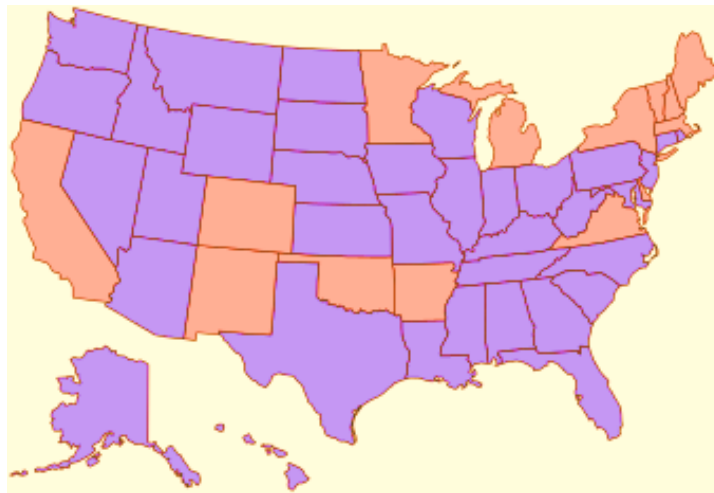
What one can see from the below picture is that 38 states had adopted the rule by the year 2000. (Darker shade represents adoption during or before 2000 and lighter shade after 2000.)

Exhibit 2.3 – 150-Hour Rule Adoption by the year 2000 (darker shade)



By, the next year, 2001, the map looks as follows. (Darker shade represents adoption during or before 2001 and the lighter shade represents after 2001.)

Exhibit 2.4 – 150-Hour Rule Adoption by the year 2001 (darker shade)



However, for two large states, New York and California, the rule was not effective until much later. It became effective for New York in 2009 and it is effective in California in 2014. For the research survey in this dissertation, all the states in blue, as well as

Massachusetts, Michigan, Maine and Oklahoma were included in the sample. For these last three states, the rule became effective by 2003.

It is also worth mentioning that while 150 hours is required for licensure, the majority of states allow fewer than 150 hours (usually 120 hours) to sit for the exam (Booker, Daniels & Ellis, 2013). This dissertation is not concerned with this incongruence, since 150 hours is ultimately required to become a CPA.

It is further worth mentioning that in some states it took several years to enact the legislation. For example, legislation was initially unsuccessful when introduced in 1992 in the following states: Arizona, California, Minnesota, Missouri, Oklahoma and Washington (Ernst & Young, 1992). In addition, the prospect of the 150 hour requirement was on the minds of many recruiters, educators and students since 1988, when the AICPA membership overwhelmingly voted to require 150 college credit hours of study (and the completion of a baccalaureate degree) as a condition of new membership beginning in the year 2000 (Journal of Accountancy, 1988). Hence, there would be some individuals who (even without a state licensing requirement to do so) would have completed 150 hours of study in anticipation of the change. Indeed, even prior to the requirement many graduates recruited by CPA firms already had a master's degree. The next section discusses the kinds of college course work required by states.

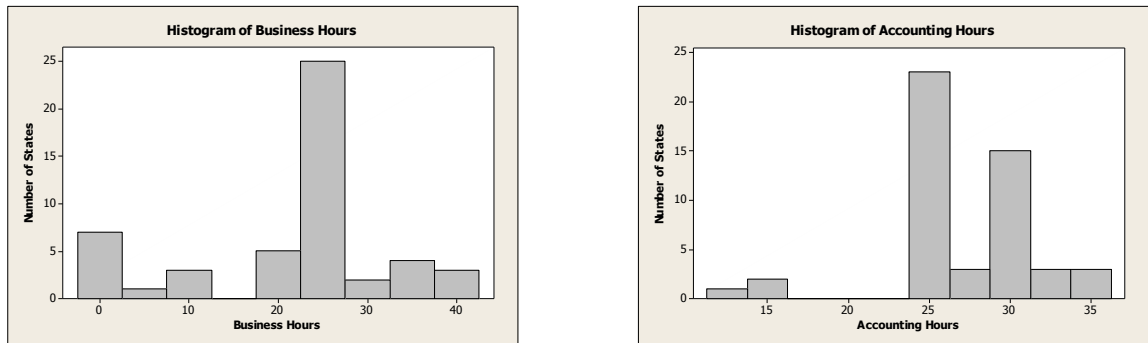
VIII. State Legal Requirements

Most states specify a number of hours in accounting and businesses courses, with a few states discriminating between credits earned at the undergraduate versus graduate level. For example, both Rhode Island and Wisconsin require only fifteen hours of accounting credits, if those credits come from a graduate degree program with a

concentration in accounting (Rhode Island, 2013 and Wisconsin, 2013). However, if the candidate has only an undergraduate degree, then twenty-four credits in accounting are required. Other nuances in education requirements also exist. In New York, one can obtain a license without a college degree, if the applicant has 15 years of qualifying experience working in public accounting (NYS, 2013). In Colorado, considerably more hours in accounting and business, specifically, are required if one does not have at least one year of experience. Utah is more specific about its credit hours, if they are not obtained from an AACSB institution. In Hawaii, Georgia, and Idaho, fewer accounting and business hours are required to sit for the exam than are ultimately needed to obtain the license (Shelton, Thompson & Serrett, 2012, p. 64).

Indeed there are other differences as well, as is pointed out by the above authors in their article “A Uniform CPA Exam, but Not-So Uniform Requirements (Shelton, Thompson & Serrett, 2012). However, despite the lack of uniformity, patterns emerge. In conjunction with the article above and by reviewing individual licensing websites for New York, Ohio, Rhode Island, Utah, and Wisconsin, one can make the following generalizations. About 80% of the states require 24 to 30 hours in undergraduate accounting, with the average for all states at 26.6. In addition to accounting hours, about 54% of states require an additional twenty-four to thirty hours in undergraduate business, with the average for all states at twenty-one hours. Histograms for the number of hours in accounting and business as required by the fifty states are shown below in Exhibit 2.5.

Exhibit 2.5 – Hours in accounting and business required by states



Further, about two-thirds of states specify the accounting content necessary and just under half specify the business content that is obligatory.

So, with respect to a model curriculum, one can start with a state that is detailed in its required courses and then compare it to other states. For example, Utah outlines its requirements for non-AACSB credit hours as follows in Exhibit 2.6. Note that this model shows a mix of specialized accounting courses, non-specified courses (including liberal arts) and business courses.

- New York does not include accounting systems in its required program of study, but adds accounting research instead. For general business courses it includes business communications.
- Indiana requires an accounting concentration, with no additional qualifications.
- Rhode Island does not require accounting systems and managerial accounting. Instead, it adds advanced accounting.
- Massachusetts agrees with the requirements above but does not insist on statistics and economics. This state describes the need for a course in business information systems instead of computers.
- Minnesota does not indicate courses, but has a list of topics. Many of these topics would be covered in the courses above. However, it specifies the following topics that may not be covered in the Utah diagram including - financial accounting for government and non-profit, fraud examination, accounting research, management and technical writing.
- A number of states, including Minnesota, require fewer accredited college hours in accounting to sit for the exam, if the hours are completed at the graduate level.
- Texas candidates must have two hours in tax research or financial accounting research and lower division accounting courses are not included in the minimum hours required.
- California (beginning in 2014) noticeably excludes managerial accounting and accounting systems but adds financial statement analysis and external and internal reporting for a total of 24 semester hours. Its twenty-four business related hours may come from a list similar to that of Utah's. However, California does

something unique in that it specifies an additional thirty hours on top of these 24 accounting and 24 business hours. These thirty hours may be satisfied by a completion of a master's degree in tax, accounting or laws in taxation. Or, an individual must take an additional six more hours in accounting subjects and ten hours of ethics study. Of the remaining fourteen hours required, these may be met through additional business courses or skills based courses such as internships, foreign language, science, journalism and engineering. The ten hours of ethics must come from the following list of topics: business leadership, corporate governance, ethics, human resources management, organizational behavior, management of organizations, business law, corporate social responsibility, fraud, legal environment of business, morals, and professional responsibilities. Philosophy, religion and theology also count, but can make up no more than three of the additional thirty semester hours. An audit course counts as one semester hour.

In summary, the state by state implementation dates for the 150-Hour Rule vary, as does the legally required accredited college courses. However, states enacted education legislation based on recommendations from practicing CPA's and educators. Below is an historical summary of those key models that informed state legislators. This literature review begins in 1967 and ends in 2014, concluding with the NASBA (National Association of State Boards of Accountancy) and the AACSB proposed course of study for accountants.

One should note that the state legal education requirements were passed into law based on legislators taking into consideration accounting education models proposed by the

various groups involved with accounting education. These groups were discussed in Section V. Below are descriptions of the accounting education models proposed from 1967 to 2014.

IX. The Proposed Models for Accounting Education

As one can see from the above listing of state implementation dates, there is considerable variability in adoption regarding the 150-Hour Rule. It then comes as no surprise that the course composition of those 150 hours, to legally become licensed as a CPA, varies considerably on a state by state basis as well. This section of the dissertation will conclude with most recent recommendations of NASBA and the AACSB, as of this writing (about 2014). It will take a journey through history beginning in 1967 with the *Horizons for a Profession* recommendations and move forward in time to 1978 (Albers), 1986 (Bedford), 1989 (Big Eight), 1990 (Accounting Education Change Commission (AECC), the recommendations of the Pathway's Commission as of 2012 and the latest proposed model from 2014.

As one moves forward from 1967 to 2014, one will note that the three paths - specialized accounting (sa), liberal arts (la) and business (bu) - are more or less prominent in all of the educational models. Further, one also notes that the models generally value communication, learning, intellectualization, interpersonal, and integrity skills, which can be abbreviated as CLI³. Hence, section IX enforces the proposed theory that there are three educational paths for accountants - CLI³-sa, CLI³-la, and CLI³-bu. These three educational paths are discussed further in section XIII below in this chapter.

IX (A). *Horizons of a Profession - 1967*

Horizons of a Profession (Roy & MacNeill, 1967) began the quest for an ideal accounting education. It was funded by the Carnegie Corporation and AICPA. No prior attempt at outlining the common body of knowledge (CBK) for accountants had been so thorough. Indeed, its breath rivals or surpasses subsequent efforts to outline the CBK. Essentially, Robert Roy (John Hopkins University) and James MacNeill (Fordham University) polled the public accounting community in a tangible manner that would be difficult to replicate in today's world. They sent out a deck of 53 cards to 2,600 accounting professionals. Each card in the deck indicated a college subject matter. The deck was put in an identical random order. The participants were asked to sort the cards by subject with an eye towards what would be most important in the future and return the sorted deck. The participant list was developed from referrals from state society's of CPA's and other professional accounting groups. Referred individuals were those who by their activities, positions, and reputations might be more knowledgeable and forward looking. A whopping 70% of the professionals polled responded. Overwhelmingly, respondents rated written and oral English as number one. Results for the top 33 cards are listed below in Exhibit 2.7.

Exhibit 2.7

Horizon's Card Deck Results, 1967

<u>Participant Rank</u>	<u>Subject</u>
Overwhelmingly significant	Written and oral English
Next top ten	Introductory accounting theory, accounting practice and procedures, accounting principles (standards and ethics), economics, cost accounting, auditing practice and procedures, taxation, business law and algebra.
Next 11 to 21	Advanced accounting theory, business math, finance, advanced accounting practice and procedures, money and banking, humanities, social science, business management, statistics and probabilities, philosophy/logic/ethics, managerial accounting.
Next 22 to 33	Data processing, advanced cost accounting, English literature, advanced taxation, marketing, production, advanced business law, natural science, advanced economics, personnel and labor relations, advanced corporate finance.
Next 34 to 53	A variety of courses were indicated by participants, including calculus.

From the card deck experiment and based on other research performed, Roy and McNeill constructed a common body of knowledge (CBK) for future accountants. Notably, they determined that the CBK could not be acquired in four years and hence

they recommended five years of college study. The broad categories of their ideal accounting curriculum follow in Exhibit 2.10.

Exhibit 2.8

<u>Horizon's Ideal Accounting Curriculum</u>	
<u>Course</u>	<u>Topics</u>
Accounting	Functions of accounting Concepts of accounting Application of accounting concepts Methods and techniques available to the CPA
Humanities	Logic and ethics Written and oral English
Economics and Behavioral Science	Micro-economics Macro-economics Organization behavior
Law	Contracts, commercial paper, property, forms of organization, administrative law, accountant's responsibilities and other legal topics.
Mathematics, Statistics, Probabilities	Including calculus, considerable work in probabilities and understanding one computer programming language and other math concepts.
Business	Finance Production Marketing Personnel relations and business management

There are other items worth noting from the *Horizon's of a Profession* report. First, the CBK proposed is admittedly the opinion of the authors. However, it is an inductive opinion based on a number of research approaches in addition to the card deck experiment. Second, the authors are particularly concerned about the future. Third, they care about accounting as a profession and take great care to put accounting within this social contract.

The authors are especially concerned about accounting education being inadequate to face the following issues of the future. For example, they believed:

- Accounting will increasingly use quantitative measures that are probabilistic rather than deterministic. Accountants will make more use of symbolic notation. Clients will use complex mathematical decision rules. Auditors will depend increasingly on statistical sampling. Hence, substantially more complicated math is needed in accounting education including calculus and linear algebra. (Interestingly, these two courses did not rate high in the card deck experiment. The authors note that their recommendations contradict the survey results.)
- Accountants will need to know more about computers. This knowledge should include at least one computer system, one computer language and the ability to flowchart a system, design an information system, write a program for a system, and test and debug that system.

In hindsight, it is known that accounting education did not heed the opinions of Roy and MacNeill with respect to including more complicated math and computer system training. Further, the Pathway's model places more emphasis on soft skills as opposed to hard math and computer skills.

The *Horizons* authors were also concerned about accounting as a profession. They believed accounting met the definition of a profession because of the service it renders to society, its ethical principles and subordination of self to those served, requirements for admission, disciplining procedures, specialized body of knowledge and own language. They believed that accounting needs to attract a large portion of talented people in order to fulfill its obligations to society. This line of thinking continues today and is especially evident going forward to the Pathway's model.

IX (B). Albers Report - 1978

In 1978, a committee chaired by Wayne Albers issued its report "Education Requirements for Entry into the Accounting Profession: A Statement of AICPA Policies" (*Journal of Accountancy*, 1979). This committee affirmed in substance the recommendations of the Beamer Report (1969) and *Horizons of a Profession* (1967). The latter report was discussed separately above. Note further that the Beamer Report largely validated the recommendations of *Horizons of a Profession*.

The Albers Report indicates a model curriculum by subject, which is similar to the Beamer Report, except that it advances the ideal of a 150 hour curriculum and makes no recommendation for a 120 hour plan of study. The Albers Report proposes fewer credits in general business 36 to 39 (as opposed to 54 in Beamer), but more credits in accounting 39 (as opposed to 30 in Beamer). The Albers report also states that a master's degree in accounting or business administration is desirable. It further outlines a suggested course of study as follows in Exhibit 2.9.

Exhibit 2.9

The Albers Report, 1978		
	Course	Semester hours
General Education	Communications	6-9
	Behavioral sciences	6
	Economics	6
	Elementary accounting	3-6
	Introduction to the computer	3
	Mathematics and statistics	12
	Other general education	<u>24 -18</u> total of 60
General Business Education	Economics (theory and the monetary system)	6
	The legal and social environment of business	3
	Business law	6
	Marketing	3
	Finance	6
	Organization, group, and individual behavior	3-6
	Quantitative applications in business	6
Written communication	<u>3</u> total 36-39	
Accounting Education	Financial accounting theory	} 15
	Applied financial accounting problems	
	Contemporary financial accounting issues	
	Cost determination and analysis	} 6
	Cost control	
	Cost-based decision making	} 6
	Tax theory and considerations	
	Tax problems	} 6
	Audit theory and philosophy	
Audit problems	} 6	
Computers and information systems		
Electives	Not specified, but should not include more than six hours in specialized accounting courses	15-12
		150 hours – grand total

The Albers Report offers the above sample as guidance and specifically does not believe that it should be legislated as required. Essentially, the sample program allows for a little over two years of studies for liberal arts, between 39 and 45 hours of specialized accounting, and 36 to 39 hours in business.

IX (C). Bedford Committee -1984

The Bedford Committee is so named for its chair – Norton Bedford of the University of Illinois. The committee was formed at the recommendation of the American Accounting Association in 1984 and included twelve individuals, mostly from academia, but also at least one representative from industry, government and public accounting. They provided many recommendations for accounting education, the teaching process, professional examination and more. They strongly believed that “accountants must pursue life-long learning as a means to adjusting to change” (Bedford, et al, 2001, p. 174). These authors recommended three phases for education of accountants as follows.

Exhibit 2.10

Bedford Committee Education Model (Bedford, 1984)	
General Education	History, evolutionary nature of society, different cultures, anthropology, macro- and micro-economics, technological change through natural science, arts, philosophy, mathematics (including calculus), statistics and computer systems
General Accounting Education	Design and use of information systems, 2) communication, 3) definition, structure and analysis of decision problems and functional activities of business and other organizations (including the legal, social and political environment in which they operate), 4) financial information and reporting (including auditing and tax), 5) history of the profession and its ethical and societal responsibilities and the fostering of personal characteristics such as creativity, leadership, empathy, persistence and logical reasoning.
Specialized accounting information	Primarily to be performed at the graduate level and relevant to tax, information systems, and auditing.

What one notices about this model is that it includes a general liberal arts education, general business and accounting education and specialized accounting primarily at the graduate level.

IX D. AICPA model for a 150 Hour program - 1988

Prior to the Big 8 White Paper is the AICPA's model for a 150 hour program. The *Journal of Accountancy* (Collins, 1989) summarizes the AICPA's model as follows.

Exhibit 2.11

150-Hour Education Model (AICPA, 1988)

General Education, including ethics	60-80 hours
Education in business administration, including ethics	35-50 hours
Accounting education, including ethics	25-40 hours
Total	150 hours

The details of this educational plan are similar to the Albers report model above (Exhibit 2.9), except that ethics and the computer in auditing are added. One should note that semester hours for ethics are suggested in all three categories.

This model differs substantially from the Bedford Committee of 1984 (Exhibit 2.10) in that it adds a section for general business and does not distinguish between accounting and specialized accounting. Further, this model also decreases the amount of accounting down to just 40 hours as compared to the Alber's model in Exhibit 2.9 which recommended between 39 and 45. In this AICPA model Exhibit 2.11, more hours are

available (with the additional 30 credits) for liberal arts and business courses. In addition, this model also has some similarities with a typical AACSB education which requires 60 credits for general liberal studies, at a minimum (see IX (J) below).

IX (E). Big 8 White Paper, 1989

In 1989, the large international public accounting firms (then called the Big 8 and now after mergers are referred to as the “big four”) issued a white paper indicating their desires for new entrants into the field. In addition to the paper, they offered grants of up to \$4 million to fund accounting education change efforts.

Below is a summary of the ideal education proposed by the “Big 8”. (Note: The white paper is difficult to find using the authors’ names or firm’s names. The first named author of this report is Duane Kullberg from Arthur Andersen. But, it is readily found in appendix B to the *History of the Accounting Education Change Commission* (Sundem, 1999).

Exhibit 2.12

Big 8 White Paper, (Kullberg, 1989)	
Abilities to	Knowledge of
Communicate Interact with diverse groups Make value judgments Relate interpersonally Use intellect Create and manage change	General matters – history, economics, political social and psychological forces, interpersonal and group dynamics and information technology Organizations Business Accounting Auditing

With respect to general knowledge, the Big 8 make a case for “a large, broad and deep general education component to yield a level of knowledge that is characteristic of a broadly educated person...and should leave the student excited about, and prepared for, lifelong learning (Kullberg, 1989, p. 5).”

IX (F). Accounting Education Change Commission (1990)

In 1990, the Accounting Education Change Commission (The AECC) issued Position Statement Number One – Objectives of Education for Accountants (Sundem, Williams, et al, 1990). This Commission continues with the four categories of education (general, general business, accounting and specialized accounting) discussed below by the AICPA in 1988, the Bedford Committee (1984) and the Albers Report (1978). The AECC continues the shift away from the courses and topics that form an accountant’s education to a listing of capabilities.

This shift (away from courses to capabilities) is present in *Horizons*. While the *Horizons* card deck study was course oriented, much of the verbiage and text of *Horizons* dealt with the capabilities necessary of a professional. As one moves forward in time from *Horizons* to *Pathways* (discussed below in IX(H)), one notes greater and greater emphasis on capabilities and not on particular courses where one might learn those capabilities. In particular, in the AECC’s education model, considers eight broad capabilities to be necessary for entry level accountants. All eight of these broad capabilities are listed below. However, in the interest of brevity, only some of the details underneath each of these capabilities are reiterated below.

Accounting Education Change Commission's Education Model (Sundem et. al, 1990, p. 3-6)

- 1) Acquired general knowledge of world history and cultures, psychology, economics, political and social forces, mathematics through calculus, statistics, an appreciation for art, literature and an awareness of personal and social values.
- 2) Intellectual skills – ability to solve unstructured problems, apply value-based reasoning to ethical questions, make predictions, manage stress and tight deadlines.
- 3) Interpersonal skills – ability to work with others in groups, resolve conflict and interact with culturally diverse people.
- 4) Communication skills – ability to present, speak, write, and listen as well as locate information.
- 5) Organizational and business knowledge – understanding of business, creating and managing change and internal workings of organizations.
- 6) Accounting knowledge – including the history of the profession and accounting thought and ethical responsibilities of accountants.
- 7) Accounting skills - ability to apply accounting knowledge to solve real-world problems.
- 8) Personal capacities and attitudes - including creativity, integrity, energy, motivation, persistence, empathy, leadership, sensitivity to social responsibilities, and a commitment to life-long learning.

(Sundem, et. al, 1990, p. 3-6)

IX (G). Core Competency Framework, 2005

While the Core Competency Framework (AICPA, 2005) is considered in the *Pathways* report below, it is worth its own place in the discussion. Like the *Pathways* report below, it provides three broad competencies with a number of detailed competencies. The broad categories and details are listed below in Exhibit 2.13. The elaboration of those details is not listed in the interest of brevity.

Exhibit 2.13

AICPA Core Competency Framework, 2005		
Functional Competencies	Personal Competencies	Broad Business Competencies
Decision modeling	Professional demeanor	Strategic/critical thinking
Risk analysis	Problem solving and decision making	Industry/sector perspective
Measurement	Interaction	International/global perspective
Reporting	Leadership	Resource management
Research	Communication	Legal/regulatory perspective
	Project management	Marketing/client focus
Leverage technology to develop and enhance functional, personal and broad business capabilities.		
(AICPA, 2005)		

The nomenclature of functional, personal and broad business as key competencies to be gained by an accounting student differs from the prior taxonomy of the Accounting Education Change Commission. In addition, one should note that this list of competencies was first published by the AICPA in 1998. If one compares the core components in 1998 to 2005 one will find that there is no difference in the core components in 1998 compared to 2005.

IX (H). The Pathways Commission – Charting a National Strategy for the Next Generation of Accountants

The *Pathway's Commission* put forth the most recent document on accounting education (AICPA & American Accounting Association, 2012). This document created its own model and then classified a number of other prior models for accounting education within its taxonomy. It considers 27 different models from a wide variety of sources. Most notably it includes the AICPA Core Competency Framework (2005) and the Competencies of the Uniform CPA exam. It also considers the opinions of Robert Half, Grant Thornton, NASBA, the content of the Certified Management Accountant (CMA) and Certified Internal Auditor (CIA) exams, views from *The CPA Journal*, *Management Accountant Quarterly*, *the Huffington Post*, and the competencies desired by the International Federation of Accountants (IFAC), International Education Standards (IES) and more. The taxonomy groups competencies into three broad categories. Within each of the three broad competencies there are subcategories. Then, each of the subcategories, have topics, as well. The *Pathway's* three broad categories are shown horizontally below in Exhibit 2.14 and their subcategories are listed vertically below. Topics beneath the subcategories are not listed in the interest of brevity.

Exhibit 2.14

Competencies Outlined by the AICPA and AAA Pathway's Committee, (AAA, 2012)		
Technical Knowledge	Professional Skills	Professional Integrity, Responsibility and Commitment
Financial accounting and reporting	Critical thinking and problem solving	Ethical knowledge
Operational/management accounting	Judgment and decision making	Ethical reasoning and judgment
Governmental accounting and reporting	Communications and collaboration	Professional legal responsibilities
Auditing and attest services	Leadership skills	Behavior/attitude consistent with core values
	Managerial skills	
	People skills and Personality	
Other areas	Technology skills	Commitment to the accounting profession's broad societal and economic purposes
	Commitment to learning	

IX (I). NASBA

In addition, the National Association of State Boards of Accountancy (NASBA) recommends 24 semester credit hours in accounting, 24 semester credit hours in business, three hours in ethics and two hours in communications. Accounting and business courses (topics) recommended by the NASBA (2009) are listed below.

Exhibit 2.15

Recommended Courses - NASBA, 2009	
Accounting (24 credits which are contemporaneously derived from the Uniform CPA Examination Content Specification Outline)	Business (24 credits covering some or all of the following)
Financial accounting and reporting for business organizations Financial accounting and reporting for government and not-for-profit entities Auditing and attestation services Managerial or cost accounting Taxation Fraud examination Internal controls and risk assessment Financial statement analysis Accounting research and analysis Tax research and analysis Accounting information systems Ethics (accounting course) And, a research and analysis in accounting course that is two semester credits hours or is integrated in a number of accounting courses	Business law Economics Management Marketing Finance Business communications Statistics Quantitative methods Information systems or technology Ethics (business course)
And, two semester credit hours in communications cross listed as either an accounting or business course.	

IX (J). AACSB

As noted above, the state of Utah does not require specific courses, if a candidate has a degree from a school accredited by the AACSB. There are a number of other states that also discriminate based on a degree from an AACSB institution versus a non-accredited institution. In general, AACSB accreditation is considered a stamp of approval. Hence, it is helpful to consider its requirements. The AACSB began published accreditation standards for accounting programs in about 1980 (Black, 2012).

The AACSB has voluminous expectations of faculty and students to achieve accredited status. In addition, its standards 37, 38, and 39 address accounting education content. These standards require:

AACSB Revised 2012

- Learning outcomes and objectives that surround the developing, measuring, analyzing, validating, and communicating of financial and other information and ensuring its integrity.
- Learning experiences in the accountant's role in society, ethics, business process, internal controls, project management, tax policy, strategy and compliance for individuals and enterprises, and international accounting issues.
- With respect to information (including financial, non-financial, historical or prospective information), learning experiences include risk assessment, recording, analysis and interpretation, as well as the design and application of technology to manage information (AACSB, 2012, per web pages found at <http://www.aacsb.edu/en/accreditation/standards/2003-accounting-standards/assurance-of-learning/>).

The AACSB does not indicate the specific number of hours of accounting education, but rather states that, “Standard 38 - Where there is a formalized practice of accounting, and when a school's mission indicates that it aspires to have its graduates enter the profession, graduates meet the entry requirements for the accounting profession”,

(AACSB, 2012, web page <http://www.aacsb.edu/accreditation/standards/2003-accounting-standards/assurance-of-learning/standard38.aspx>). This means that an AACSB school will offer for its accounting major a curriculum that generally follows the NASBA rules. It is further worth noting that institutions accredited by the AACSB require graduates of its institutions to have sixty credits in liberal arts.

IX (K). Integrated Competency Based Framework

Recently, the IMA and the Management Accounting Section (MAS) of the AAA formed a task force and published a college education framework suggested for *all* (their emphasis) would be accountants (Lawson et. al, 2014, p. 296). The framework particularly emphasizes the need for a strategic perspective on the value proposition of accounting (p. 298) and the need for competency integration (p. 299). This framework has the following features. These features are tied into the dissertation's synthesis of the educational profile of an accountant CLI³. This synthesis is shown in the left column of Exhibit 2.16. CLI³ is discussed in detail in section XIII, below.

Exhibit 2.16 – Competency Integration Framework, 2014

Competency Integration Framework

(Lawson et. al, 2014, p. 300)

How these tie to
this dissertation


Foundational Competencies

Communication	C - Communication
Quantitative	I - Intellectualization
Analytical thinking & problem solving	I - Intellectualization
Interpersonal	I - Interpersonal
Technological	sa - Accounting or specialized accounting

Broad Management Competencies

Leadership	I - Interpersonal
Ethics & social responsibility	I - Integrity
Process management & improvement	bu – Business
Governance, risk & compliance	bu – Business
Additional core business competencies	bu – Business

Accounting competencies

External reporting & analysis	 <p>24 basic hours assumed for an accounting major</p> <p>sa – Specialized accounting – with the possibility for 30 more hours</p>
Planning, analysis & control	
Taxation: compliance and planning	
Information systems	
Assurance & internal control	

Professional values, ethics & attitudes	I - integrity
---	---------------

This integrated competency framework is largely consistent with the prior frameworks. However, it makes a few notable departures from the past. There is less emphasis on the accountant as a professional. Being a professional is just one aspect among sixteen attributes.

The entire book of *Horizons of a Profession* (Roy & MacNeill, 1967) makes the case for why CPA's are not simply business persons. CPA's to Roy & MacNeill are professionals with status, privileges and responsibilities to society. Also, in *Pathways* (AAA, 2012) there are three main competencies for accountants – 1) technical, 2) professional and 3) professional integrity, responsibilities and commitment. Placing a prominence on the accountant as a professional is a line of thought that runs from 1967 to 2012.

Next the word integrity is not specifically used. Integrity is a word that features significantly in *Horizons* and *Pathways*. Rather, in Lawson et. al's classification system, an accountant is a more akin to a manager.

X. Key Operating Theory - AiU vs. AiT (Hopwood)

Besides the prior models of accounting education there is one key theory that this research rests upon and this section will describe it. This theory is the basis for why the research was performed to look at the view from the top (in other words, what CPA partners actually did to obtain 150 hours.)

Accounting in theory (AiT) does not necessarily match up with accounting in use (AiU). This distinction between AiT and AiU was the important contribution of academic iconoclast, Anthony Hopwood (Birnberg, Bromwich & Roberts, 2013).

Accounting in use differs from accounting in theory because environments are too complex and uncertain to develop universal theories. Hopwood further pointed out that one needs to understand accounting systems *in situ*. This research will describe the education of accountants who find themselves in the situation of being a partner in a CPA firm.

In addition, Anthony Hopwood's work, which was performed primarily after the publication of *Horizons*, confirms the position of *Horizons* in that Hopwood recognized that accounting is not a one way street. Most of accounting is looked at as one way – meaning that accounting information is used to make conclusions about economic events. However, accounting changes the kinds of events that occur. Because accounting is a system, it influences how people behave and interact with that system. Consider the following by Hopwood, (1983, p. 292): “Accounting, so we are told, is capable of enhancing organizational efficiency and performance (forgetting, of course, the role that it also plays in the definition of the very end it is trying to further).” Hopwood understood that the end result was not isolated but, in part, a product of the accounting system.

This notion has important implications for this dissertation. The education of the public accountant affects the future of what public accounting will become. Therefore the nature of the inquiry into the proper education of the public accountant must be seen not only from what is desired but also from what is already there. The research in this dissertation addresses the matter of what is already there - it is a study of accounting education within the context in the situation where it is actually used – by CPA partners in CPA firms.

XI. Reiteration from Chapter One of the Research Matters and Expanded Discussion

Now that background, history, models, and theories have been presented, it is helpful to consider the research matters described in Chapter 1 and in somewhat more depth. After this chapter several prior studies, unlike this research study, yet nonetheless informative for this study, are discussed.

XI (A). Research purpose

The purpose of this dissertation was to gather and evaluate information about the educational profile of successful CPA's (in particular partners in CPA firms). This analysis helps those who advise students (who desire to work in public accounting) as to selecting a course of college study, particularly as it relates to obtaining the additional 30 credits (above the typical 120 needed for graduation) which are needed for licensure by state boards of accountancy in the United States.

Currently, the additional 30 credits may be in any discipline, lower division, upper division, or graduate (for most states, with some exceptions as noted in VIII above). In particular, this dissertation surveys partners in CPA firms to determine the college courses they took to meet the additional 30 hours.

This form of research is heuristic, in that its purpose is to discover the educational path of those that have achieved success in public accounting (with success defined as having been promoted to partner). Obviously, this research did not address – what is best for students or particular categories of students. In this way, this research project

was not normative. It did not propose to say how things ought to be. Rather, the results listed in chapter four discovered and described how things are.

Further, the research objective was inductive. Chapter four shows statistical relationships, such that one can say (using inductive reasoning) a certain course of study is more closely correlated with being a successful CPA. The project recognized that the accounting profession and the education necessary to progress through the ranks of public accounting did not remain static over time. Rather, it is a dynamic profession that is constantly changing and hence problematic to describe.

XI (B). Why it is important

It makes sense to focus accounting students' resources on education credits that have the possibility of leading to success. The problem is that while 150 accredited college credits are required to become licensed as a CPA, how those credits should be allocated is not specified by the profession or most state boards of accountancy.

Considerable discussion has taken place in practitioner, professional and academic circles regarding the courses, skills to be developed, and amount (number of credit hours) of higher education needed to enter the profession of public accounting. College education has a significant cost to individuals and to society. Therefore, it makes sense to target resources (dollars and time spent on a college education) into those courses of study with a greater likelihood of producing a successful public accountant. The significant additional dollar cost (as well as the costs of opportunities lost due to the sacrifice of time) of college courses is the key reason why this research is important. If additional cost is to be incurred, at least it should be for worthwhile additional college study.

XI (C). Gap in the research

The AICPA and most state boards of accountancy have left it open as to how students should obtain the additional thirty credit hours. There is no current consensus on how the thirty hours should be spent.

While there have been a number of studies and discussion in the accounting literature about the worthiness and necessity for the 150-Hour Rule, there has been significantly less discussion or studies about what successful accountants have actually done to complete the additional 30 hours. This is largely due to the fact that the 150-Hour Rule has only been required of AICPA members since the year 2000 and it is only as of 2015 that all 50 states have adopted the rule as law. Now that the law has been around in many states for ten years or more, this matter can be studied.

There has also been a great deal of discussion regarding the competencies that beginning accountants should have. But, again, little is known about what successful accountants have actually studied to gain those competencies. Further, there is a gap in the research regarding what should be the content of the required 150 hours of education (Gramling & Rosman, 2013, p. 508). This gap is also demonstrated by a recent article in *Issues in Accounting Education*. Gramling & Rosman (2013, p. 508) ask, “What should be the content of the required 150 hours of education?” Gramling & Rosman believe this question has not been answered and represents a gap in the research. The gap exists because an insufficient number of studies have been done that relate directly to the question – what should be the content of the required 150 hours of education?

For example, in the 2012 model of accounting proposed by the Pathway’s , Commission studied the opinions, regarding accounting education, from a number of

paths such as those espoused by the American Institute of Certified Public Accountants and the Institute of Management Accountants, to name just two of the twenty-seven paths, considered in its summarization of educational outcomes for accounting students. While these models provide much information about what is believed to be a proper accounting education, the document does not provide specific guidance as to college courses by subject matter, a college course of study more appropriate for one intending to enter public accounting nor the amount of liberal arts or business studies versus technical accounting studies that lead to success in public accounting.

XI (D). The Research Questions

From the literature review above and review of the prior studies, the following research questions were developed.

- 1) Are CPA partners more likely to fulfill the additional 30 hours (of 150 hour requirement) with a) additional courses in accounting or a master's in accounting or a masters in tax, b) additional courses in liberal arts or a second degree (and in what subject?), or c) an MBA or additional business courses or second degree in business or other subject?
- 2) What does the educational path of a CPA partner look like in terms of courses and degrees?
- 3) What were the additional courses (to meet the 150-Hour Rule) that partners took that they found especially worth it to them?

While these questions are important, the ultimate objective of this research project is heuristic, as opposed to definitive. Accordingly, this project does not propose a hypothesis to address these questions and then attempt to prove or disprove the

hypothesis. Rather, the research project will gain insight to these questions through observation of practicing CPA's.

XII. Prior Surveys and Studies

There have been a number of studies and surveys on the 150-Hour Rule. Many of these surveys had the purpose of determining the effects of the Rule. Here are just a sample of some of the studies concerned with the effect of the Rule.

- There have been studies that show students with 150 hours have a greater chance of passing the CPA exam (Allen & Woodland, 2006) and (Raghunandan, Read, & Brown (2003).
- One study intuits that the 5th year of college creates more mature graduates and that is a key benefit (Reinstein, Bayou, & Lander, 2000).
- Research also makes some connections to the additional hours and lower number of students entering the profession who are from disadvantaged backgrounds. For example, the number of African Americans entering the profession has fallen since the 150-Hour Rule (Booker, Hill, & Wright, 2010).
- Another study stays that with the increased education costs have come increased audit fees and starting audit salaries, but the quality of audits has not improved (Allen & Woodland, 2010).

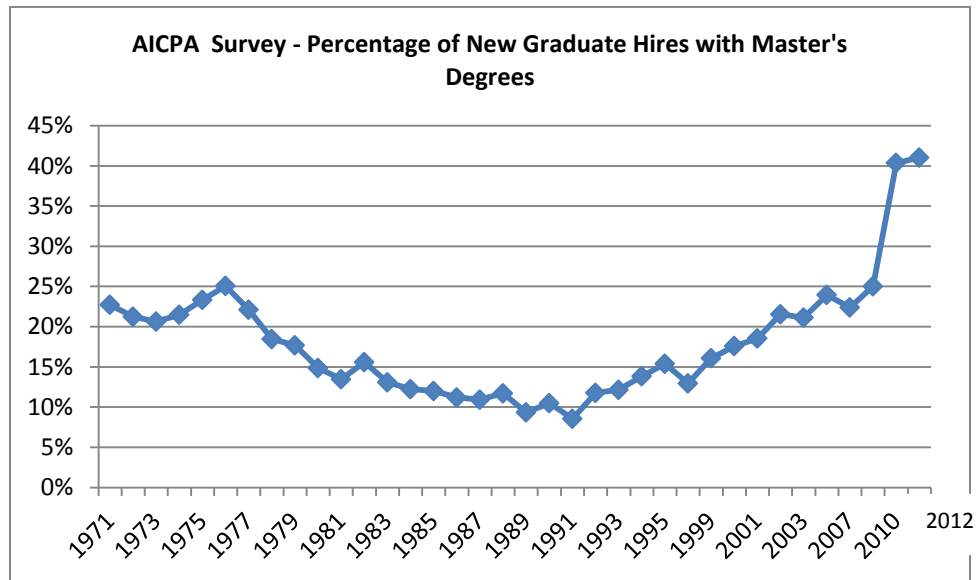
While the effect is important, this research project was not about the effect of the 150-Hour Rule. It was about the people who “made it” to partner and their educational path - was there something that CPA partners did (or a common thread) with respect to the completion of their education prior to entering public accounting?

This section of the literature review considers studies that may give us some insight into this question. Four studies were deemed directly applicable to this dissertation: (A) AICPA new hires, (B) Metrejean & Stocks (3) Albrecht & Sacks and (4) Renner & Tanner.

XII (A). New Hires to Public Accounting Firms

First, one can look at the published statistics of the AICPA regarding their survey of new hires by CPA firms (AICPA, 2013). The AICPA states that it “extensively followed up with non-respondents to maximize the response rate.” A chart summarizing their data is shown below in Exhibit 2.17.

Exhibit 2.17



The average percent of persons hired with a master’s degree from 1971 to 1999 is about 15%. One possible extrapolation of this average is that, 15% or more of CPA partners have master’s degrees, assuming that it takes about twelve years to make partner. Indeed, a study done in 1990 indicates that about 30% of candidates for partner in audit

and 57% of candidates in tax for partner had a graduate degree (Alford, Strawser & Strawser, 1990).

XII (B). Metrejean, Metrejean & Stocks

Another angle from which to view the education profiles of public accountants is to consider the opinions of those who recruit for public accounting jobs. Two relatively recent surveys were published in 2008 and 2013 on just this topic. The earlier survey involved recruiters from both CPA firms and industry. In this survey, (Metrejean, Metrejean & Stocks, 2008), those recruiters who responded came mostly from local CPA firms and small and mid-sized companies. The recruiters were asked to allocate 100 points across ten characteristics of a potential hire. The results are relevant and are shown below in Exhibit 2.18.

Exhibit 2.18

New Hire Characteristics Ranked by Importance (Metrejean, Metrejean & Stocks, 2008)

<u>Characteristic</u>	<u>CPA Firms - Average Allocated points (Out of 100)</u>	<u>Rank</u>
Communications	23.6	1
Computer skills	17.5	2
Accounting GPA	16.2	3
Overall GPA	11	4
Career	10.6	5
Qualified to take CPA exam	9.7	6
Respect	5.7	7
Travel	2.5	8
Master's degree	1.2	9
AACSB school	.5	10

For purposes of this research study, the most relevant data is the high emphasis placed on communication and computer skills and the low value placed on a master's degree. This study notes a gap in the research due to its bias towards small firms and lack of ability to generalize the results to large CPA firms.

Another study was done five years later with a different approach. In this case, 7,000 CPA's from a national data base (response rate 7.6%) were asked how likely their firm would be to recruit candidates with the sole variable being the manner in which those candidates earned their 150 hours (Maudlin, et al., 2013). These researchers found that students who complete a master's in accountancy or master's in business with an accounting concentration will be favored over MBA's and double majors. They concluded that the next best course of action was a double major in finance or information systems and not an MBA. The least marketable course options were the non-business courses (Maudlin, et al., 2013).

XII (C). Albrecht and Sack

Next one can look at two studies that took place around the turn of this century. The first is a book written by Steve Albrecht and Robert Sack (2000) - *Accounting Education: Charting a Course through a Perilous Future*. Besides the study's alarming tone, of particular interest is the non-statistical survey they performed to obtain information on the ranking of topics believed to be most important by faculty and practitioners. Participants were asked to rank courses from 1 to 4, with 1 being *not important*, 2 should be included as part of a course, 3 deserves its own course and 4 meaning that *more than one college course* should be devoted to the subject. Albrecht & Sack's results follow in Exhibit 2.19.

Exhibit 2.19

<u>Course importance rankings - Albrecht & Sack, (2000)</u>	<u>Practitioner Rank</u>	<u>Faculty Rank</u>
Financial accounting	3.57	3.74
Information systems	3.56	3.54
Finance	3.28	3.36
Taxes	3.28	3.30
Business strategy	3.15	2.91
Auditing and assurance services	3.06	3.13
Managerial accounting	3.05	3.25
Technology topics	3.01	3.08
E-commerce	3.00	2.78
Business law	2.95	2.84
Global/international business	2.92	2.80
Ethics	2.89	2.54
Economics	2.81	3.10
Statistics and quantitative methods	2.73	3.00
Accounting research methods	2.50	2.13
Operations/supply chain management	2.46	2.51
Organizational behavior/human resources	2.46	2.60
Marketing	2.45	2.63

As is apparent in the table, practicing accountants (from industry and public accounting) rank technical accounting courses as deserving of one or more courses over courses of a broader nature such as organizational behavior or statistics.

XII (D). Renner and Tanner

A second study worthy of note was done by Renner & Tanner (2001). This study again looks at the attitudes of practicing accountants. They surveyed professionals from

the AICPA and IMA. With a response rate of 19% on 2,000 surveys they discovered that both public and private industry accountants favor additional education in technical areas as opposed to liberal arts. The details of the Renner & Tanner (2001) merit additional elaboration. Using a five point Likert scale with 1 as *not at all valuable*, 3 as *neutral* and 5 as *extremely valuable*, public accounting professionals weighed in on the following degree combinations.

Exhibit 2.20

<u>Suggested course of study, Renner & Tanner (2001)</u>	<u>Mean degree of value for public accountants</u>
BA in accounting, master's in taxation	4.0
BA/double major in accounting and management information systems	3.8
BA in accounting, master's in accountancy	3.6
BA in accounting, MBA	3.5
BA/double major in accounting & finance	3.3
BA/double major in accounting and management	2.9
BA/double major in accounting and marketing	2.9
BA/double major in accounting and minor in business communications	2.9
BA/double major in accounting and any economics	2.8
BA/double major in accounting and any foreign language	2.6
BA/double major in accounting and any liberal arts major	2.5

The results are particularly interesting because they are the opposite of what one would expect given the tone of the Accounting Education Change Commission report of 1990 and the Big 8 White Paper of 1989 – both of which called for broader education for

accountants and less focus on technical accounting knowledge. A liberal arts double major ranks dead last, while a master's in tax (a very technical degree) ranks first.

XIII. Three Lines of Thought (Avenues) for Additional 30 Hours

Practitioners, regulators, and educators generally agree on the traits necessary to be a certified public accountant. First, an individual desiring to enter the public accounting profession should know something about financial reporting, audit, tax, and managerial accounting. Second, there is virtually no argument that new accountants must be good in communication (oral and written), learning to learn (life-long learning) and possess intellectualization skills (also known as logical thinking, problem solving or critical thinking), interpersonal skills (relate and collaborate with diverse people) and integrity.

In the prior section (IX) eleven models historically proposed for accounting education were detailed. They began with the 1967 model proposed by *Horizons* and end at the 2014 model proposed by a joint task force of the IMA and the managerial section of the AAA. After those models are detailed, various studies that have already been done are explained. What was apparent through the models and studies is that communication, learning (how to and life-long), intellectualization, interpersonal and integrity come up over and over again as important.

These five traits can be shown with the following acronym:

CLI³ - this will stand for communication, learning, intellectualization,
interpersonal and integrity.

Of course these skills, along with knowledge of accounting, can be gained in a variety of ways. And, these ways can be considered to fall along three lines of thought. These lines of thought can be considered specialized accounting, liberal arts and MBA/business. The

third path includes a master's in business administration (MBA) as well as majors and minors and additional credits in business courses such as finance, management information systems (MIS), management and more. These three paths are added on to the five CLI³ traits above as follows:

CLI³- sa: for specialized accounting

CLI³ - la: for liberal arts

CLI³ - bu: for degrees and minors in business, including an MBA

All three lines of thought widely acknowledged that the common body of knowledge that an accountant must learn is large and expanding. Where these lines deviate occurs with how best to prepare an accountant for acquiring that knowledge and skills. The first line of thought (CLI³- sa) believes that the best preparation for a career in public accounting occurs through additional accounting classes. The second line of thinking (CLI³-la) believes that a broad and diverse liberal arts education is a better preparation. The third line of thinking (CLI³-bu) believes that an MBA or additional business coursework is a useful means of obtaining the additional 30 hours of education.

**XIII (A)(1). First Line of Thought – Practical and Experience Based Education,
CLI³- sa**

The first line of thought dates back to accounting's infancy and comes from the English tradition of apprenticeships (Langenderfer, 1987, p. 3). In other words, the education should be accounting focused and experience based. Harold Langenderfer goes so far as to say that the early education of accountants (prior to 1880) "reflected a disdain for broader liberal education" (Langenderfer, 1987, p. 3). Disdain is very strong characterization made a long time ago. Nonetheless, it wasn't until the late 1920's that

formal education began to be required by states to become a CPA (Lagenderfer, 1987, p. 5). This line of thought (experience and apprenticeship) continues to be present today. Its advocates can be found in all three groups that influence accounting education – universities, practitioners and legislators. This line of thought is pragmatic. It acknowledges that accounting education must satisfy many constituents (including accountants working in all four dialects), is costly and occurs over a lifetime.

The practical line of thought recognizes that accounting is an art that must be learned through experience. The knowledge of how to audit rests not just (or even mostly) in its formal standards or textbooks but rather in individuals and particularly in audit firms. One will note there are very few sole practitioners in audit.

Auditing firms provide significant input as to what the audit and accounting standards should be as well as how those standards are to be interpreted. For example, opinions on audited financial statements conclude that those statements are (or are not) fairly stated within the limits of materiality. But, materiality and fair statement (per the standards themselves) are not a set amount or a definitive reality. Rather, these matters require judgment and the concept of judgment is transmitted through individuals and the collective culture of firms.

Tying this position into the management information systems (MIS) literature there are two general kinds of knowledge that may be transferred – tacit and explicit (Argote & Ingram, 2000, p. 159). Explicit knowledge is the realm of college study. For example, students can study the explicit auditing standards promulgated by the AICPA. Tacit knowledge relates to the nuances of practicing accounting and is typically learned on the job. Tacit knowledge includes knowing how to use judgment to determine materiality in

a given situation. Tacit knowledge includes how to put into operation the audit standards. Indeed it has been shown that within a multi-national auditing firm, using standardized procedures, the operation of an audit can vary significantly on a location by location basis (Barrett, et al., 2005, p. 9-13).

Argote & Ingram, (2000, p. 153) further discuss five repositories of knowledge within a firm. These repositories would be applicable to audit firms.

- 1) Individual member
- 2) Roles and organization structure
- 3) Organization's standard operating procedures
- 4) Culture
- 5) Physical structure of the workplace

Argote & Ingram further go on to discuss where one finds knowledge in an individual member. Individuals have knowledge regarding other individual members, tasks (processes) and the tools with which they perform their work. Indeed, knowledge is embedded in members, tasks and tools. The set of relationships identified by Argote & Ingram is listed below.

- Member to member network (including how to work in a hierarchical structure such as a CPA firm with staff, managers and partners)
- Member to task (including routines and standardized audit programs)
- Member to tool (including technology used such as electronic work papers, and computerized audit software)

– Member to tool to task

Knowledge transfer is more valuable when it considers each of these sets. The difficulty with college education is that it is limited in its ability to transfer the tacit knowledge embedded in member to member, member to tool and member to task sets, which are also essential to audit and public accounting.

Therefore, those who believe that a practical and experience based education is best for public accountants would favor spending the additional 30 hours in specialized accounting classes that maximize the transfer of explicit knowledge as colleges are suited to transfer explicit knowledge. People who favor this line of thought would also favor internships in public accounting firms and courses that simulate (to the degree possible) the kind of tacit knowledge embedded in the tools (e.g. the computers and software) that are commonly used.

The CLI³-sa line of thought also believes that while specialized within the context of accounting, conceptual and theoretical accounting knowledge should take precedence over rule based and narrow accounting knowledge. Further, this line of thought believes that accounting courses are the best way to gain not just the knowledge necessary to be an accountant, but also the skills necessary. The skills of communication, learning to learn, intellectualization, relating appropriately on an interpersonal level and integrity can be met by changing the accounting and business course curriculum to include more development of those skills.

In the current college structure, the CLI³-sa line of thought would look like 30 more credits in accounting (on top of the 24-32 or so semester hours accounting degree graduates typically have). These could be gained, at the undergraduate college level, or

in masters' of accountancy or masters' of tax programs. They could also be gained in specialized courses that are directly applicable to CPA's, such as courses, in finance or management accounting information systems.

XIII (A)(2). Second Line of Thought – Classical and Broad Education, CLI³-la

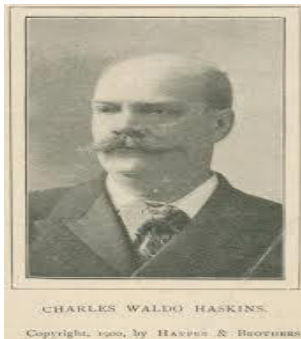
The second, line of thought believes that public accountants should be educated broadly through a four year liberal arts education. Then, once that is completed, those students aspiring to be public accountants would proceed to study the technical aspects of accounting for another year in a professional school (Langenderfer, 1987). The professional school would be similar to law and medical schools, in that one would obtain a baccalaureate degree, and then proceed with specialized study. Essentially, this line of thought (which by its nature would require 150 or more hours of college education) is also very old. This classical (CLI³ – la) line of thought proclaims accounting as a profession. Consider the quote below by accounting educator Glenn Van Wyhe (2007, p. 165):

The beginning of accounting higher education in the U.S. traces back to the Progressive Era, which began about 1880. Many Americans believed then that the salvation of the country – particularly from the corruptions and excesses of the Gilded Age – lay in the hands of those with “scientific” expertise. They believed that trained experts in scientifically ordered bureaucratic organization would make all things better, and that to be a “professional” was to be a social savior. The Progressive Era was the flowering of a growing belief in progress, and the belief that the professional would usher in the final and greatest progress of all. Anyone, then who wanted to achieve this high status would make every effort to be considered a professional. The key to professionalism was training and expertise. Expertise was considered the guiding light in every professional field of endeavor, including business.

This line of thought favors a great deal of education (one could surmise that it could go beyond 150 hours) to match the responsibilities incumbent upon the professional accountant. One should note that the common body of knowledge in the late 1800's was

considered large compared to other disciplines and business management. It was considered large all through the 20th century and is still considered large.

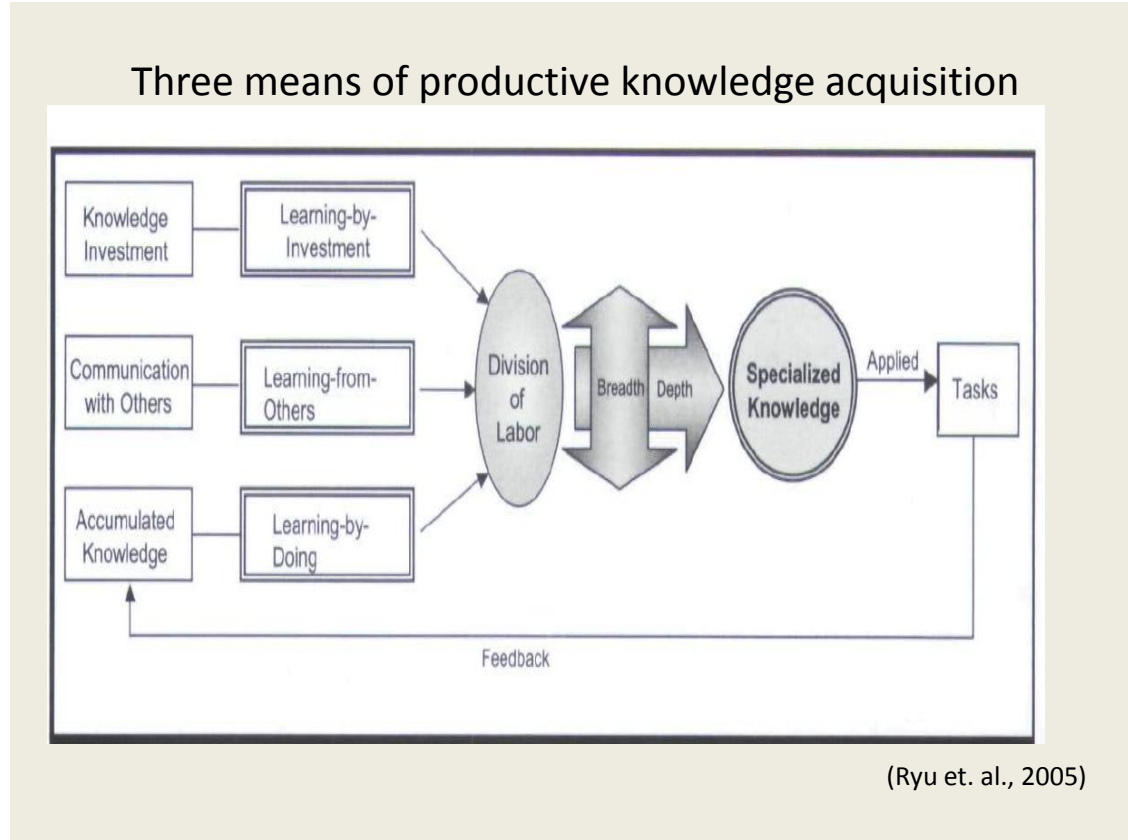
This line of thought celebrates the accountant as a “renaissance man” (Willits, 2010). It believes that the public accountant is to represent the qualities that a liberal education is purported to foster including becoming the kind of citizen needed to sustain a free society, think critically, solve problems, communicate, be culturally aware and be the kind of citizen who can think for oneself (Willits, 2010). This line of thought is closely associated with public accounting and in particular the “Big Eight” white paper of 1989 (*Perspectives on Education: Capabilities for Success in the Accounting Profession*, Kullberg et.al., 1989). This white paper was prepared by the leading national CPA firms of that era. The details of this white paper were discussed in IX (E) above. Many academics in higher education also subscribe to this line of thought. Also associated with this classical line of thought is Charles Waldo Haskins.



In New York, where the first CPA licensure law was enacted in 1896, Charles Waldo Haskins and other leaders of the budding accounting profession successfully lobbied to be regulated by the Regents of the State University of New York, the regulator of the learned professions (those requiring a college degree), rather than by the Department of State, which regulates the trades (Colson, et. al., 2002, p. 20).

This classical liberal arts line of thought is associated with a broad education. One can again use the lens of MIS literature to see why a broad education is suited to college semester hours. Theory indicates that there are three key means of productive knowledge acquisition (Ryu et.al., 2005, p. 248). These three means (learning by investment, learning from others and learning by doing) are shown below in exhibit 2.21.

Exhibit 2.21



College courses are learning by investment, according to Ryu et.al. These researchers go on to point out that learning by investment is the least productive means of acquiring knowledge to perform tasks (Ryu et.al., 2005, p. 249). Learning from others and by doing is far more productive and indeed can be deep learning associated with special tasks.

In addition, Ryu and colleagues point out that knowledge by investment should address matters that are broad specialized knowledge and not deep specialized knowledge. Hence, by nature, college education is best when it focuses on breadth and not on specific tasks related to a division of labor, including specialized subjects, to list

just a couple, such as reporting for oil and gas entities or the deep details of wealth transfer taxes.

Ryu et. al.'s theory further shows that for knowledge by investment to be particularly valuable, several things must be present – high expected rate of return, high salvage value and high learning curve. These theories can be summarized in the diagram below.

Exhibit 2.22

Knowledge by Investment
all three circled items must be high

$$\text{Cost} = \text{FV} * [1 / (1 + r)^n]$$

$$\text{Salvage Value} = \text{Cost} - \text{Depreciation}$$

$$\text{Value} = (\text{knowledge})^{\text{learning curve}}$$

Depiction based on
Ryu et. al., 2005

(In this model FV stands for future value, r stands for rate of return.) Ryu's model indicates that college should be about investment in knowledge that:

- first, has a future value that when discounted back in time, more than justifies the cost today. In Ryu et. al.'s model, learning by investment has a high discount rate. High discount rates are associated with high risk. The formula shown by Ryu et. al, is simply the discount to present value formula used to make decisions for capital and other investments.

- second, is useful over a long period of time and does not depreciate (become outdated and no longer relevant) easily. In other words, a high salvage remains after one subtracts the anticipated depreciation from the cost of the investment in learning (in this case college courses).
- third, has a steep learning curve and is not easily acquired. In other words, the acquisition of knowledge is not gained in a linear fashion. Rather, there is a heavy upfront investment in learning that yields little value at the beginning of the learning endeavor and significantly more value at the end.

A broad education, by its nature, does not become outdated and therefore has a higher salvage value compared to accounting rules in reporting, tax or audit that are constantly evolving and changing. Further, a broad education has a greater chance of producing a future value for the student, given that it opens a wider range of options of positions for which to apply. Finally, a broad education lays a foundation in knowledge that allows for exponentially greater value later on in one's career. An example of this kind of value would be the knowledge of how to write. Accordingly, the CLI³-la line of thinking would look favorably upon using most of the additional 30 credits on liberal arts subjects or other non-technical accounting courses.

XIII (A)(3). Third Line of Thought – Business based, CLI³-bu

The last line of thought developed later in accounting's history. Beginning in the 1950's and 1960's public accountants began being more and more involved in consulting work. Certified public accountants, because they work with the upper levels of management and many different companies, are often in the position of spreading or

recommending the latest developments in management and business. Hence, infusing CPA firms with new staff fresh from MBA schools and the latest business theories makes sense.

In addition, some accounting education leaders believe that accounting education needs to focus more on the value proposition of accounting. Consider the following: “the Task Force proposes that accounting’s value proposition be defined in terms of strategy formulation and analysis, planning, and execution (Lawson et. al., 2014, p. 296).” This task force further believes that this value proposition is relevant for all accountants (CPA’s and management accountants). The views of this task force were discussed further in section IX (K) above. This task force’s views are further justification for the MBA or business courses path.

XIII (B). Further discussion of intellectualization, interpersonal skills and integrity

This next section discusses further the concepts of intellectualization, interpersonal skills and integrity as they relate to CLI³. These matters are discussed primarily as they relate to accounting education. In this dissertation intellectualization (also known as critical thinking) is one of the five characteristics (CLI³) required of certified public accountants. The term intellectualization was used in the “Big 8” white paper and is the term used in this dissertation to refer to critical thinking.

XIII (B)(1). Intellectualization/ Critical thinking

“Calls for improving the critical thinking ability of accounting students have been clear and repeated in both the accounting education and professional accounting literature

(Wolcott, Baril, Cunningham, Fordham & St.Pierre, 2002, p. 85).” Hence it makes sense to consider matters relevant to critical thinking and accounting.

First, it has been recognized that critical thinking is not necessarily a stand-alone concept.

As a further complication, Baril et al. (1997, 1998) found that public accountants use the term critical thinking to represent a holistic set of synergistic competencies that transcend typical academic vies of critical thinking. This holistic set of competencies includes traits such as good communication skills, curiosity, confidence, initiative, the ability to plan and anticipate and other personal skills and characteristics not normally associated with the academic definition of critical thinking (Wolcott, Baril, Cunningham, Fordham & St.Pierre, 2002, p. 92)

Second, many researchers have studied critical thinking models and several themes appear.

- Critical thinking skills can be arrayed cognitively from less complex to more complex.
- Students must develop less complex skills before they can develop more complex skills
- Most college students operate at cognitive levels that are too low for adequate critical thinking performance
- Critical thinking skills develop slowly (if they do develop)
- Cross-curricular educational efforts, and educational efforts over time, are needed to give students sufficient time and practice for development of critical thinking skills (Wolcott, Baril, Cunningham, Fordham & St.Pierre, 2002, p. 92)

Third, while not necessarily a stand-alone concept or lending itself to a precise and contained definition, critical thinking in terms of accounting has working definitions. Indeed, a critical thinking framework has been proposed for accounting education by educator and textbook author, Paul Kimmel. The framework has three components and several aspects to each component as follows:

Affective Components – the emotional foundation that either enables or limits critical thinking. (Included in the affective component are): valuing truth above self-interest, accepting change, empathizing, welcoming divergent views, tolerating ambiguity, recognizing personal biases.

Cognitive components – the thought processes actually involved in critical thinking. (Included in the cognitive component are): thinking independently, defining problems accurately, analyzing data for value and content, employing a variety of thinking processes in problem solving (e.g. inductive, deductive, dialogical, dialectical), synthesizing, resisting overgeneralization, employing meta-cognition (reflective or recursive thinking)

Behavioral components – the actions necessary for critical thinking. (Included in the behavioral components are): delaying judgment until adequate data are available, employing precise terms, gathering data, distinguishing fact from opinion, encouraging critical dialogue, listening actively, modifying judgments in light of new information, applying knowledge to new situations (Kimmel, 1995 p. 301).

As one can see from Kimmel’s framework, critical thinking involves using one’s brain or intellect in a number of different ways. Therefore, this paper uses the term “intellectualization” to cover the broad matter that an accountant must be able to think critically.

XIII (B)(2). Interpersonal skills

In addition to being able to critically think, CPA’s must be able to work with others. Most audits are done in teams. Auditors move from client to client and indeed often travel to various parts of the world to do their work. They work with diverse groups of adults of many ages, backgrounds, cultures, ethnicities and genders. While being able to collaborate, negotiate and relate to others has long been recognized as a necessary skill for CPA’s, recently some emphasis has been placed on accountants as also needing the interpersonal skill of leadership (Lawson, et. al, 2014, p. 302, Bloch, Brewer & Stout, 2012, p. 525).

XIII (B)(3). Integrity

Often a picture is worth a thousand words. The CPA Horizons 2025 Report has a Wordle for its front cover. The most predominate word on the page is integrity and this word dwarfs all the others. The CPA Horizons 2025 Report was the culmination of six months of work by the AICPA and included the participation of 5,600 CPA's. It lists the following as its vision through 2025:

Core values – integrity, competence, life-long learning, objectivity, commitment to excellence and relevance in the global marketplace.

Core competencies – communication skills, leadership skills, critical thinking and problem solving skills, anticipating and serving evolving needs, synthesizing intelligence to insight and integration and collaboration (AICPA, 2011, p. 9-10).

Integrity may be thought of in broad terms as acting with honor and being truthful but could also subsume the notions of objectivity and commitment to excellence. Further, one sees again the need for communication, life-long learning and intellectualization (e.g. critical thinking, problem solving, anticipating needs, synthesizing, insight and integration). Collaboration and leadership are interpersonal skills. Hence, the acronym CLI³ as necessary characteristics of CPA's holds up substantially in light of the AICPA's 2025 vision.

This section described the contribution to the literature of a short acronym (CLI³) to refer to the goals of accounting education developed from the history of accounting education and eleven prior models of accounting education. It also contributed to the literature by showing how the MIS discipline, in particular its theories on knowledge acquisition, shed light on the matter of the a broad versus a specialized education as well as certain relationships of knowledge acquisition with value and cost.

XIV. Conclusion and Connection Between Theory and the Research Questions

This literature review provided justification and guidance for developing the research survey questions to ask of successful CPA partners. The results of the survey were tabulated in chapter four, analyzed in chapter 5 and recommendations were made in chapter 7. Chapter 2 highlights include the following:

(1) It was recognized that accounting is not a static profession. The educational credentials of those at the top of the profession attract new students to the profession. Likewise, the kind of student attracted to the profession changes the profession going forward by the manner in which these future public accountants perform their duties. This relationship was shown in exhibit 2.0 and by Hopwood. As was pointed out by Hopwood, accounting as it is theorized (AiT), differs from accounting as it is practiced (AiU). The historical accounting educational models were developed based on the theory of what was considered ideal at the time, as opposed to the kind of education one might find that successful CPA's (such as partners) actually possess.

In addition, how students perceive and act upon their options, with respect to the additional 30 hours, changes the profession itself - because it changes the nature of the kind of individual attracted to the profession. As these individuals graduate from college and move up the ranks in CPA firms they then change the profession. The strongest arguments for the additional 30 hours were to increase the status of the CPA and improve the CLI³ qualities of the CPA (insofar as this is cultivated in college) through additional education which would, in turn, lead to the profession advancing.

- (2) It put the problem within its place in society and within a historical context. It pointed out that the role of the auditor is noble and that the CPA is not simply a business person, but a professional. CPA's contribute to our free society by reducing information risk in the capital markets. In order to do that they must be able to stand head and shoulders with managers of organizations (their clients) and challenge those managers' assumptions and presentation regarding financial matters. As part of the historical context, this dissertation recognized that many players affect accounting education including practitioners, regulators and educators.
- (3) It identified the timeline for the 150-Hour Rule on a state by state basis so that the surveys could be deployed in locations subject to the rule long enough, such that, there would be individuals subject to the rule that had made it to partner.
- (4) It showed the progression of accounting education models and studies from 1967 to 2014, including support for the fact that five attributes are critical for CPA's - CLI³ – communication, life-long learning attitude, intellectualization, interpersonal abilities and integrity. This is a proposed new theory. Further, there are generally three paths available for students to take to obtain the additional 30 hours – more specialized accounting courses (sa), more liberal arts courses (la) or MBA or business courses (bu).
- (5) The proposed new theory, CLI³, is further elaborated by the work of Kimmel on critical thinking.
- (6) The proposed new theory is compared to knowledge acquisition theories from the MIS literature.

Chapter 3 will proceed to discuss the research methodology.

Chapter Three: Research Methodology

The literature review illustrates that there is no consensus regarding how the additional 30 credits should be obtained, with some models recommending more specialized accounting and others recommending more liberal arts and business studies. Further, authoritative groups such as the AAA, AICPA and national CPA firms promulgate the need for broadly educated accounting students as opposed to technically educated students. Yet evidence indicates that practicing accountants and those who hire accounting students (when surveyed) actually favor a more technically trained person. The question is – are those who succeed to partner in CPA firms actually those who obtained their additional 30 hours in more technical or more broad areas? In other words, which educational model – additional specialized accounting (including masters in accountancy or tax), or additional liberal arts courses, or MBA or more business courses leads more often to CPA partner? A survey of CPA's was undertaken to determine the educational model that is more often correlated with achieving partner. This descriptive information can be used to provide accounting students and prospective CPA's with counsel regarding how to select the additional 30 hours. The results of the research do not, of course, provide all the counsel that is necessary for an individual student with regard to this rule. Rather, it is just one factor, among many.

I. Research questions

The key research questions are reiterated here:

- 1) Are CPA partners more likely to fulfill the additional 30 hours (of the 150 hour requirement) with 1) additional courses in accounting or a master's in accounting or a master's in tax, 2) additional courses in liberal arts or a second degree (and in

what subject?), 3) an MBA or additional business courses or a second degree in business?

- 2) What does the educational path of a CPA partner look like in terms of courses and degrees?
- 3) What were the specific courses (to meet the 150-Hour Rule) that partners took that they found especially worthwhile.

II. Description of the research design and the method

The research design and method produced results that are descriptive and explain what is going on with respect to the 150-Hour Rule. Further, the descriptive statistics allow one to infer certain predictions. The descriptive statistics are in chapter four and the inferences are in chapter 5.

III. The Survey

This section discusses the target population, sampling method and the survey questions.

III (A). Target population and sampling method

The survey was mailed to 6,238 CPA partners who are members of the AICPA and are partners, shareholders or managing directors that fit the parameters below. No sampling was done, as 100% of the names within this parameter received a survey.

The returned surveys are a sample of those names (as many will choose not to complete the survey). The response rate was estimated at between 1% and 7%, with 4% deemed likely. A survey with Minnesota CPA's and CPE ethics returned a response rate of about 7.5% (Wilson, 2013) with one mailing and an additional 2.5% responded with a

second request. The Maudlin (2013) survey yielded a 7.6% response rate and the Renner & Tanner (2001) survey yielded 19%. Both of these surveys were discussed in chapter 2. An amount of 1% is often cited as a conservative response rate with respect to unsolicited direct mail.

Assuming that 1% respond to the survey, the following statistical inferences can be made with respect to the first research question. Considering the first question as a binary question (see below for a discussion of the questions), one can compute the following.

With a z value to produce 70% confidence, a p value of .5, and confidence interval of + or – 10%, the following number of responses are required.

$$\text{Sample size} = \frac{(z \text{ value})^2 * (p)*(1-p)}{(\text{confidence interval})^2}$$

$$27 = [(1.04^2) * .5(1-.5)] / .1^2$$

$$270 = [(1.645^2)*.5(1-.5)]/.05^2$$

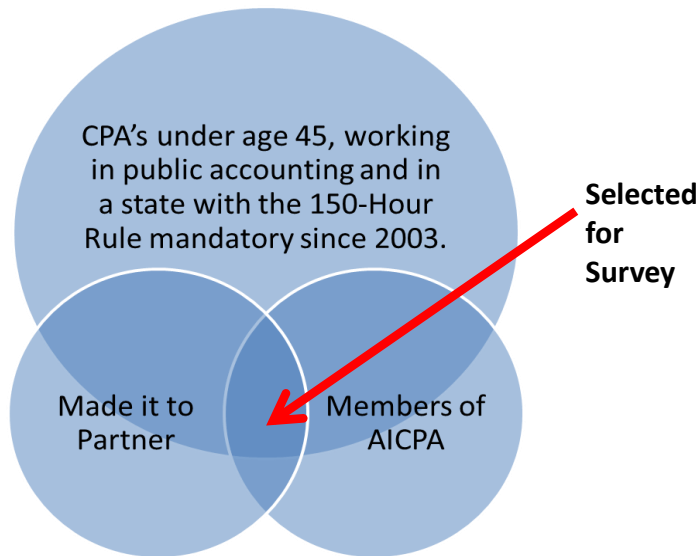
With 6,200 surveys mailed .4% (or 27 returned surveys) are required, to say with a 70% confidence, that a certain the percentage + or – 10% believes the 150-Hour Rule benefited them in ways for which the rule was intended. This amount is considered satisfactory for this project and it is about a .4% response rate. The reason that this is satisfactory is that this is not the kind of scientific research that requires tight precision. The survey was a direct first class mailing to specific individuals. The mailing list was obtained from the AICPA. These individuals will have the following characteristics:

- Member of the AICPA, as of September 2014.

- Person who identifies themselves to the AICPA as practicing public accounting.
- Person who identifies themselves to the AICPA as age 44 and under.
- Person who identifies themselves to the AICPA as having the title of partner, managing director, shareholder.
- Person who identifies themselves to the AICPA with an address in the following states: Alabama, Alaska, , Arizona, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington West Virginia, Wisconsin, Wyoming.

The reason that persons under age 45 were identified to participate in the survey, is that these individuals would more likely have been required to comply with the 150-Hour Rule. Older individuals (45 years and older) would be less likely to have been required to have 150-Hours of education. The states were chosen with the notion that it generally takes 11 or more years to be promoted to partner. A state such as Michigan required the 150-Hour Rule as of 2003. If one adds eleven years, that brings us to today at 2014. These parameters are depicted below.

Exhibit 3.0 – Selected for Survey



Within these parameters there were some partners for whom the 150-Hour Rule did not apply who received the survey. For example, in Texas the 150-Hour Rule was required as of the year 2000. A 39 year old partner (on a traditional path) could have graduated in 1991 at age 23 and have become licensed before the law required 150 hours and made partner by 2002. This person would have been allowed to be a member of the AICPA without meeting the 150-Hour Rule (required as of 2000 for AICPA membership) because he/she was licensed prior to 2000. Nonetheless this partner has been hiring and working with individuals for whom the 150-Hour Rule was imminent or required. This partner would have opinions regarding the 150-Hour Rule. For that reason, the survey questions were designed so that these individuals could also answer the survey. In this way, all of the returned surveys were useable.

The following matters are relevant with respect to the survey design.

Salant & Dillman (1994) outline the following errors that affect the accuracy of surveys:

Exhibit 3.1

Discussion of error	How this type of error is minimized through this survey design
Coverage error	<p>The survey covered 100% of the members of the AICPA for whom the 150-Hour Rule was in place in states long enough to produce partners and with the characteristics listed above. However, not all CPA partners are members of the AICPA.</p> <p>The AICPA is the most recognized and influential professional group representing CPA's on a national level. Further, the AICPA championed the 150-Hour Rule. The survey does not suffer from coverage error with respect to CPA's who are members of the AICPA. However, it will not necessarily be generalizable to all CPA partners for whom the 150-Hour Rule applied.</p> <p>There may be a few CPA partners that are over 44 and became CPA's late in life and for whom the 150-Hour Rule applied. This would generally mean that they finished an accounting degree and the 30 hours after age 35. The number of people in this category would be very small.</p>
Sampling error	<p>100% of CPA partners in applicable states were surveyed. Sampling of this population will not be necessary.</p> <p>Nonetheless, what is received back in responses will be a sample as it is unlikely that 100% will respond. Therefore, the results could suffer from sampling error in that those who respond may not be representative of the population.</p>
Measurement error	<p>Pre-testing of the survey was done with professors, CPA's in Minnesota and doctoral students at Metropolitan State to determine that the questions were clear and unambiguous. Clear questions reduce measurement error.</p>
Non-response error	<p>This error was considered the most significant possibility. See further discussion below.</p>

Steps were taken to reduce the non-response error. The survey was substantially pre-tested and/or reviewed with persons in public accounting, education, the AICPA, and marketing. Care was taken to ensure that:

- 1) the survey looked attractive in two colors (blue and black),
- 2) used compelling language highlighting the importance of the research,
- 3) was mailed first class with an enclosed pre-paid return envelope and,
- 4) was mailed during what is for many CPA's the least busy time in public accounting.

The opportunity for follow-up through reminder mailings or phone calls is not permitted by the AICPA, as per their one-time use list purchase agreement. A tactic, such as soliciting individual firms for participation, comes with design flaws. For example, particular firms could have a bias in hiring, which would bias the results. This potential for bias was the reason that this avenue was not pursued.

III(B). Rationale for survey instrument questions

A discussion of the survey questions and why they were chosen follows:

Exhibit 3.2 – Survey questions and why chosen

Survey Question	Discussion of why the question was chosen and how it addresses the research problem
<p>1) In my opinion, the key benefit of the additional 30 hours (required to meet the 150-Hour Rule) is the opportunity for accounting students to develop additional (check one): confidence/maturity or communication skills, or distinction/status or knowledge, or professional judgment, or other (specify).</p>	<p>This question is interesting in and of itself in terms of descriptive statistics.</p> <p>But, its primary purpose was to lead off the survey with a question deemed interesting enough to entice readers to do the rest of the survey.</p>
<p>The additional 30 hours (above the 120 needed for an undergraduate degree) should be used to study matters that are:</p> <ul style="list-style-type: none"> • Broad and liberal arts based or • Specialized and accounting based (including masters in accounting or tax) or • Business management based (such as information systems, finance, MBA) or • other (to be specified by the participant). 	<p>This question directly addresses the first research question posed at the beginning of this chapter and which was supported in the literature review in chapter 2.</p> <p>This question is both explanatory and can be used on its own for inferred prediction.</p> <p>It is valid for those for whom the 150-Hour Rule applied and for those who have observed the 150-Hour Rule with respect to individuals in their firms.</p>
<p>I have the following educational credentials:</p> <p>BA in accounting BS in accounting BA or BS in _____ (specify major)</p> <p>Bachelor’s degree with second or more majors (specify major) _____</p> <p>Bachelor’s degree with minors(s) (specify minor) _____</p> <p>Additional credits with no degree</p> <p>MBA</p> <p>Law degree</p> <p>Master’s in accountancy</p> <p>Master’s in tax</p> <p>Other master’s degree (specify) _____</p> <p>Master’s degree concentration (specify concentration) _____</p> <p>Doctoral level degree (specify) _____</p>	<p>This question addressed the first and third research questions posed at the beginning of this chapter and supported by the literature review in chapter 2.</p> <p>It especially addressed the notion of accounting in theory versus accounting in use. The prior question asked about a belief as to how the additional 30 hours should be used. This question is about what is actually “in use” in the accounting profession.</p>
<p>The best way to complete the additional 30 hours to meet the 150-Hour Rule is as follows: (check all that apply)</p> <p>Additional course work in: communication,</p>	<p>This question correlates with the prior questions and was included to add internal validity.</p>

<p>creative arts, English/writing, ethics, foreign language, history, science, buyer behavior, economics, leadership, research methods, project management, organizational theory, strategy, big data analytics, ERP/database management, financial modeling, financial risk management, options/derivative, portfolio analysis, statistical analysis, accounting research, advanced cost accounting, CPA exam review, forensic auditing, mergers and acquisitions, partnership taxation, wealth transfer taxation, other courses (specify) including new courses you would recommend.</p>	
<p>If the 150-Hour Rule applied to you, what specialized or unique courses did you take that made the extra 30 hours worth it (i.e. specialized like fraud examination or unique like philosophy)? Check one.</p> <p>150-Hour Rule did not apply No additional courses stand out as worth it</p> <p>These additional courses were worth it! Course _____ Course _____ _____</p>	<p>This question helped to identify the specialty courses or courses that are especially worthwhile to take to complete the 150 hours. It addressed the third research question.</p> <p>It is helpful to educators who advise students as to how to make the most of 30 credits.</p>
<p>If the 150-Hour Rule applied to you, what do you estimate was the additional unreimbursed cost to you personally (e.g. not your employers or parents)? Does this amount include tuition, room and board, opportunity cost?</p>	<p>This is an interesting question that was added for future research consideration outside of this particular dissertation. In addition, it is supported by the literature review that tied the Ryu et. al.'s theories on the productive acquisition of knowledge and related them to concepts involving cost and value.</p>

<p>1) Intellectual thinking has been identified as a key skill of accounting professionals. In my opinion, intellectual thinking is composed of the following (check all that apply):</p> <p>Intellectual thinking is the ability to: define problems recognize personal bias tolerate ambiguity think independently</p>	<p>The purpose of this question was to prime the participant for the subsequent question. The next question asks the participant to consider the courses that taught him/her to think intellectually. This question allows the participant to define intellectual thinking and then consider which courses fostered that skill.</p> <p>All of the skills at the left have been associated in the accounting literature with critical thinking.</p>
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<p>accept change reflect solicit diverse views make judgments negotiate listen gather data not jump to conclusions think critically empathize value truth</p> <p>Other: _____</p>	<p>(Indeed there are even more characteristics than what is listed here.) However, this list is considered sufficient to prime the respondent to answer the next question.</p> <p>This question is supported in the literature review by the work of Kimmel and others.</p>
<p>In thinking about your college or university undergraduate experience, please think about the top one to three professors that you believe instilled intellectual thinking (any subject). Which courses did they teach?</p> <p>None_____</p> <p>Course 1_____</p> <p>Course 2_____</p> <p>Course 3_____</p> <p>This question is then asked again in the graduate context.</p>	<p>The question leads off with asking about a professor because people tend to remember the people who taught courses more readily than course names.</p>
<p>During my college experience my ability to communicate was increased through the following evaluation methods (check all that apply):</p> <p>multiple choice questions essay questions in-class group work presentations team projects case study/simulation short answers to home work research papers reflective papers none</p>	<p>This question helps educators because communication is by far the single most important skill of public accountants as was discussed in the synthesis matter CLI³.</p>
<p>During my college graduate or undergraduate experiences these courses gave me the skills to communicate as a CPA.</p> <p>None_____</p> <p>Course 1_____</p> <p>Course 2_____</p> <p>Course 3_____</p>	<p>This question is the same as above, except it asks about the graduate level.</p>
<p>My professional expertise is most closely aligned with</p>	<p>This was gathered to see if there were</p>

<p>the following: Audit/assurance Tax Management consulting/other (specify type)_____</p>	<p>differences in opinions of tax versus audit professionals.</p>
<p>My firm size is most closely resembles: Sole Proprietor Local Regional National</p>	<p>In general, it was the large CPA firms that supported the 150-Hour Rule and the use of that rule for a broad and general education. This question looks at the amount of support by small and medium sized firms too.</p>
<p>1) I describe the size organization (client) I typically work with as: Individual Small Medium Large</p>	<p>This question is an additional question about CPA specialties.</p>
<p>2) I was originally licensed as follows: State_____ Year (approximate)_____ Not applicable_____</p>	<p>This question may ferret out differences between states.</p>
<p>3) My position is: Partner Shareholder Director Other (specify)</p>	<p>This question adds internal validity.</p>
<p>4) Gender: male___female___prefer not to answer_____</p>	<p>This question was used to assess reliability of the sample.</p>
<p>5) Optional) I would like to add the following comments to help students and educators make the most of the 150-Hour Rule:</p>	<p>This question provided reliability as respondents who did not understand or like the questions, could write in their response.</p>
<p>(Optional) I would like a summary copy of the results e-mailed to me (enclose business card)</p>	<p>This gave participants an incentive to do the survey.</p>

A Likert scale was not used to rank preferences. The choice not to use Likert scales was intentional and for the purpose of keeping the survey shorter and more likely to be answered. For example, with the first question, a ranked choice for each of the five key benefits of the 150-Hour Rule, would have turned the first question into five questions and one can easily see the impracticality this would have added. See also a copy of the actual survey attached in Appendix A.

IV. Acknowledgement of HSRB approval

Approval from the Human Subjects Review Board (HSRB) of Metropolitan State University was sought prior to mailing the survey to participants. The HSRB reviewed the preliminary and final survey as well as considered the research methodology and participants. The cover page requesting HSRB approval, in addition to the HSRB's response approving the preliminary and final surveys, are attached in Appendix B.

V. Detailed description of data collection procedure

The mailing list was obtained from the AICPA. The list was sent directly to a mail order house. The reason for this is that the AICPA does not allow individuals or corporations to see their list directly. The mail order house printed and assembled the surveys, return envelopes, labels, and stamps so that a first class mailing can be done.

Participants who complete the survey returned it in the postage paid envelope. The envelope went to the researcher's office at Metropolitan State. The researcher picked up the mail, opened it and immediately separated any identifying information from the survey. The only identifying information asked was the e-mail address for those who wish to receive a summary of the results. This address was separated from the survey as the mail was opened. Some individuals may choose to write their address on a return

envelope. These envelopes were separated upon entering data into the programs Minitab and Excel. In this way the data remained confidential.

Pilot Test

Several CPA practitioners, professors, accounting educators and doctoral students (including those who were CPA's at Metropolitan State) participated in pre-testing the survey to be sure that the questions were clear.

Reliability Tests Reliability tests were performed. First the Chi-squared test was performed to determine that the sample of surveys received back were representative of population, which is the AICPA member list details. In addition, qualitative factors of reliability were considered in chapter 4.

Chapter 4: Research Results

This chapter discusses the results of the survey. It begins with a reiteration of the research purpose and questions and who was selected to participate in the survey. After that a discussion of the reliability and validity of the survey follows. It will then discuss the results on a question by question basis beginning with the first question and ending with the last. The results will include tables, charts and analysis as necessary. However, the synthesis of the data, how the data specifically addresses the research questions and the key findings and conclusions are the subject of chapter 5.

I. The Research Purpose and Questions

For ease of reading, it is helpful to reiterate the research purpose and questions. The purpose of the research is to gain knowledge that will be useful to students, college educators who advise students, and mentors in CPA firms regarding the best use for the additional 30 credit hours (to comply with the 150-Hour Rule) for those students who wish to succeed in public accounting. The survey looks at the educational profile and attitudes of those at the top of the profession (i.e. public accounting partners and shareholders) to gain insight into this matter.

The key research questions include:

- 1) Are CPA partners more likely to fulfill the additional 30 hours (of the 150 hour requirement) with 1) additional courses in accounting or a master's in accounting or a masters in tax, 2) additional courses in liberal arts or a second degree (and in what subject?), or 3) an MBA or additional business courses or second degree in business or a law degree?

- 2) What does the educational path of a CPA partner look like in terms of courses and degrees?
- 3) What were the additional courses (to meet the 150-Hour Rule) that partners took that they found especially worthwhile to them?

II. The Survey

Surveys were mailed (first class) to individuals meeting the following characteristics on October 5, 2014:

- Member of the AICPA, as of September 2014.
- Person who identified themselves to the AICPA as practicing public accountant.
- Person who identified themselves to the AICPA as age 44 and under.
- Person who identified themselves to the AICPA as having the title of partner, managing director, shareholder.
- Person who identifies themselves to the AICPA with an address in the following states: Alabama, Alaska, Arizona, Connecticut, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington West Virginia, Wisconsin, and Wyoming.

The number of persons on the AICPA list that met this criteria total 6,238. Surveys were sent to all of the 6,238 names on this list. Of that number 47 surveys were returned as undeliverable.

The number of surveys completed and returned in the postage paid envelope to Metropolitan State University was exactly 100. These surveys were received during the time frame of late October to the first week of December.

The response rate is as follows: $100/(6,238-47) = 1.62\%$

This response rate is within the expected response rate of 1% to 7% as discussed in chapter 3.

II (A). Reliability

Reliability has to do with whether or not the sample is representative of the population. To determine if a sample is representative of the population, characteristics of the population are compared to characteristics of the sample. Several comparisons are made to assess the reliability by comparing the data published by the AICPA in their External Data Card to the survey results. The External Data Card was provided by Lake Group Media Inc. This organization maintains the AICPA's member list for the purpose of selling that list for approved AICPA marketing purposes. To execute the survey the researcher paid for the list and specified the parameters listed in the bullets above and corresponding to the External Data Card.

The following table summarizes key comparisons between what is known of the population from the External Data Card and what is known in the survey results.

Exhibit 4.0 – Sample Characteristics to Population

	Population		Survey Results
Number of states where survey was mailed	43 states	Number of states that respondents indicated they had been originally licensed	37 states
Percent of AICPA members (overall of its 262,449 members) in terms of gender	62% male 30% female 8% not specified	Gender of survey respondents	69% male 31% female 0% not specified
AICPA individuals working in public accounting firms based on firm size. Total AICPA members in public accounting = 118,031	58% work at firms of 100 or less 42% work at firms of 101 or more	Number of respondents indicating they work as sole proprietors or in small firms Number of respondents indicating they work in medium and large firms	58% 42%
AICPA individuals who identify as practicing in taxation of corporations and shareholders = 74,677 AICPA individuals who identify as practicing in financial reporting = 63,175	Ratio of tax to financial reporting 74,677/63,175 =1.18	Respondents in tax = 56 Respondents in audit = 50	Ratio of tax to audit 56/50 = 1.12

Based on the above comparisons, the survey includes respondents from across the country and of genders similar to the AICPA membership and who work in firm sizes and disciplines which are also similar to the AICPA membership.

In addition, a Chi Square test was done to determine if the sample obtained has a probability of being independent (not representative) of the AICPA membership. In order to run this test with the three variables (gender, firm size, and practice area) and obtain a 2x3 matrix, it was necessary to show the AICPA gender as 62/92 for male and 30/92 for female and tax practitioners at 74,677/137,852 and financial reporting

practitioners as 63,175/137,852 for the AICPA and 56/106 for tax and 50/106 for audit for the sample. With this data a comparison of the observed survey results and the AICPA membership list was made using Excel's CHITEST function. This Excel function uses a confidence level of 95%. Excel determines the degrees of freedom based upon the rows and columns of the table. Further, in Excel, the null hypothesis is that the data is independent. A CHITEST of over .05 means that the null hypothesis is accepted. If the CHITEST is below .05, the null hypothesis is rejected (Schmuller, 2013, p. 432).

Exhibit 4.1 – CHITEST Table

Sample		Percent of Population	
Observed	Gender	70	30
	Firm size	58	42
	Practice area	53	47
AICPA			
Expected	Gender	67	33
	Firm size	58	42
	Practice area	54	46

The CHITEST function yielded a result of .8. Since this amount is greater than .05, the null hypothesis is accepted. This means that the data is not independent and the sample data is in fact related to the population data. There is a 95% confidence that the sample is representative of the population.

The survey is deemed to be representative of the population. Because the responses are representative that means that the results may be evaluated using statistical calculations involving confidence level and margin of error.

II (B). Validity

Validity has to do with whether or not the responses answered the intended questions or measured what the researcher intended to measure. Validity can be considered along several lines including the following: question, comprehension, accessibility, retrieval, motivation and communication (Alwin, 2007, p. 15-32). Each one of these lines will be considered separately.

Exhibit 4.2 – Evidence of Validity

Validity Aspect	Evidence	Discussion
Question	Consistency in handwritten comments.	32% of the respondents wrote comments elaborating their thoughts on the 150-Hour rule. These comments were consistent with the purpose and theme of the survey. This indicates that the questions were valid and interpreted as intended.
Comprehension	No question marks or indications were handwritten on the surveys to signify that a question was not comprehended.	It was expected that CPA's would comprehend the questions. Considerable pre-testing ensured that this was the case. While some participants checked more than one item (when only one item was requested) this situation happened infrequently and does not hinder the interpretation of the overall results.
Accessibility	With the exception of the four questions asking for a list of courses, the participants answered the questions with information readily accessible.	There are several possibilities for why some respondents did not list courses. It could be that they did not think any courses were relevant. It could be that they did not have an opinion with respect to courses. It could also be a retrieval problem as discussed below.
Retrieval	For the questions that asked participants to list courses, the number of surveys that left these questions blank ranged from about 17% to 30%.	It was anticipated that the memories of the participants would need to be primed to think about college courses. For that reason, the open ended questions were each preceded by questions that listed courses or concepts related to courses. Based on this priming, it could be interpreted that the participants did not think any courses were worth the extra time and expense of 30 hours or provided intellectual thinking or communication skills. However, it is more likely that some participants (even after priming) could not think of any courses, or did not want to take the time to answer these questions or did not think that these questions were important. The lesser response on these questions does not invalidate the results of the other questions which are sufficient to address the research purpose.
Communication	Surveys were legible and in good grammatical form.	This was as expected of the CPA partners.
Motivation	No surveys were completed that appeared flippant or misleading.	There would be no motivation for untruthful answers. The high level of handwritten comments (32% of surveys received) indicates that those who responded had a high motivation for doing the survey well.

Based on the above table, the survey results are deemed valid. No surveys were rejected as outliers because each survey appeared to be completed with care and within the range of the expected results of the participants.

III. The Results of the Survey Questions

At this point, this chapter will now proceed with showing the survey results on a page by page and question by question basis.

III (A) (1). Page 1, Question 1

Question 1 – In my opinion, the key benefit of the additional 30 hours (required to meet the 150-Hour Rule) is the opportunity for accounting students to develop additional (check one):

Exhibit 4.3 – Summary of Answers on Key Benefits

Confidence/Maturity	16	Communication skills	9	Distinction/Status	11
Knowledge	61	Professional judgment	11	Other	10
Total responses		<u>118</u>		Detail of other:	
				No benefit and 1 no check mark	7
				Practical Experience (internship)	2
				Critical thinking	1
				Total other	10

With respect to the individuals that found no benefit or recommended practical experience, six out of the seven participants indicated that they were not subject to the 150-Hour rule. In addition, of the individuals that cited confidence/maturity as the key benefit, seven were not required to obtain the additional 30 credits.

One can further group these results into three broader categories as follows:

Exhibit 4.4 – Summary of Answers on Key Benefits in Three Broad Groups

Frequency Table - Key Benefit of the 30 Additional Credits (100 surveys)						
College not necessary		Other college benefit			Knowledge college benefit	
Confidence/Maturity	12	Communication skills	3	Knowledge	52	
No benefit	7	Distinction/Status	7			
Internship/practical	1	Professional judgment	6			
		More than one	12			
	20		28		52	
		Total of all three categories	100			

Responses of additional confidence and maturity and internship were included with those responses of “not necessary” because college is not the only way to gain additional maturity, confidence or practical skills. Indeed, these traits often occur as one makes progress in a career or simply lives longer. The next category consists of the college attributes that have an element of “soft skills” or other. This category also includes the participants who checked more than one box. The last category consists of those participants who checked knowledge as the key benefit of the additional 30 credits. (Note that eight participants who chose more than one category also chose knowledge.)

The margin of error for these results is computed with this formula: $z * \sqrt{[p(1-p)/n]}$.

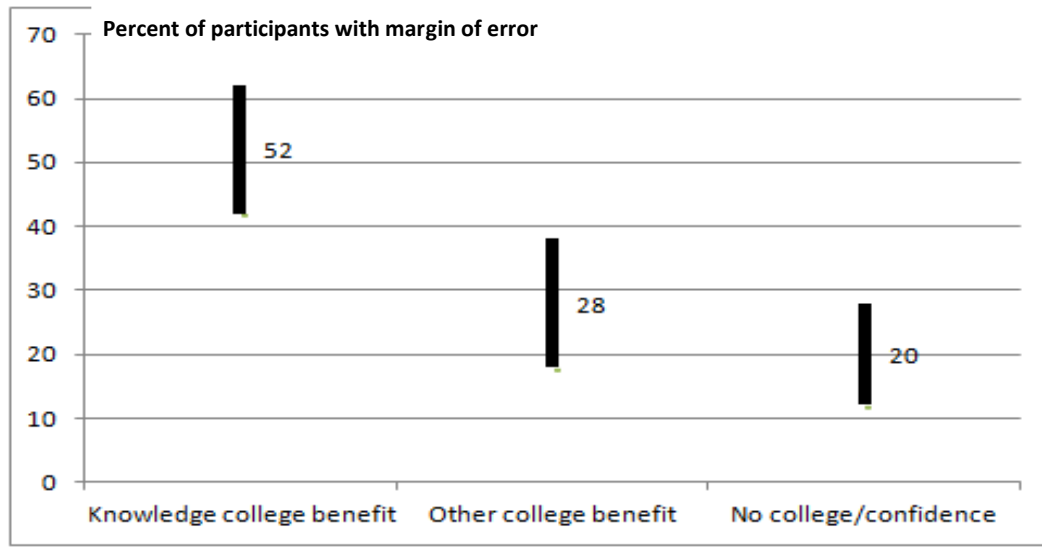
The margin of error on these results at a 95% confidence level is as follows:

- That participants cite knowledge as the key benefit = 52% + or – 10%
- That participants cite other college benefits as key = 28% + or – 9%

- That participants indicate college is either not necessary or its key benefit (confidence/maturity) is one that may be obtained through means other than college = 20% + or – 8%.

This can also be shown in a graph as follows:

Exhibit 4.5 – Graph of Key Benefits in Three Broad Groups

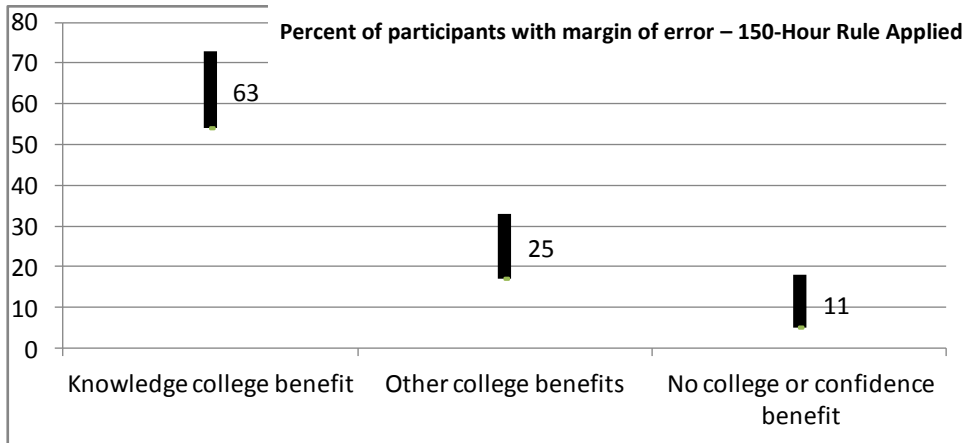


What can be taken from this result is the fact that CPA partners, shareholders and directors value knowledge as the key benefit of the 150-Hour Rule. Next one can look at differences in responses based on whether or not the 150-Hour Rule applied or did not. The following is the same question broken down by whether or not the 150-Hour Rule applied or did not apply.

Exhibit 4.6 – Key Benefits Sorted by 150-Hour Rule Did or Did Not Apply

Frequency Table - Key Benefit of the 30 Additional Credits (100 surveys)										
College not necessary		150 Rule Applied	Rule did not apply	Other college benefit		150 Rule Applied	Rule did not apply	Knowledge college benefit	150 Rule Applied	Rule did not apply
Confidence/Maturity		5	7	Communication skills		1	2	Knowledge	33	19
No benefit		1	6	Distinction/Status		3	4			
Internship/practical		0	1	Professional judgment		1	5			
				More than one		8	4			
		6	14			13	15		33	19
		Total of all three categories				52	48			

This level of detail shows that for those participants who had to comply with the rule, a greater percentage (63%) chose knowledge as the key benefit versus 39% for those who did not have to comply with the rule. These percentages have a plus or minus margin of error of 9% and 10%, respectively, at the 95% confidence level. Further, only one respondent who had to comply with the rule did not believe that the rule was necessary versus six respondents in the category of 150-Hour Rule did not apply. This data can also be shown graphically as follow:

Exhibit 4.7 – Graph of Key Benefits – Rule Applied

What can be concluded from this question is that partners, shareholders and directors in CPA firms value knowledge as a key benefit. This is interesting because as was pointed out in chapter 2 in exhibits 2.2 and 2.3, college is acquisition of knowledge and learning by investment. College is considered most valuable when the knowledge to be transferred is broad and has a high salvage value (does not depreciate as much). Additional questions below may now be viewed from the point of view of gaining knowledge first and gaining other benefits (such as distinction, judgment and communication skills) secondarily.

III(A)(2). Page 1, Question 2

Question 2 – The additional 30 hours (above the 120 needed for an undergraduate degree) should be used to study matters that are (check one):

Exhibit 4.8 – Summary Results of Best Use of Additional 30 Credits

Frequency Table - The Additional 30 Credits should be used to study matters that are: (100 surveys)				
Broad and liberal arts based		4	Specialized and accounting based	69
Business management based (such as information systems, finance, MBA)		25	Other	9
Total of all four categories				107
Detail of other:				
			Use of accounting software	1
			Research	1
			CPA exam review	1
			Hands on training	1
			Team work	1
			Communication	2
			30 hours not needed	2
			Total other	9

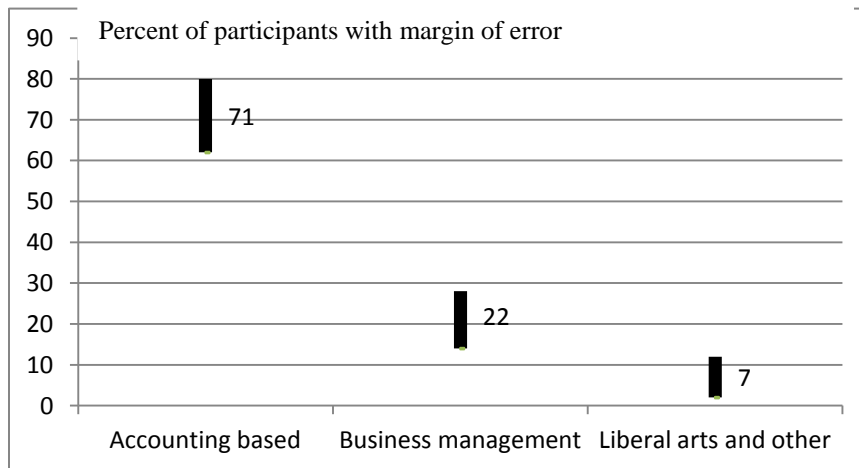
This question was then re-interpreted to provide just one category for each survey. Each survey that listed “other” or had more than one box checked was looked at individually to see if the respondent had a stronger preference for one category over another. For example, the fourth question of the survey listed liberal arts, business and accounting courses. Further, 32 participants wrote handwritten comments about the 150-Hour Rule. From these two questions as well as the participant’s description of “other”, it was apparent that two additional respondents favored specialized accounting, three respondents who checked both business and accounting had a stronger preference for accounting, and two respondents who said the rule was not needed or communication should be the focus were put with liberal arts and other.

Exhibit 4.9 – Best Use of Additional 30 Hours with Re-categorization

Frequency Table - The Additional 30 Credits should be used to study matters that are: (100 surveys) (with researcher's interpretation and re-categorization of "other")	
Broad and liberal arts based or other	7
Specialized and accounting based	71
Business management based (such as information systems, finance, MBA)	22
Total	100

At a confidence level of 95%, the margin of error for those CPA partners that believe the additional 30 hours should be spent on specialized and accounting based study is 71% plus or minus 9%. Further, at the same confidence level, 22% of CPA partners believe a business based course of study is the best use of the additional 30 hours with a margin of error of 8%. (Technically a margin of error is not valid for results below 10, but to provide a visual chart, the margin of error on liberal arts and other was computed and found to be 5%.)

Exhibit 4.10 – Best Use of Additional 30 Credits



Again, it can be useful to see if those who were subject to the rule had a difference of opinion compared to those who were not. These results are below.

Exhibit 4.11 – Best Use of 30 Credits – 150-Hour Rule Did or Did Not Apply

	Subject to 150-Hour Rule	Not subject to Rule	Total
Broad and liberal arts based	2	5	7
Specialized and accounting based	41	30	71
Business management based	9	13	22
Total	52	48	100

Those subject to the 150-Hour Rule believe even more strongly that the additional 30 credits should be used for accounting based study at a rate of 79% versus 62% for those not subject to the rule.

To recap – survey question two shows CPA partners value knowledge. The next question is - what kind of knowledge? This survey question two showed that CPA partners value accounting knowledge first and business knowledge secondarily.

III (A)(3). Page 1, Question 3

Question 3 – I have the following educational credentials. The results for the answers to this question are accumulated in Exhibit 4.12

Exhibit 4.12 – Summary of Educational Credentials of Survey Participants

(Note that since there were 100 participants, this is also equivalent to the percentage of participants.)

	College Major			Second major		Minor	
	Rule Applied	Not Applied	Total	Rule Applied	Not Applied	Rule Applied	Not Applied
Business based undergraduate education:							
BA - Accounting	15	12	27				
BS - Accounting	31	32	63				
Business Administration and Management	5	2	7	5	2	0	1
Economics and Finance	0	2	2	1	1	1	1
Management Information Systems and Computer Information Systems				3		0	1
International Business (Italian)				1			
	51	48	99	10	3	2	3
Non-business based undergraduate education:							
French (2), Government, Civil Engineering				2	1	1	
Psychology	1	0	1	2			
Minors - 1 each in English, Music, Chemistry, Sociology						4	
	1	0	1	4	1	5	0
	52	48	100	14	4	7	3
Graduate level							
Master's in Business Administration	11	4	15				
Master's in Accountancy	18	2	20				
Master's in Tax	5	4	9				
Other Business Master's Degree	1		1				
	35	10	45				
Over 30 credits not leading to an additional degree	3	3	6				

These results demonstrably show that people at the top of the profession (CPA partners) have accounting undergraduate degrees. Further, 67% of the CPA partners for whom the 150-Hour Rule applied have graduate degrees versus only 21% for those for whom the rule did not apply. Of those who obtained an additional 30 credits without obtaining a graduate degree, most (71%) chose to do additional coursework in business related areas.

Overwhelmingly, this result correlates with the second question – CPA partners not only value accounting and business backgrounds, it is what they themselves experienced.

CPA partners recommend the path that they took for those entering the profession.

III(B)(1). Page 2, Question 4

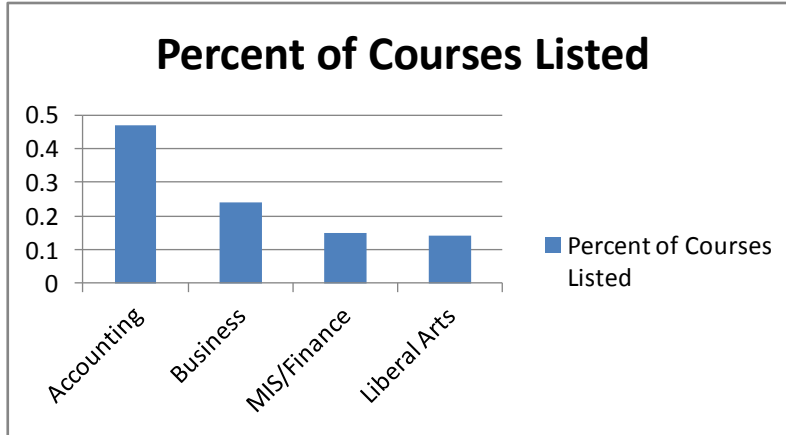
Question 4 – The most worthwhile way to complete the additional 30 hours to meet the 150-Hour Rule is additional course work in the following (check all that apply):

Exhibit 4.13 – Courses Most Worthwhile for Additional 30 Credits

Frequency Table - Most Worthwhile Way to Complete 30 Additional Credits (results of 100 responses)							
Communications	35	Buyer Behavior	2	Big Data Analytics	14	Accounting research	67
Creative Arts	0	Economics	23	ERP/Data Base Mgmt	5	Advanced Cost Accounting	28
English/Writing	24	Leadership	40	Financial Modeling	27	CPA Exam Review	59
Ethics	19	Research Methods	31	Financial Risk Mgmt	27	Forensic Auditing	30
Foreign Language	2	Project Management	16	Option/Derivatives	4	Mergers and Acquisitions	30
History	2	Organizational Behavior	16	Portfolio Analysis	4	Partnership Taxation	46
Science	0	Strategy	18	Statistical Analysis	7	Wealth Transfer Taxation	23
Total Liberal Arts	<u>82</u>	Total Business	<u>146</u>	Total MIS/Finance	<u>88</u>	Total Accounting	<u>283</u>

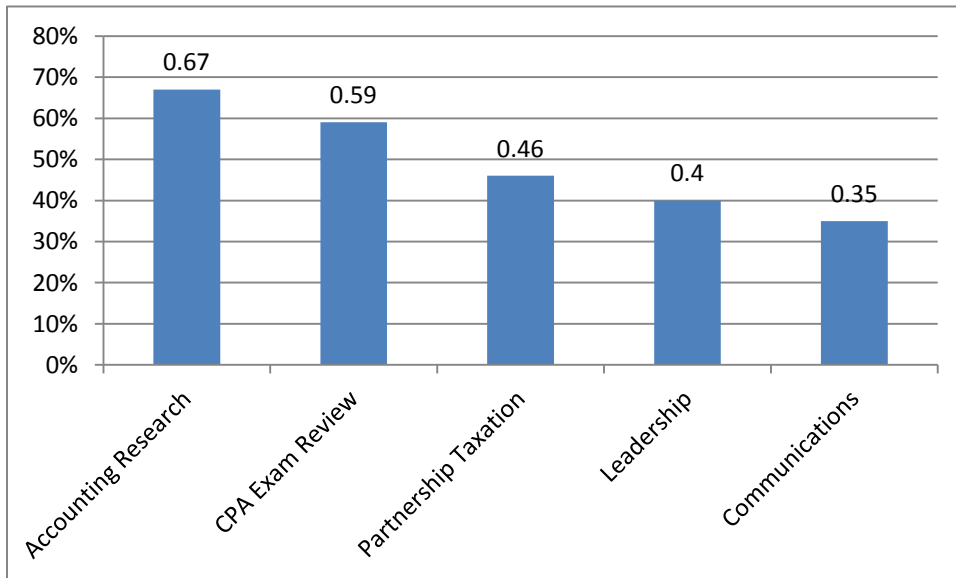
The results of this question show that the survey has internal validity. The answers here are consistent with what was found in question two above – CPA’s value the specialized accounting knowledge that is obtained from accounting courses. This result may be graphed as follows:

Exhibit 4.14 – Course Checked as Worthwhile Grouped by Liberal Arts, Business, MIS/Finance and Accounting



In addition, some courses stand out more predominantly than others. These courses were cited by more than one-third of the survey participants.

4.15 – Percent of Participants that Cited Accounting Research, CPA Exam Review, Partnership Taxation, Leadership and Communications



In addition, this question allowed for open ended answers. To that end, 28 survey participants hand wrote comments about courses. Of these comments nine individuals favored practical course work that included matters such as QuickBooks, payroll, accounting software and internships. Respondents also commented on the need for more tax (specialized and research) (9), technical writing (6), public speaking/presentation skills (3), audit (3), business strategy with ethics or planning (2), more audit (2), business development and practice management (2), and problem solving/critical thinking (2). It is interesting to see how prominent writing and speaking are. Out of the 28 respondents, nine, essentially indicate the value of communication skills.

Note that the purpose of this question was both to obtain opinions as well as to prime the survey readers for the next question. In other words, it was intended to get participants to think about college courses so that they could answer question number five.

III(B)(2). Page 2, Question 5

Question 5 – If the 150-Hour Rule applied to you, what specialized or unique courses did you take that made the extra 30 hours worth it (i.e. specialized like fraud examination or unique like philosophy)?

4.16 – Respondents – Rule Not Apply, Courses Worth It, Courses Not Worth It

Frequency Table - 150-Hour Rule: (100 surveys)				
150-Hour Rule did not apply				48
Additional course(s) were worth it!		38		
No additional course(s) stand out as worth it		14		
	Total respondents subject to rule			52
	Total respondents			100

The response on this question is interesting because only one person for whom the 150-Hour Rule applied indicated that the additional 30 hours had no benefit. But, fourteen of the 52 respondents could not think of any individual courses that provided benefit. That could be because they could not think of any at the time (a retrieval of information problem). Or, it could be they did not want to take the time to fill out questions that were not simply a checked box (a motivation problem). (However, of the fourteen who left this question blank, eleven of them filled in courses on the next page. An additional explanation of this could be that by the time they got to the next page, the respondents were in a more “college primed” frame of mind to answer these questions.) Or, it could be that they found the additional 30 hours worthwhile in a gestalt sense and not in terms of individual courses. In any event, the courses found most worthwhile continue down the path of specialized and accounting based.

Question 5 (second part) - Courses worth it!

4.17 – Courses Listed by Survey Respondents as Worth It

Courses detailed as worth it	Number of times course listed	Percent out of 82 courses
Various specialized tax courses	14	17%
Advanced accounting courses	10	12%
Other specialized financial accounting courses	8	10%
Tax research courses	7	9%
Partnership tax courses	7	9%
Liberal arts courses	7	9%
Various business courses	4	5%
Computer and information systems courses	3	4%
Audit courses	4	5%
Communications courses	4	5%
Fraud and forensic auditing	3	4%
Finance courses	3	4%
Accounting research courses	2	2%
CPA review	2	2%
Economics	2	2%
Strategy	2	2%
Total number of courses listed	82	

This question was answered by 38 people of the 52 for whom the 150-Hour Rule applied. Collectively, they listed 82 courses. This result is consistent with the fact that many of the people who answered this question completed the additional 30 hours through obtaining a master's in accountancy or tax. Indeed, 69% of the courses listed by participants are specialized accounting courses, with business courses cited making up 24% of the courses and liberal arts courses making up 7%.

III(B)(3). Page 2, Question 6

Question 6 – If the 150-Hour Rule applied to you, what do you estimate was the additional unreimbursed cost to you personally (e.g. not your employers or parents)?

Exhibit 4.18 – Respondents Reported Cost of Additional 30 Credits

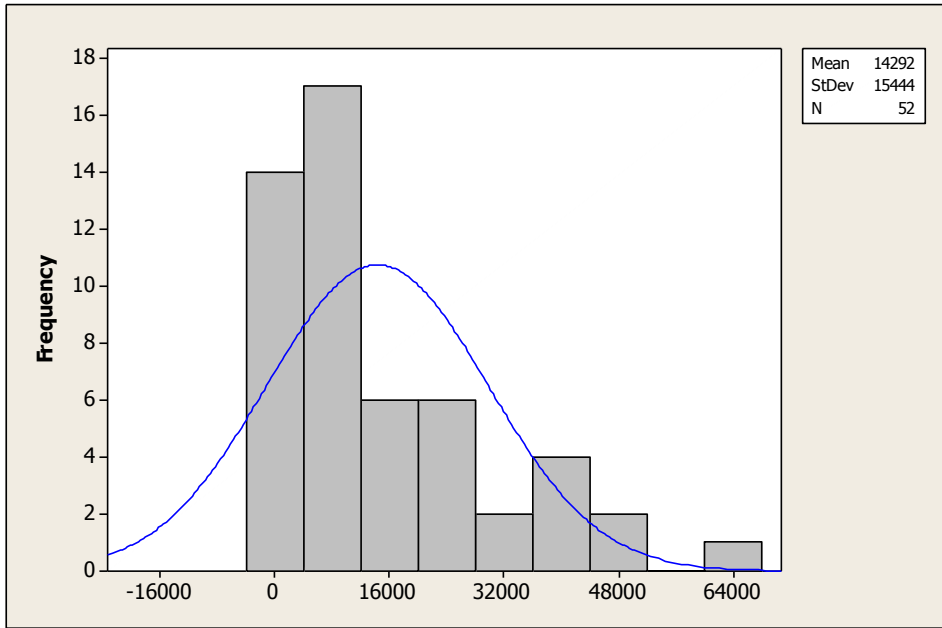
(Separated by Worth It and No Courses Indicated as Worth It)

	Number of respondents			
	No courses worth it		Indicated courses were worth it	
\$40,000 and more	2	14%	4	11%
\$30,000 to \$39,999	0	0%	3	8%
\$20,000 to \$29,999	1	7%	5	13%
\$10,000 to \$19,999	5	36%	8	21%
1 to \$9,999	3	21%	11	29%
none	3	21%	7	18%
total	14	100%	38	100%
Average	\$ 13,550		\$ 14,565	
Respondents who indicated zero			10	
Average cost for those that also checked opportunity cost			12	\$ 32,058
Average cost for those who did not check opportunity cost			30	\$ 12,450
Average all 52 participants			52	\$ 14,292

The difference in cost was looked at separately depending upon whether or not the participant listed courses that they indicated were worth the extra 30 hours. It was thought that perhaps there might be a difference in opinion based on the amount of expense. This did not turn out to be the case.

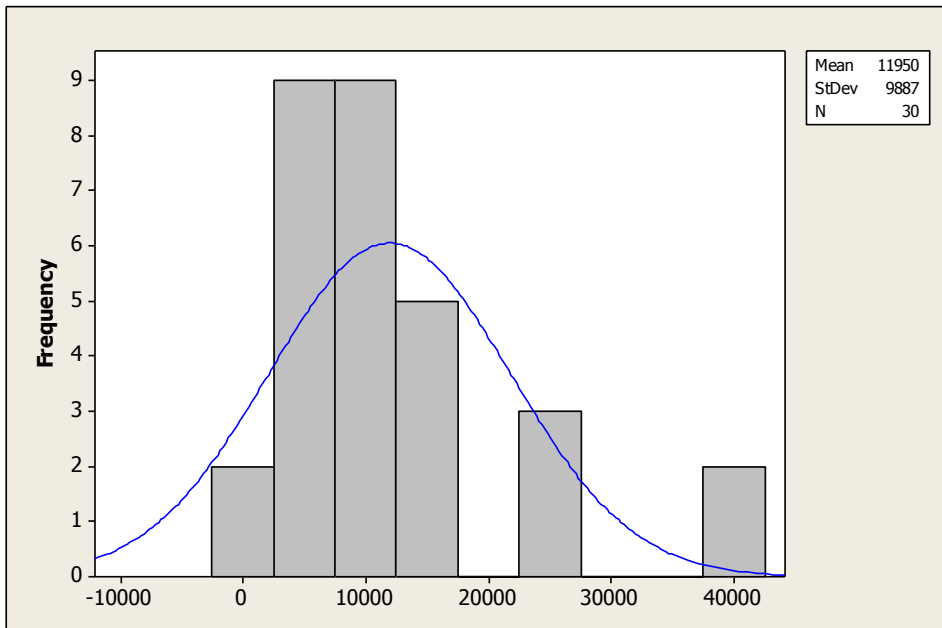
The amounts reported as paid by participants for the additional 30 credits may be shown on a normalized histogram as follows.

Exhibit 4.19 – Histogram of Reported Cost of Additional 30 Credits



The mean cost paid is \$14,292 and the standard deviation on that cost is relatively high at about \$15,444. When the surveys that show opportunity cost and zero cost are taken out, the graph looks like this.

Exhibit 4.20 - Histogram of Reported Cost – 30 Participants (No Zero, No Opportunity Cost)



The average cost is about \$12,000 with a standard deviation of about \$10,000, if only the 30 surveys that reported a cost, yet did not report opportunity cost, are included. This is still a fairly large range.

The implication of these amounts is that for some individuals, the additional 30 credits is a significant sacrifice. For other individuals, there was little monetary sacrifice to obtain the additional credits. The experiences of CPA partners and shareholders with respect to costs paid are not very similar.

III (C)(1). Survey Page 3 – Question 1

At this point, the survey now turns to looking at the kinds of courses where CPA partners report that they gained intellectual thinking and communication skills. Note that in Chapter 2, though the literature review and through the development of the proposed new acronym CLI³, it was determined that intellectual thinking and communication (among other skills) were important in order for accountants to perform the duties expected of accountants in practice.

Question 1 – Intellectual thinking has been identified as a key skill of accounting professionals. In your opinion, intellectual thinking is composed of the ability to do (check all that apply):

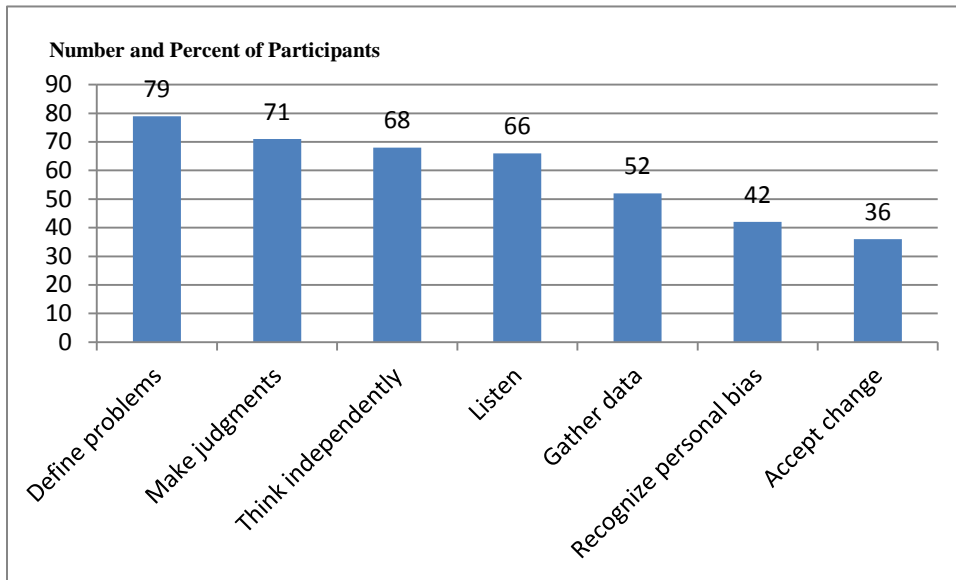
Exhibit 4.21 – Characteristics of Intellectual Thinking

Frequency Table - Intellectual Thinking (100 surveys and participants could choose multiple characteristics)								
Accept change	36	Listen	66	Recognize personal bias	42	Tolerate ambiguity		26
Define problems	79	Make judgments	71	Reflect	28	Solicit diverse views		28
Empathize	21	Negotiate	23	Think independently	68	Synthesize data		41
Gather data	52	Not jump to conclusions	48	Think critically	90	Value truth		24

The purpose of this question was to prime the survey respondents to think about intellectual thinking so that in the next question they would remember courses that gave them that skill.

All of the above characteristics are intellectual thinking and indeed all of these characteristics are also considered part of critical thinking (Kimmel, 1995). As was pointed out in chapter 2, the terms critical thinking and intellectual thinking are used in the accounting literature to describe a key skill needed by accountants. As this survey shows, 90% of respondents said that critical thinking is intellectual thinking. One interpretation of this result is that when accountants talk about critical thinking or intellectual thinking they are talking about the same thing. In other words, the concepts are inter-changeable. Note that this question also sheds light (in terms of aiding in defining) one of the I's (intellectualization) in proposed new theory CLI³.

The characteristics of intellectual thinking that received endorsement by over one third of the survey participants are as follows:

Exhibit 4.22 – Number of Participants Listing Characteristic of Intellectual Thinking

One possible interpretation of CPA partner’s views on intellectual (critical) thinking could be as follows:

CPA’s define problems. They then listen and gather data in order to make a judgments about those problems. They do this in an independent manner that recognizes personal bias.

III (C)(2). Survey Page 3 – Question 2

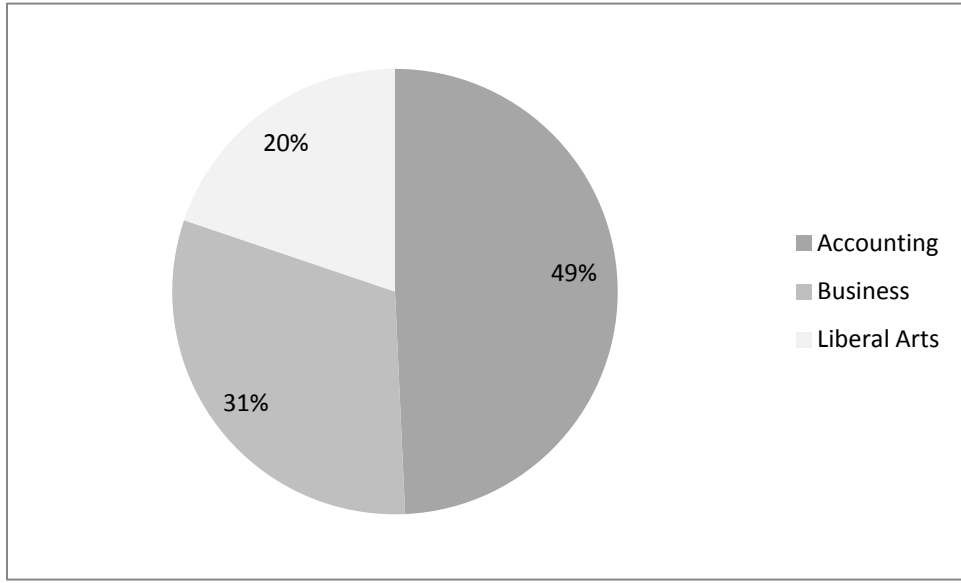
Question 2 – In thinking about your college or university undergraduate experience, please consider the top one to three professors who instilled intellectual thinking (any subject). Which course(s) did they teach?

4.23 – Courses That Instilled Intellectual Thinking - Undergraduate

Courses that instilled intellectual thinking							
Accounting Courses			Business Courses			Liberal Arts Courses	
Advanced		13	Business law		15	Calculus	3
Audit		15	Economics		15	Communication	3
Cost		7	Finance		11	English	5
Financial and principles		14	Leadership		2	History	2
Intermediate		21	Management		2	Logic	2
Information systems		4	Marketing		2	Other liberal arts	3
Managerial		4	Money and banking		2	Philosophy and ethics	5
Research		3	Organizational behavior		5	Psychology	5
Other accounting		3	Other business		4	Religion	2
Tax		13	Operations management		2	Science	3
Tax research		2	Small business management		2	Speech	3
Tax - individual and partnership		3	Strategy		2	Statistics	5
		<u>102</u>			<u>64</u>		<u>41</u>
Total number of courses listed by survey participants					<u>207</u>		
Number of surveys that listed zero courses					17		
Number of surveys that listed one or more courses					83		

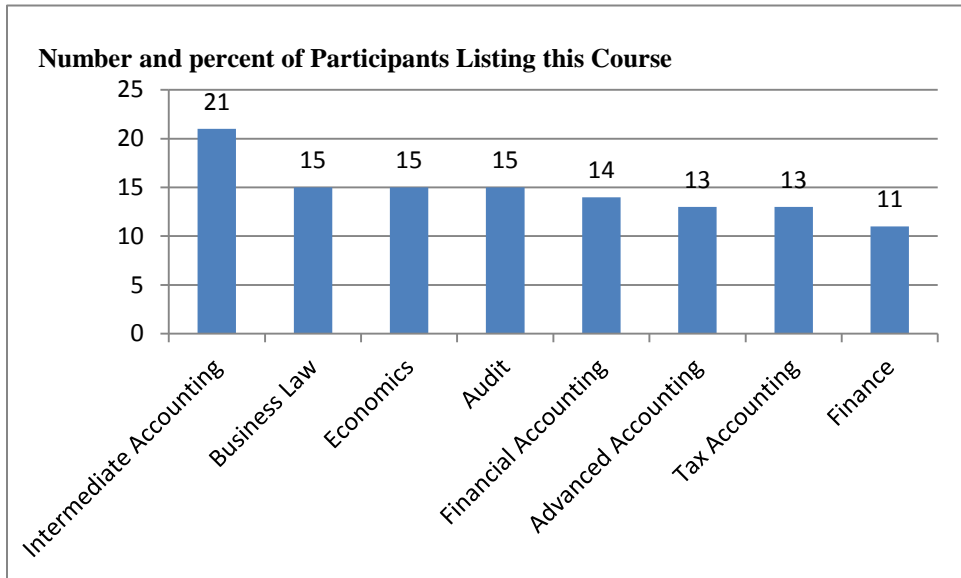
What is interesting about the results of this question is that CPA partners believe that it is in their accounting courses where they learned how to think critically and intellectually. At the same time, business and liberal arts courses contributed to intellectual thinking. The percent of accounting courses to total courses, business to total courses and liberal arts to total courses is depicted below.

4.24 - Undergraduate Intellectual Thinking Courses by Category



The individual courses listed more frequently include the following:

4.25 - Individual Undergraduate Courses Listed by 14 or More Participants



One possible interpretation of this chart is that CPA partners found that they learned how to define problems, gather data, listen and make independent judgments in intermediate

accounting, business law, economics, audit, financial accounting, advanced accounting tax, accounting and finance courses.

III (C)(3). Survey Page 3 – Question 2

Question 3 – In thinking about your college or university graduate experience (if any), please consider the top one to three professors who instilled intellectual thinking. Which course(s) did they teach?

4.26 - Individual Graduate Courses Listed by Participants

Courses		Business Courses		Other courses	
Advanced	4	Business law	1	Communication	1
Audit and forensic accounting	6	Economics	5	English	1
Financial	2	Finance	7	Ethics	2
Managerial	2	Management	3	Other	3
Research	1	Marketing	3	Statistics	3
Other accounting	3	Organizational behavior	1		10
Tax - corporate	4	Other business	6		
Tax - estate and gift	4	Small business management	1		
Tax - other	4	Strategy	4		
Tax research	6		31		
Tax - partnerships	9				
	45				
Total number of courses listed by survey participants			86		
Number of surveys that listed zero courses			65		

Since so many participant of this survey took their graduate courses in accounting, it is no surprise that accounting courses feature predominantly as the courses that instilled intellectual thinking. The data shows that 52% of the courses listed were accounting with 36% in business and 11% in liberal arts.

III (C)(4). Survey Page 3 – Question 4

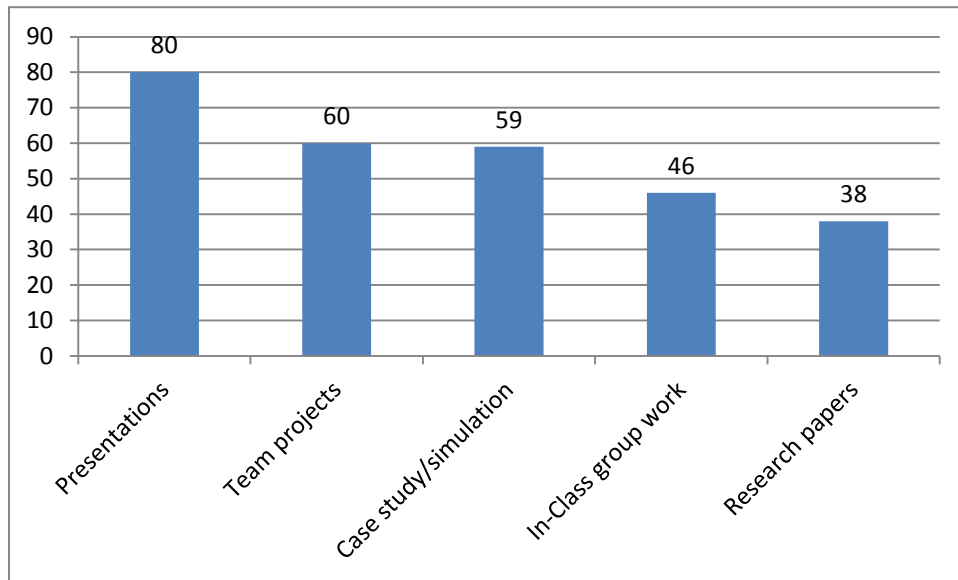
Question 4 – During your college experience, your ability to communicate was increased through the following evaluation methods (check all that apply):

4.27 – Evaluation Methods that Increased Communication Abilities

Frequency Table of Results - Increase Ability to Communicate										
Case study/simulation					59	Presentations				80
Essay questions					25	Reflective papers				10
In-class group work					46	Research papers				38
Making and relaying judgments					18	Short answers to homework problems				6
Multiple choice questions					2	Team projects				60
Total for all 10 categories									<u>344</u>	

Below are the top five methods that participants believed increased communication skills.

Exhibit 4.28 – Number and Percent of Participants Citing these Methods as Increasing Communication Skills



Since communication skills are key to success in accounting (as discussed in chapter 2 and as the “C” for communication in proposed theory CLI³ suggests) this question may be useful to educators in terms of how to plan the evaluation methods for their courses. However, the main purpose of this question was to prime respondents to think of the actual courses that helped them build these skills. The question served this purpose as evidenced by the fact that 70% of respondents listed courses.

III (C)(5). Survey Page 3 – Question 5

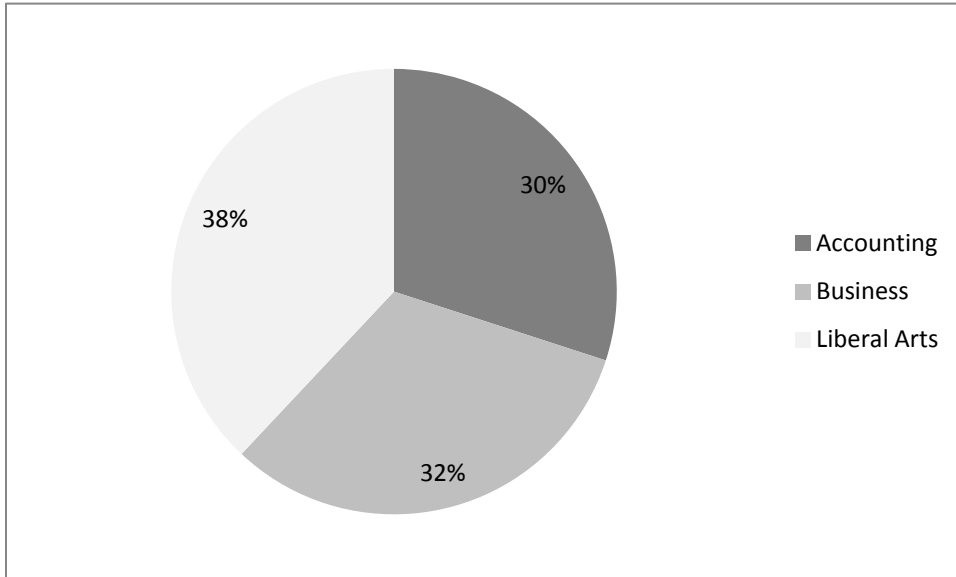
Question 5 – During your college graduate or undergraduate experiences, these course(s) gave you the skills to communicate as a CPA.

4.29 – Number of Times Course Listed by Participants as Increasing Communication Skills

Accounting Courses		Business Courses		Liberal Arts Courses	
Advanced	4	Business law	4	Communications	13
Audit	9	Business communication and writing	17	English	11
Cost	2	Economics	1	History	2
Financial	5	Finance	3	Other liberal arts	10
Intermediate	6	Leadership	1	Philosophy	1
Research	2	Management	8	Psychology	1
Other accounting	2	Marketing	6	Religion	1
Theory	5	Organizational behavior	2	Writing	5
Tax	6	Other business	4	Speech	18
Tax research	8	Small business management	2	Statistics	1
Tax - individual and partnership	2	Strategy	6		
	<u>51</u>		<u>54</u>		<u>63</u>
Total number of courses listed by survey participants				168	
Number of surveys that indicated college did not help them with communication				6	
Number of surveys that listed zero courses				30	
Number of surveys that listed one or more courses				70	

The percentage of courses listed in terms of accounting versus business versus liberal arts is graphed below.

4.30 – Courses Where CPA’s Gained Communication Skills by Type



Demographics section questions

III (D)(1). Demographic Questions 1, 2, 3, 5, 6

Demographic information about the 100 survey participants is listed below.

4.31 – Summary of Demographic Data of Survey Participants

Frequency Table of Results - Demographics (100 surveys)									
									Totals
Gender									
Male	70	Female	30						100
Expertise									
Audit	50	Tax	56	Management Consulting	4	Other	4		114
Postion									
Partner	75	Shareholder	20	Director	3	Other/no answer	2		100
Firm Size									
Large	16	Medium	26	Small	52	Sole	6		100
Client Size									
Large	12	Medium	50	Small	36	Individual only	2		100

Note that respondents that chose more than one category for firm or client size were categorized with the largest organization or client size that was indicated. All the surveys were considered usable (including the respondents who did not indicate their position in public accounting). These two surveys, based on their answers, were prepared by individuals knowledgeable about the 150-Hour Rule and working with persons in public accounting subject to the 150-Hour Rule.

III (D)(2). Page 4, Question 4

A table summarizing respondents by state follows.

4.32 - Demographics section question 4 – Respondents by State and Year Licensed

States in which initially licensed		Year in which initially licensed	
Alabama	2	Not answered	5
Arizona	1	1995 and earlier	6
California	2	1996	7
Connecticut	2	1997	3
Florida	2	1998	10
Georgia	3	1999	8
Iowa	1	2000	7
Idaho	2	2001	4
Illinois	8	2002	5
Indiana	2	2003	8
Kentucky	5	2004	6
Massachusetts	1	2005	5
Maryland	1	2006	5
Michigan	5	2007	4
Minnesota	2	2008	6
Missouri	2	2009	3
Mississippi	2	2010-2014	8
Montana	3		100
North Carolina	5		
North Dakota	2		
Nebraska	1		
New Hampshire	1		
New Jersey	2		
Nevada	2		
New York	2		
Ohio	8		
Oklahoma	1		
Oregon	4		
Pennsylvania	3		
South Carolina	4		
Tennessee	2		
Texas	3		
Utah	3		
Virginia	1		
Washington	3		
Wisconsin	2		
Wyoming	3		
Not CPA	2		
	100		

III (E). Question 7 – Optional Comments

Question 7 – (Optional) I would like to add the following comments to help students and educators make the most of the extra education for the 150-Hour Rule.

A large percentage of people chose to answer this question, which was labeled on the survey as optional. A total of 32 people provided comments. Most of the comments (18 respondents) mentioned a belief that the additional 30 credits should be used to study courses with an accounting nature.

4.33 – Handwritten Comments on Accounting focus with Brief Description

<u>Specialized Accounting Focus</u>	
Brief Description	Detailed Description provided by Respondent
practical	Learn effective communications skills, especially business-writing. Become proficient in advanced spreadsheet functions. Try to get practical, hands-on experience (internship).
practical	Having extra education and training is great, but I find the most valuable in on the job training. A lot of the education I received was geared towards dealing with large corporations, we need to prepare new accountants to deal with the small to mid-sized companies.
practical	Internships would be much more valuable than additional college credits.
practical	An internship could also be counted toward 150 hours.
practical	Less theory, more practical information i.e. what you need to know starting day one.
practical	Hands on skills - I am very surprised how many entry level (right out of school) candidates who don't have Microsoft Excel and Word skills. Using technology efficiently should be taught. Good isn't enough anymore - challenge yourself to be better.
practical	I would recommend taking as many accounting related classes as possible, especially any that offer practical experience or practice dealing with auditing or tax issues
Master's	I think a master's degree in accounting/tax adds way more to an education, than just a bachelor's in accounting.

Master's	<p>It should be focused on courses that are relevant to student's advancement in the profession. Kudos to the schools that have developed a master's program to get the credits and enhance the students' knowledge in relevant topics.</p>
Master's	<p>Extra graduate work is critical depending on your specialty. Undergrad does not teach sufficient tax to be relevant at a big firm. Therefore a master's in tax (or equivalent is critical). Grad school is also a necessary maturing period for most students.</p>
CPA exam	<p>Students should use the time to finish the CPA exam. It's much easier to focus on your career with the CPA exam out of the way.</p>
CPA exam	<p>Classes based on CPA exam.</p>
specialized	<p>Make it more accounting.</p>
specialized	<p>More accounting classes, management classes.</p>
specialized	<p>Consider if possible getting the credits after working for sometime so you can target your class load - specifically to your expertise...for example, taxes, wealth management, management advisory, audit, etc.</p>
specialized	<p>I believe a requirement should be added to the rule, specifically a requirement as to the type of class. I have new staff taking gym classes to add o their 150 hours and I do not feel that is beneficial to their professional life of the firm.</p>
specialized	<p>Courses should integrate technical education with communication and soft skills development. Bare knowledge is important, but aptitude for learning and analytical thinking are more important.</p>
specialized	<p>Question 2 on page 1 can have different answers depending upon which path the student wants to take career wise. If wanting to be a partner in a CPA firm, then a masters in tax or specialized accounting courses such as forensic accounting, BVA., etc would be best. If wanting to be a CFO or other private accounting job, than what I checked would be best. At the same time I really wanted a system analyst job but that did not work out.</p>

4.33 – Handwritten Comments on Other Matters with Brief Description

<u>Other Comments</u>	
Brief Description	Detailed Description provided by Respondent
communication	The biggest challenges in new grads are the following: 1) inability/unwillingness to make decisions/mistakes, 2) lack of self awareness, 3) ineffective communication skills
communication	The biggest failure of the education system today (starting before the collegiate level) is the failure to instill adequate communication skills, both written and verbal. Show me someone with outstanding technical, communication and project management skills, and they can set themselves apart almost immediately. Writing skills are awful for far too many business students, and merely adequate for most.
business knowledge	I would like to see students have more overall business knowledge and how the business world works. Knowing the debits and credits is important but how do these transactions impact the entity as a whole and how does accounting fit into the world of business.
business knowledge	I think a great value would be provided to students by teaching them about the bigger picture issues that affect organizations and people, as well as about mistakes that can cause big problems and cost a lot of money. The quality of the output of an organization, whether the output is a product, a service or accounting work, is ultimately determined by the big picture of the organizational structure and leadership of an organization. Thus, I think that education in leadership, organizational structure, ethics and the power and importance of good relationships between people would be extremely valuable to students. Give students examples of mistakes made in these areas and the cost of those mistakes. Providing education and experiences that allow students to learn lessons often only learned over a whole career and much heartache would provide something that makes the additional 30 credits worth it.
business knowledge	They changed the 150 hours when I was a junior so I got to choose. I chose 150 hour so I could extend the same accounting classes over two years instead of trying to fit them all into one year. It made the class load easier with some filler classes.
business knowledge	I used the extra hours to broaden my skill set beyond accounting to include MIS.
business knowledge	Don't focus so much on hours. Focus on content. Don't make students fill up workload with subjects non-business related. Maybe philosophy but other than that it should be purely business courses.
broad education	Take advantage of the additional time and pursue areas that are interesting to you. A vast majority of the course work performed is forgotten/unused once a job is landed in the real world. The grades obtained and skills learned show the potential employer your work ethic and ability to grasp concepts - don't get bogged

down in specialized courses that are painful to sit through and ultimately not valued once the interview begins.

	<p>I began my studies in the engineering program, so when I switched over to accounting I had around 20 extra credits to be applied to the extra education requirement. I took extra psychology courses to get the 150 hours which helped me obtain my minor.</p>
liberal arts	<p>Studying other interests outside of the business school has helped me relate to clients and their industries. It has also provided me with a better understanding of the world outside of a financial spectrum.</p>
No benefit	<p>I always considered college as the place I learned how to learn; then began actually learning the accounting profession once I got a job. I don't see the 150 hr requirement helping anyone but the universities. More time and expense on something that does not advance a students' career at all. Sorry.</p>
No benefit	<p>In my professional opinion, I have not seen the benefit of any extra collegiate experience.</p>
No benefit	<p>I am very proud of my CPA license because of the time and effort I put to earn it. I don't think that staying in school for 2 extra years (cost of tuition, time, etc) should outweigh the value of the education these students receive in addition to becoming more mature over the course of the 2 years. <i>(This participant did not believe additional courses were worth it.)</i></p>
No benefit	<p>150 hours is hurting the profession. Students cannot recoup cost, so they select other professions. The 150 hour students we hire are not better than the normal 4 year degree. While internships help, not paying students to get the experience at work seems unethical and an additional financial burden.</p>

IV. Conclusion of Chapter 4

This chapter provided the detailed summary of the survey results. The summary information was shown in tables as well as graphs to assist in the analysis to follow in chapter 5. It also included a discussion on why the results are deemed valid and reliable, including a CHITEST analysis comparing the population to the sample. The margin of error was computed for certain questions, when appropriate.

Chapter five will synthesize this detail information and discuss how it answers the research question. It will also highlight certain data and tie it into concepts discussed in chapter two and come to an overall conclusion about the significance of this research.

Chapter 5: Analysis of the Research Results

This chapter will synthesize, highlight and put into the context of this dissertation the data summarized in chapter 4. In particular, it will discuss the following:

- I. How the data answers the research questions
- II. How the data sheds light on the new theory CLF³ and theories from the MIS literature
- III. The results agreement or disagreement with prior studies by Albrecht & Sacks (2000) and Renner & Tanner (2001)
- IV. Surprising findings, including response rate
- V. How this research can be used to meet a need, close a gap in knowledge and address the problem.

I. How the data answers the research question

Each of the three research questions will be addressed in turn beginning with the first one.

I(A). Research Question 1

Are CPA partners more likely to fulfill the additional 30 hours (of the 150 hour requirement) with a) additional courses in accounting or a master's in accounting or a masters in tax, b) additional courses in liberal arts or a second degree (and in what subject?), or c) an MBA or additional business courses or second degree in business?

The primary source of the answer for this question comes from the third question on the first page of the survey instrument. The tabular results for this question are shown in Exhibit 4.12. This question is then further correlated with survey questions 1 and 2 (also on the first page of the survey instrument) which asked partner's opinions of their beliefs of the benefits of the 150-Hour Rule and the best means of obtaining the additional 30

credits. The survey data for the partners' opinions is shown in Exhibits 4.3 through 4.11. The next several paragraphs analyze Research Question 1 based on the survey results.

Discussion of data surrounding Question 1

The CPA's for whom the 150-Hour Rule applied, took the path of additional college education in accounting or business (87%). Only 13% took the path of additional credits in liberal arts. Almost half of these participants (45%) had a master's in accountancy or tax.

Of the 52 participants for whom the Rule applied, the breakdown is as follows:

Exhibit 5.0 – Educational Profile of 52 CPA partners for whom 150-Hour Rule Applied

Rule Applied	
Master's in accountancy	35%
Master's in tax	10%
Master's in business	23%
Additional undergraduate business courses	19%
Non-business degrees and additional credits	13%
Total	100%

Not only is this the path that CPA partners actually took, it is also the path they recommend for aspiring CPA's with 79% favoring using the additional 30 hours for specialized accounting matters and 17% favoring additional course work in business.

On top of that knowledge is considered the key benefit of the 150-Hour Rule by 63% of this group, with 26% citing college benefits (such as status, communication or judgment skills). Many respondents, who cited more than one benefit, also cited knowledge as one of the benefits. Only 9% cited confidence and 2% cited no benefit from the additional college.

The 150-Hour Rule had a clear impact on the educational choices of partners. Of those partners for whom the rule did not apply many fewer individuals had graduate degrees. Of the 48 persons for whom the rule did not apply here is the breakdown.

Exhibit 5.1 – Educational Profile of 48 CPA partners for whom 150-Hour Rule did NOT

Apply

Rule Did Not Apply	
Master's in accountancy	4%
Master's in tax	8%
Master's in business	8%
Additional undergraduate business courses	6%
Non-business degrees and additional credits	10%
Total	36%

Partners for whom the 150-Hour Rule did not apply also recommend specialized accounting courses for the additional 30 hours (62%), while 25% would recommend additional preparation in business. On top of that, this group also favors knowledge as

the key benefit (42%) but has a higher percentage of individuals who believe there is no benefit from the 150-Hour Rule (4%).

Since there is an obvious difference between the educational path of those for whom the rule applied and for those whom the rule did not apply, one may wonder, if there is a statistically valid difference between their responses for the paths they recommend and what they find is the key benefit of the 150-Hour Rule? Or, are they different simply due to random chance? To consider this issue two statistical tests were performed – CHITEST and TTEST.

How the CHITEST works was discussed in Chapter 4 where it was used to assess the reliability of the sample. In this case the CHITEST is used to determine if the results for the participants for whom the rule applied differ statistically from the overall results. The following table was built to accommodate the CHITEST.

Exhibit 5.2 – CHITEST for independence of answers of those for whom 150-Hour Rule did and did NOT apply.

	Percent preferring - one of three choices knowledge, many benefits, or no benefit/confidence) (specialized accounting, business, or liberal arts			
Observed - Rule applied				
Benefits of rule	63%	25%	12%	
Course of study	79%	17%	4%	
Expected - all surveys average				
Benefits of rule	52%	28%	20%	
Course of study	71%	22%	7%	

The result of the CHITEST was .95 through Excel. This result was further confirmed through Excel’s TTEST. This statistical test compares two different samples and answers the question – are these sample results really significantly different or are they within what one could expect given the law of probability (central limit theorem)? Again Excel

uses a 95% confidence level and selects the appropriate degrees of freedom based on the table.

Exhibit 5.3 – Opinions on college benefits broken down by Rule Applied, Rule NOT applied

Answers to Questions 1 and 2	Rule Applied	Rule Not Applied
Knowledge benefit	63%	40%
Many benefits	25%	31%
No benefit or confidence	12%	29%
Specialized accounting	79%	63%
Business	17%	27%
Liberal arts	4%	10%

The TTEST results follow:

Exhibit 5.4 - Test for statistical difference between Rule applied and Rule NOT applied

t-Test: Two-Sample Assuming Unequal Variances		
	Variable 1	Variable 2
Mean	0.333	0.333
Variance	0.092	0.031
Observations	6.000	6.000
Hypothesized Mean Difference	0.000	
df	8.000	
t Stat	0.000	
P(T<=t) one-tail	0.500	
t Critical one-tail	1.860	
P(T<=t) two-tail	1.000	
t Critical two-tail	2.306	

In order for two samples to be considered to be statistically different, the t Stat must be greater than two. The t Stat shown above is zero. Both tests (as one would expect) lead to the same conclusion – the groups (150-Hour Rule applied versus Rule did not apply) are not statistically different. The null hypothesis is accepted.

Next, it can be interesting to look at the “view from the top” and compare it to the “view from the bottom.” This is pertinent to this first research question that asked about the educational profile of CPA’s at the top of the profession. One can see if it compares to the profile of those who started in the profession.

The AICPA publishes data about those entering the profession. This data can be compared to the profile obtained in this survey and was discussed in chapter 2.

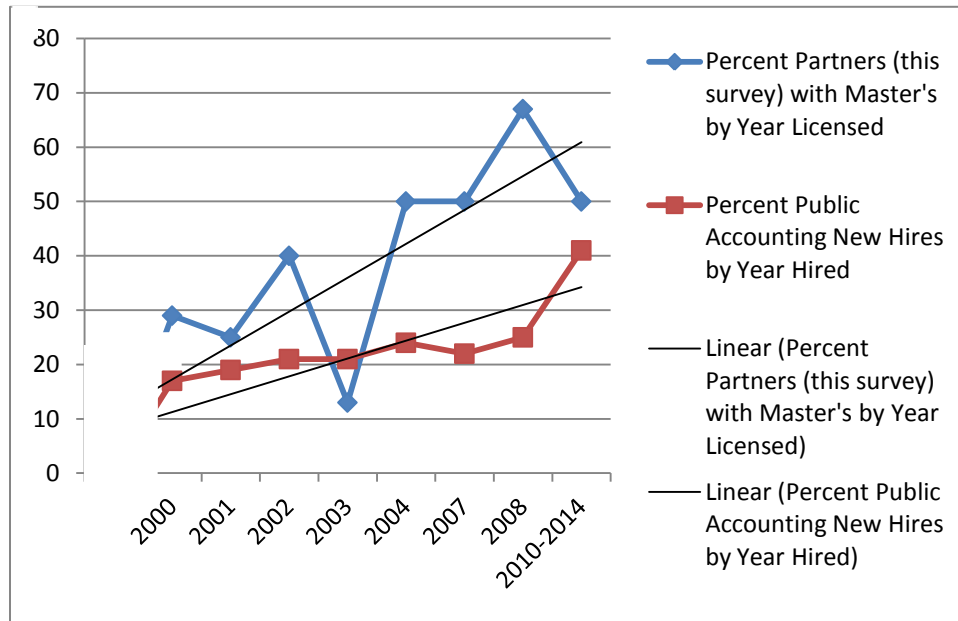
Exhibit 5.5 – Comparison of Partners in this Survey with AICPA New Hire Data

Year	Year in which initially licensed	Participants with Master's Degree sorted by year licensed	Percent of total	Year	Percent of New Hires to CPA firms with Master's Degrees	
Not answered	5	3	60%			
1995 and earlier	6	2	33%	Trends (AICPA 2014, p. 19)		
1996	7	1	14%			
1997	3	0	0%			
1998	10	6	60%			
1999	8	5	63%		2000	0.17
2000	7	2	29%		2001	0.19
2001	4	1	25%		2002	0.21
2002	5	2	40%		2003	0.21
2003	8	1	13%		2004	0.24
2004	6	3	50%		2005, 2006 not listed by AICPA	
2005	5	5	100%			
2006	5	3	60%	2007	0.22	
2007	4	2	50%	2008	25%	
2008	6	4	67%			
2009	3	1	33%	2009, not listed by AICPA		
2010-2014	8	4	50%	2010, 2012	40%, 41%	
	100	45				

The rows above were shown with a one year lag between hire and license date. Plotting the AICPA data with the data obtained in this survey, the following chart results. (Note that his chart assumes there is no lag between graduating and licensing. In fact, most

states require one to two years of experience, college education, and passing the CPA exam for licensure.)

Exhibit 5.6 – Comparison of Survey Participant by Year with AICPA Trends



Through Excel, a linear trend line was added to both the AICPA survey and the partner survey in this dissertation. The lines for both clearly slope upward. When looking at the raw data for the 2003 year for the partner survey, it was noted that several participants were not required to comply with the 150-Hour Rule and two participants had second degrees, but not master’s degrees.

Further, the trend was for CPA partners to be ahead of the new hire crowd, in terms of obtaining a master’s degree. In other words, CPA partners were more likely to have graduate degrees than the other people who were hired around the same time. One possible inference is that the additional education made it more likely for them to become partner. But, this is an area that would need further research.

As was discussed in Chapter 2, accounting in theory (AiT) differs from accounting in use (AiU). Much had been theorized as to the ideal education for accountants. This research was about accounting in use.

The results were not ambiguous. Those individuals that make it to the top of the CPA profession (and had to comply with the 150-Hour rule), for the most part, have master's in accountancy, tax or business. If they do not have a master's degree, then most have additional business courses in business management, MIS or finance.

As was noted in *Horizon's* accounting is a dynamic profession. The fact that the "view from the top" (i.e. CPA partners) includes individuals with specialized education shapes, the nature of the profession. As was discussed in Exhibit 2.0, the nature and the rigor of accounting education attracts individuals with certain native abilities. This in turn affects the services that CPA's provide and the knowledge that can be advanced. This in turn changes how the profession is perceived and the new candidates attracted to the profession of public accounting. One conclusion of this research is that the accounting profession can expect to become more and more specialized as its top professionals (partners in CPA firms) have an increasingly specialized educational background.

I(B). Research Question 2

What does the educational path of a CPA partner look like in terms of courses?

This research question is answered by the following:

- question 3 of page one of the survey instrument (results shown in Exhibit 4.12),

- question 2 on page three of the survey instrument (courses that instilled intellectual thinking with the results shown in Exhibits 4.23, 4.24, 4.25, and 4.26),
- question 5 on page three of the survey instrument (courses that build communication skills with the results in Exhibits 4.29 and 4.30) and
- question 4 on page two (partners' opinions as to courses that are worthwhile to complete the additional 30 hours with the results in Exhibits 4.13, 4.14, 4.15).

The discussion below summarizes the results.

Discussion of Question 2

The educational path looks like an undergraduate degree in accounting and then an additional master's degree in accountancy, business or tax. The undergraduate courses that are the most valuable to CPA partners in terms of intellectual thinking are:

- financial accounting (all levels),
- audit,
- business law,
- finance,
- economics, and
- tax.

The courses deemed most valuable to CPA partners for increasing communication skills were:

- business writing and
- business communication and speech.

These were the courses actually listed by CPA partners. The internal validity of this question can be further verified by comparing it to question four that asked participants to check boxes of courses they thought were worthwhile to fulfill the additional 30 credits.

The courses with the most check marks (partners' opinions) are as follows:

- accounting research (67%),
- CPA exam review (59%),
- partnership taxation (46%),
- leadership (40%) and communication (35%).

There is overlap with the above list, with the exception of the CPA exam review and leadership courses. One notes here that what partners actually did (accounting in use, AiU) is consistent with what partners think should be done with the additional 30 hours (accounting in theory, AiT).

I(C). Research Question 3

What were the additional courses (to meet the 150-Hour Rule) that partners took that they found especially worth it to them?

This research question is primarily answered by question 5 on page two of the survey instrument (courses taken that were worthwhile in completing the 150-Hour Rule as shown in Exhibit 4.17).

Discussion of Question 3

Since many of the participants met the 150-Hour Rule through a master's in accountancy, tax or business, the courses listed as most "worth it" were predominantly specialized accounting courses. Indeed, 69% of the courses listed by participants are specialized

accounting courses, with business courses cited making up 24% of the courses and liberal arts courses making up 7%.

II. How the data sheds light on the new theory CLI³ and theories from the MIS literature

The first matter to be discussed will be CLI³ which stands for communication, learning to learn and an attitude of life-long learning, intellectualization, interpersonal abilities and integrity. Next, matters related to the MIS literature are discussed.

I(A). CLI³

The second chapter delineated the history of accounting education. It showed that going back to the late 1800's and then following forward to *Horizons* (1967) and then to the *Big 8 White Paper* (1989) there is a line of thought that accountants are to be learned professionals and not merely technicians schooled in the nuances of accounting. In addition, the Chapter 2 Literature Review showed that learned accounting professionals must have communication skills, an ability to be life-long learners, interpersonal skills, integrity and the ability to think intellectually. These attributes were given the acronym CLI³. It was further shown in Chapter 2 that accountants do not necessarily agree as to how CLI³ can be best accomplished with the additional 30 credit hours. Indeed, some believe that additional liberal arts credits (CLI³-la) are more helpful, while others favor more specialized accounting (CLI³-sa) or business management (CLI³-bu) credits. This disagreement is the key reason why the AICPA did not mandate a specific plan for the additional 30 credits. How does the research survey shed light on the notion of the accountant as a learned professional with CLI³ characteristics and what path they should take (sa, la or bu) to obtain these skills?

The survey results, as shown in Chapter Four, very clearly indicate that CPA partners value knowledge (63%) and specialized accounting knowledge (71%) as the key benefit and direction of the 150-Hour Rule. This is further corroborated in three ways by their support of individual courses.

First, when given a set of 28 individual courses, they chose accounting courses (47%) over business or liberal arts as the best use of the additional 30 credits. The percentage is actually more significant than first glance implies, since only 14% of the courses listed were accounting courses. Business courses came in second place. At the same time, a communication course makes a strong showing and it is one of the top five courses listed as beneficial. The top five courses (out of the 28 listed) are as follows: accounting research (67%), CPA exam review (59%), partnership taxation (46%), leadership (40%) and communication (35%).

Second, the value of accounting courses is further corroborated by questions on page three of the survey. When asked about what is meant by intellectual thinking, CPA partners are in agreement that it means critical thinking (90%). Further, of the 16 characteristics listed in this survey (and also associated with critical thinking, as was shown in chapter two), these attributes are checked by participants most often: define problems (79%), make judgments (71%), think independently (68%), listen (66%), gather data (52%), recognize personal bias (42%) and accept change (36%). After participants defined what they thought was intellectual thinking, they were asked to hand write-in undergraduate courses where these skills were learned by them. Accounting courses again win out other possibilities. Of the courses listed by respondents for the undergraduate level, 49% are accounting, 31% are business and 20% are liberal arts. The

most popular courses for developing intellectual thinking reported by participant were as follows: intermediate accounting, business law, economics, audit, financial accounting, tax accounting and finance. See also Exhibits 4.23 and 4.24.

Third, when participants are asked - what courses helped them build communication skills? Accounting courses (30%) are not far behind liberal arts courses (38%) and business courses (32%). Participants cite presentations, team projects, case studies, in-class discussion and research papers, as being significant evaluation means to acquire communication skills. The courses listed most frequently include the following: business communication and writing, communications, English, speech, audit, tax research and management. See also Exhibit 4.29 which accumulates the courses listed by participants. One will note that communication, English and speech courses are part of the liberal arts (lower division) core required by most colleges, including those colleges accredited by the AACSB.

Based on these results one can make conclusions about where CPA partners fall in terms of the three lines of thought. Relatively few CPA partners are citing liberal arts courses as being significant for the additional 30 credits, while there is some support for additional business courses. In addition, almost all of the participants had a B.S. (63%) or B.A. (27%) degree in accounting, while another 9% had degrees in business related subjects and only 1% had a undergraduate degree in a liberal arts subject (however, 8% also had a second degree in a non-business major.) The line of thought that believed a broad liberal arts education followed by specialized education in accounting simply is not showing up among what these CPA partners actually did or what they recommend for future students. While this survey did not indicate that the amount of liberal studies

should be increased, it also cannot be inferred (since no such questions were asked) that the amount of liberal studies should be reduced in a typical undergraduate education.

CPA partners gave consistent support for a specialized accounting educational path. CPA partners believe that accounting courses contribute significantly to both intellectual thinking and communication skills. This could be because their accounting courses were more demanding of those skills than liberal arts courses. In other words, accounting educators got the message that they needed to train accountants across a broad set of competencies (beyond memorizing accounting rules) and included intellectual thinking and communication as learning outcomes. Or, it could be that they believe the accounting context was/is necessary to develop or is in some way more desirable in developing those skills.

I(B). Productive Knowledge Acquisition

The issue of cost is the most frequently cited negative association with the 150-Hour Rule. In Chapter 2, it was shown that the MIS literature sheds light on this matter. Knowledge acquisition by investment (which is college) is most productive when the knowledge is broad, has a higher discount rate in a present value computation equating cost today relative to potential future cash flows, a steep learning curve and a high salvage value.

In terms of the first attribute – broad – CPA partners for whom the 150-Hour Rule applied actually valued very specialized accounting courses over broad courses. This came though via the answers of several questions within the survey, as was discussed above. It is even more significant for participants for whom the 150-Hour Rule applied. As was pointed out in Exhibit 4.17, most of the courses listed as “being worth it!” for the

additional thirty credits are accounting courses. One possible interpretation for this result is that despite accounting courses being specialized, they are also broad. As was speculated above, accounting educators may have “gotten the message” and they now include broad skills in their courses. Another interpretation is that for those who reach the top of the profession, the accounting knowledge that comes from college and master’s courses is not all that specialized. It is broad accounting knowledge (which would appear specialized to those outside of the field) that is used on a routine basis.

With respect to the next matter, the cost of the additional 30 hours is not cited as being particularly high. Indeed the average cost for those for whom the rule applied is under \$15,000 (see Exhibit 4.20). While several individuals cited opportunity cost in addition to tuition and room and board, ten individuals indicated that there was zero cost (indicating that costs were born by parents or employers). (Interestingly, five individuals, for whom the 150-Hour Rule did not apply, answered this question and the average of their estimate is \$23,600 - hinting at the possibility that the cost perceived is actually higher than the cost experienced.) One can compute the necessary increase in salary based on the following formula.

$$\text{Increased annual salary (payment)} = P = (r * C) / (1 - (1+r)^{-t}).$$

Using a t of 10 years, a C of \$15,000 and a discount rate of 10%, annual salaries must increase by about \$2,500 to justify the additional college expense. Of course different t 's, C 's and r 's can be used. A shorter time frame, higher college cost outlay, and higher discount rate will all increase the expected additional starting salary. While a longer time frame, lower cost outlay and lower discount rate will decrease the additional salary required. As is noted in Chapter 6, additional study of costs is suggested.

It may also be inferred that the additional college education, in primarily accounting, (and secondarily business) had a high salvage value and a steep learning curve for most of the survey participants. This is evidenced by the 38 out of the 52 participants for whom the 150-Hour Rule applied, who listed individual courses they thought were worth it. Additional evidence for this inference comes from the analysis in Exhibit 4.14. This exhibit compared the CPA's licensure date in this survey with the AICPA data on new hires and master's degrees. The partners in this survey had a higher level of master's degrees than their peers starting in public accounting. This could imply that the learning curve is indeed steep when it comes to grasping accounting and business knowledge and the salvage value from additional accounting and business courses is high. The partners in this survey may have had an edge in promotion over their peers because of the additional education.

III. Its correspondence to prior studies by Albrecht & Sack (2000) and Renner & Tanner (2001)

As was pointed out in Exhibit 2.19, Albrecht & Sack (2000) surveyed practicing accountants and discovered that practitioners rank technical accounting and business courses as most important. The top ten rank in this order: financial accounting, information systems, finance, tax, business strategy, audit and assurance, managerial accounting, technology topics, e-commerce, and business law. The top ten undergraduate courses that respondents of this survey said instilled intellectual thinking are as follows: intermediate accounting, audit, business law, economics, financial accounting principles, tax, advanced accounting, finance and cost accounting. Six of the courses on this list overlap directly with each other. This overlap indicates that the survey results are

consistent with prior Albrecht & Sack. Accounting technology issues came up stronger in Albrecht & Sack than in this survey, likely because their question was phrased as “important” versus “instilled intellectual thinking”.

With respect to the Renner & Tanner (2001) survey, there are similarities with the results of this survey. For instance in Renner & Tanner’s survey, public accountants highest ranked degree combinations were as follows: accounting major with master’s in tax, accounting and MIS double major, accounting major with master’s in accountancy, accounting major with MBA, and accounting with finance double major. A double major in accounting and any liberal arts major was the least preferred combination.

In this survey, those at the top of the profession (CPA partners) and subject to the 150-Hour Rule had the following degree combinations: accounting major with master’s in accountancy (35%), accounting major with MBA (21%), accounting major with master’s in tax (10%), accounting and MIS double major (6%), accounting and finance double major (2%), accounting and a non-business major (8%).

In both of these surveys, specialized accounting or business degrees are prominent. In both of these surveys an accounting major with a double major in a liberal arts or non-business degree are least popular.

VI. Noteworthy results, including response rate

This next section discusses a variety of items noted.

VI(A). Courses

It was speculated in the 1967 *Horizon’s* report that statistics would be more important for accountants in the future, there is no indication from this survey that CPA partners

considered this subject significant for additional study with respect to the 150-Hour Rule (with only 7% citing support) or noteworthy for developing intellectual thinking (only 5% handwriting-in this course). Big data however, had a bit more support for being a desirable course for the additional 30 credits, with 14% of respondents checking that box.

IV(B). Response rate

The survey response rate was 1.62%. While this is in the range of the response rate expected, it is on the lower side. Note that the response rate considered acceptable was as low as from .004. See chapter 3, section III (A). At the same time reliability tests indicate that the sample is representative of the population based on a chi square test and other qualitative considerations discussed in chapter 4, section II(A) and Exhibits 4.0 and 4.1.

One possible interpretation of this response rate is that for the accountants that received this survey, the issue of accounting education and use of the additional 30 hours is settled for them. The low response rate could be interpreted as - they themselves went on to study for a master's in accounting, tax or business; they recommend a similar path to future students; they did not feel the need to complete the survey; they are not unhappy with the direction of accounting education or the new hires they see; they did not have a message to send to students or accounting educators; they are not unhappy with the 150-Hour Rule. On the other hand, it is also possible, that CPA partners felt they were too busy to answer the survey.

IV(C). Predicting MBA

Another noteworthy find is that it was not possible to build a binary logistic regression model predicting a belief in specialized accounting versus additional business for the additional 30 credits. Below is a chart of the number (count) of participants, in various categories recommending additional business study such as an MBA, finance or MIS.

Exhibit 5.7 – Characteristics of those recommending MBA

Number of Participants who Recommended Business	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
male/female	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	o	o	o	o	o	o
Firm size - small/med/large	s	s	s	s	s	s	s	s	s	s	s	s	s	s	m	m	m	m	m	m	l	l
Client size - med/small/large	m	m	m	m	m	m	m	m	m	m	m	m	s	s	s	s	s	s	s	s	l	l
Speciality - audit/tax/both or consulting	a	a	a	a	a	a	a	a	a	a	a	t	t	t	t	t	t	t	b	b	b	b

While the numbers would indicate that more male auditors, from small firms and working on medium sized clients would prefer an MBA (or additional business courses) over a master’s in accountancy or tax, the correlation analysis does not indicate such a relationship exists. The highest correlation of the business recommendation with a group category is .32 for additional business with the specialty of audit. The other correlations are much lower and near zero. This was further tested with logistic regression as shown below.

Exhibit 5.8 - Binary Logistic Regression: MBA versus audit, male, med_1, small

Variable	Value	Count	
MBA	1	22	(Event)
	0	78	
	Total	100	

Logistic Regression Table

Predictor	Coef	SE Coef	Z	P	Odds	50% CI	
					Ratio	Lower	Upper
Constant	-2.69617	0.801348	-3.36	0.001			
audit	1.03211	0.598602	1.72	0.085	2.81	1.87	4.20
male	0.131042	0.555614	0.24	0.814	1.14	0.78	1.66
med_1	0.534642	0.534715	1.00	0.317	1.71	1.19	2.45
small	1.03287	0.628854	1.64	0.100	2.81	1.84	4.29

Log-Likelihood = -50.151

Test that all slopes are zero: G = 5.080, DF = 4, P-Value = 0.279

Goodness-of-Fit Tests

Method	Chi-Square	DF	P
Pearson	6.03825	11	0.871

Measures of Association:

(Between the Response Variable and Predicted Probabilities)

Pairs	Number	Percent
Concordant	991	57.8
Discordant	420	24.5
Ties	305	17.8
Total	1716	100.0

The above model fails to find P values of less than .05 (meaning that the variable is a significant predictor). It also has too low of a log likelihood. Binary logistic regression and correlation analysis was also performed for the preference of specialized accounting. No significant findings were noted in this analysis.

IV(D). Predicting audit versus tax

Since data was collected on the partner's specialty (audit, tax or business consulting), statistical tests were run to determine if there were differences between these groups in terms of the kinds of courses checked (not handwritten in) for audit partners versus tax partners. This analysis was also done for the question on critical thinking attributes and evaluation methods deemed to increase communication skills. The data was separated into these two groups – audit versus tax. Participants who checked both boxes were excluded from this analysis, leaving 79 participants to study.

The results showed strong correlations between what auditors thought and what tax accountants thought on all three questions (courses checked, critical thinking attributes, and evaluation methods contributing to communication skills). Correlation and TTEST analysis showed that these groups are not independent or statistically different. In addition, logistic regression was performed to identify any differences. The following model resulted.

Exhibit 5.9 - Binary Logistic Regression: Audit versus synthesize, partner, jump

Variable	Value	Count
audit	1	38 (Event)
	0	41
	Total	79

Logistic Regression Table

Predictor	Coef	SE Coef	Z	P	Odds	95% CI	
					Ratio	Lower	Upper
Constant	0.932224	0.446569	2.09	0.037			
synthesize	1.47510	0.676365	2.18	0.029	4.37	1.16	16.46
partner	-2.07018	0.555361	-3.73	0.000	0.13	0.04	0.37
jump	-1.60569	0.669971	-2.40	0.017	0.20	0.05	0.75

Log-Likelihood = -41.308

Test that all slopes are zero: G = 26.788, DF = 3, P-Value = 0.000

Goodness-of-Fit Tests

Method	Chi-Square	DF	P
Pearson	1.03726	4	0.904

This translates into an equation of:

Prediction of auditor = .93 + 1.457(synthesize value) - 2.07 (partnership tax value) - 1.605 (not jump to conclusions value)

These variables were also run to predict tax accountant and mirror results were obtained.

Prediction of tax accountant = .93 - 1.457(synthesize value) + 2.07 (partnership tax value) + 1.605 (not jump to conclusions value)

While both of these models have adequate P values for the predictors and a reasonable Pearson P value, the log likelihood and P value associated with the log likelihood is too low. Nonetheless the predictor variables are interesting. The critical thinking attribute of synthesize is more closely associated with audit. While the critical thinking attribute of – not jump to conclusions - is more closely associated with tax. It is no surprise that partnership taxation courses are more closely associated with tax professionals.

V. How this research can be used to meet a need, close a gap in knowledge and address the research objective

This research can be used by practitioners who mentor new hires or work with aspiring accountants, accounting curriculum developers/professors and college advisors.

First, it was noted that CPA partners value specialized knowledge and accounting courses. At the same time, this survey supports the fact that accountants also value communication skills and intellectual thinking skills in college courses.

Practitioners who mentor young people in accounting can use this information to advise their mentees to increase their accounting knowledge and skills in communication and intellectual thinking. Gathering knowledge and skills can happen in school and on the job, but also in how a new professional accountant chooses to use some of their free time, as well as time at work. Opportunities for expanding knowledge and skills may be found in volunteering, free on-line and self study courses, interactions with members of the firm, net-working and professional associations (such as Toastmasters, the AICPA). A curiosity for knowledge and gaining intellectual and communication skills can be encouraged through the mentee relationship and CPA firm culture.

Accounting educators should continue to weave in broad competency skills, such as communication and intellectual thinking into knowledge based accounting courses. The best evaluation methods for improving communication skills per these respondents are presentations, team projects, case studies, in-class group work and research papers.

Second, accounting educators and college advisers have more knowledge about the educational path of CPA partners. They can counsel students who have that as a career goal, to consider doing their additional 30 hours in a master's in accountancy, tax or MBA. This addresses the problem of – what should students who desire to become CPA partners study?

Third, this closes at least some of the gap in knowledge regarding the notion that the additional 30 hours could result in individuals broadly educated in liberal arts and then specially educated in accounting through a master's program. This is a proposed path that can be traced back to the late 1800's and was discussed in *Horizons* and the *Big 8 White Paper*. However, this is not a path that CPA partners have taken or recommend for future students.

VI. Summary of Chapter 5

This chapter showed how the research results tied into the research questions and synthesized the research survey results with themes of this dissertation. The results of this research show that public accountants value accounting knowledge (primary) and business knowledge (secondary), as the key benefits of taking an extra 30 hours of college credits. In addition, they believe that accounting courses prepare them to think critically. The path most CPA partners took (and for whom the 150-Hour Rule applied)

obtained their additional hours through a master's in accountancy, business or tax. This is also the path they recommend to future students.

Chapter 6: Critical Issues for Future Study and Limitations

This chapter discusses critical issues for future study and the limitations of this study.

I. Critical Issues for Future Study and Limitation

Three matters, in particular, stand out as requiring further study. The first issue is the matter of the cost of the additional 30 credits, the second is the matter of evaluation methods used in accounting courses and the third is the matter of addressing the individual student. The first two matters address the limitation that these issues, while tangential to the dissertation, were not its focus.

I(A). Cost of additional credits

The accounting profession would benefit from an expanded study of the costs of the 150-Hour Rule and how these costs have impacted certain groups – parents, employers and under-represented populations of students. The survey results indicate that a number of people paid zero, while others paid over \$40,000. Some participants included opportunity cost in their answer, while others indicated only tuition. Some questions that could be asked are – did students (who knew they wanted to be accountants when they started college) choose lower cost options (such as community college with a master's planned for later)? Did the additional cost deter middle class and minority students from considering the profession? Were scholarships available for economically disadvantaged students? How did parents and employers help with tuition?

As was pointed out in chapter two, investment in knowledge is less risky (in the sense of cost compared to estimated future discounted cash flows) when it is broad and doesn't depreciate. Certainly, some individuals invested in a master's in accountancy or tax and

yet did not succeed or did not end up staying in this field. What are their opinions on their investment in education? Did they find their master's degrees transferrable to other arenas? Did they find their skills transferrable to other professions?

I(B). Evaluation methods in accounting courses

CPA partners indicate that the evaluation methods most conducive to learning communication skills are presentations, team projects, case studies, and in-class discussions. As was pointed out in chapter two, having CLI³ (which stands for communication, learning to learn, integrity, inter-personal and intellectualization) is critical for accountants and communication is listed first due to its importance. How often do accounting and business course teaching methods reflect the kind of evaluation methods that foster communication skills? Should these teaching methods be used more often or are they being used often enough? With the increase in on-line offering, how are communication skills enhanced within the accounting course?

II. Addressing the individual student

This recommendation stems from the limitations of this study. The limitations are discussed first and then the recommendation for further study is discussed.

II(A). Limitations

This dissertation set out to gather information that would be useful to college educators, CPA partners, mentors who advise accountants and students in making decisions about what path to take to complete the additional 30 hours required to meet the 150-Hour Rule. The scope of the information gathered was narrow – specifically it looked at what the notion of AiU (accounting in use) as opposed to AiT. What is it one

sees in use - by practicing CPA's - in terms of the type of education obtained? The scope of the dissertation was not to determine an ideal education for accountants, but what was in use. The scope was further narrowed to look at just those at the top of the public accounting profession (i.e. partners and shareholders in CPA firms and who are also members of the AICPA). Hence, the conclusions of this dissertation are inherently less generalizable to accountants as a whole – including those who work and aspire to work in industry, government, non-profit organizations or CPA firms that do not wish to be affiliated with the AICPA.

In addition, the research did not address the educational profile of those who did not succeed in public accounting and yet wished to do so. Further, an individual student may benefit from taking a path of study unique to him/her irrespective of what is currently popular at the top of the profession. On top of that, significantly more than just education is involved in obtaining success in public accounting. Additional factors include socio-economic and inter-personal factors that were not a part of this dissertation.

II(B). Future study

Out of these limitations stems a further recommendation for future study. Any particular individual student (and depending upon their long-term goals) may require more than just the general advice of “get a master’s in accounting” to look like all the other partners. There may be courses that are particularly useful to students based on socio-economic factors and more tailored career interests. Further studies could investigate the factors that would lead one to recommend more specialized accounting, more liberal arts or more business courses.

Chapter 7: Executive Summary and Recommendations

Executive Summary

This dissertation set out to help students, educators (professors and advisors), and practitioners who mentor young accountants to make decisions regarding complying with the 150-Hour Rule. The dissertation is important because college is costly. If students must incur one more year of tuition fees and the opportunity cost of lost wages, then the additional education should help them to succeed in accounting. The dissertation is timely because the 150-Hour Rule is still relatively new and the accounting profession and state legislatures have (for the most part) not specified a course of study for the additional 30 college credits required (which exceed the typical 120 needed for a bachelor's degree).

One group of people, that had not previously been studied, is that of partners in CPA firms who had to comply with the 150-Hour Rule. The educational profile of these individuals represent accounting in use (AiU), as opposed to accounting as it is theorized (AiT). What is the view from the top (in use)? What path did CPA partners take to fulfill the 150-Hour Rule? What does their education look like in terms of courses and degrees?

To develop a survey that would gather information to describe the phenomenon of CPA partners' education, an extensive literature review was undertaken. This literature review looked at the views of accounting education going back to the 1800's and then forward to 2014.

It considered the fact that public accounting (particularly auditing) is noble, represents a profession with responsibilities to society and requires a license. The

auditing profession is part of the bedrock of the free market capitalist system in the United States, in that audited financial statements reduce information risk. The audit profession started in the United States in the late 1800's with New York State requiring a license to audit. This license was obtained through passing a rigorous exam. In other parts of the world, auditing is a new profession (e.g. Russia's began in the late 1900's). The fact that auditors are important to society is why the education of accountants has been a topic of considerable discussion over the past 130 years and why the education and licensing of accountants is a public matter.

Considerable discussion also ensues due to the fact that many groups are involved in the education of accountants. Beside the state legislatures (who establish licensing rules), there are also college and business educators (who must attract students and tuition dollars) and accountants not in public accounting, such as management accountants. Each of these groups (as well as individuals within these groups) do not all agree on the ideal education for accountants.

Despite lack of agreement, though, many themes regarding accounting education are apparent. In particular, besides technical knowledge, these skills are considered important for accountants to gain in college— **co**mmunication, **l**earning to learn, **i**ntellectualization (critical thinking), **i**nterpersonal abilities, and **i**ntegrity. This dissertation designates these attributes as CLI³.

In addition, there is sizable support for the notion that accountants must be more than technicians with requisite knowledge. Rather, they must “know when to speak out, when to be silent, how to say or write that which is necessary but awkward, courage to face up to the need for doing so, talent to be firm yet diplomatic, imagination to see beneath and

beyond the surface, perceptivity not only for what has happened but also for what may happen, constancy in ethical behavior, sagacity to avoid error of omission as well as those of commission; these another attributes like them are qualities not definable as knowledge but inherent in individuals (Roy & MacNeill, 1967)". These "not definable qualities" are the support for public accountants receiving a broad education. Throughout accounting education's history, there have been advocates that believe these qualities can be best developed by a liberal arts education followed by a technical education in accounting.

At the same time, accounting has a long history of being a profession that is learned through practice – from the tacit passing on of knowledge and ability to make judgmental decisions – from one accounting professional to another. Indeed accounting knowledge is built within accounting firms. The common body of knowledge (just in accounting technical matters) is large. Hence, there are advocates that believe that any additional time spent in college should be on technical matters to prepare them to work in firms.

Further, it has been recognized (particularly recently) that accountants must have extensive knowledge of business in order to do their work well. Therefore, accountants require significant education in broad business matters.

The expanding common body of knowledge required of accountants along with failed audits in the 1970's, led to the belief that the typical 120 hours of education needed for a bachelor's degree was insufficient. Accountants needed 150 hours and so laws were passed requiring such amount. There were and are advocates who believe that the additional 30 hours are best spent devoting more time to specialized accounting matters (sa), more time to liberal arts (la), and more time to general business (bu). From that one

can build three different ways in which structure an accounting education. Each way has a different emphasis for the additional 30 hours.

1. Specialized accounting emphasis – CLI³-sa
2. Liberal arts emphasis – CLI³-la
3. Business emphasis – CLI³-bu

As was mentioned earlier, college education is a costly investment. It is known through research in the MIS field that broad education (as opposed to specialized) is a better candidate for investment in knowledge through college. Broad knowledge has a greater salvage value and does not depreciate as easily. Further, MIS literature indicates that investment in explicit knowledge has a greater risk of return on the cost of the investment than, tacit knowledge, learned on the job for a specific purpose (Ryu, et. al, 2005). Therefore, it is fitting that the question of what should be studied to obtain the additional 30 credits is carefully considered by students, educators and accounting practitioners.

By looking at the view from the top (i.e. CPA partners) and how they obtained their additional 30 credits, insight is provided into the matter. Accounting is a dynamic profession. The kinds of individuals found in CPA firms (including their educational backgrounds) affects how accounting is practiced and the body of accounting knowledge advanced. This in turn influences who is attracted to the field of accounting (Roy & MacNeill, 1967). The view at the top can be used to inform individuals thinking about entering accounting.

What was found out about the view at the top? To answer this question, 6,238 surveys were sent to partners in CPA firms who are members of the AICPA. These partners were

44 years old and younger and resided in 39 states where the 150-Hour Rule had been law for at least 11 years. A total of 100 surveys were returned (1.62% response rate). The characteristics of the sample of surveys returned, was compared to characteristics of the AICPA population list. Through a chi square test and qualitative evaluation, it was determined that the survey was both reliable (representative of the population) and valid.

The following was discovered about those partners at the top of the profession:

- Most CPA partners have a bachelor's degree in accounting (99%).
- Many (44%) of the CPA partners for whom the 150-Hour Rule applied (52 out of the 100 surveys) have a master's degree in accounting or tax. Another 21% have a master's in business administration. About 17% of those CPA's for whom the 150-Hour Rule applied, also have degrees or minors in liberal arts subjects.
- The 150-Hour Rule has had a significant impact on the educational profile of the profession. If the Rule did not apply, then only 21% of partners had graduate degrees. If the Rule did apply, then 67% had master's degrees.
- When asked about the key benefit of the Rule, CPA partners cite knowledge as the key benefit (52%). Only eight surveys out of the 100 received cited no benefit of the 150-Hour Rule. Another 42% cite a variety of other benefits such as confidence/maturity, communication skills, distinction/status and professional judgment.
- When asked about the best use for the additional 30 credits, 71% believe that specialized accounting knowledge should be the focus, 22% believe the focus should be business and 7% believe it should be liberal arts.

- When provided a list of specific courses, CPA partners again recommend specialized accounting courses for the additional 30 hours. However, courses in leadership and communication were also considered a good use of the additional credits by over one-third of the survey participants.
- CPA partners believe that intellectual thinking is the same as critical thinking (90%). In addition, over half of survey participants also cite the ability to define problems, gather data, listen, make judgments and think independently as aspects of critical thinking.
- The college undergraduate courses where CPA partners believe that they learned intellectual thinking were primarily in accounting (49% of courses handwritten by participants) and business courses (31% of handwritten courses) and liberal arts courses (20% of those listed).
- Half or more of CPA partners believe that the following evaluation methods helped them to increase their communication skills - presentations (80%), team projects (60%) and case study/simulation (59%).
- Liberal arts courses were handwritten more often than accounting or business courses as beneficial to gaining communication skills. Of the courses handwritten in by participants - 38% were liberal arts, 32% business and 30% accounting.
- The average cost (not borne by parents or employers) for obtaining the additional 30 credits was about \$14,000 with a standard deviation of \$15,000. When the participants who listed zero cost and also opportunity costs are removed from the sample, the average cost becomes about \$12,000 with a standard deviation of about \$10,000.

Comparison of the educational profile of CPA partners with the new hire data accumulated by the AICPA indicated that CPA partners were ahead of the trend in obtaining master's degrees. In other words, they obtained master's degrees in larger percentages than peers starting out in the profession.

The conclusion is that the view from the top indicates a trend towards obtaining a master's in accounting and a high value placed on gaining specialized accounting knowledge (followed by a master's in business and business knowledge). There is little support for obtaining the additional 30 credits in liberal arts.

Recommendations

Recommendation to students and those who advise students follow.

To Students and Those Who Advise and Mentor Students

The view from the top is that CPA partners have master's degrees in accountancy, business and tax and further that CPA partners value the knowledge obtained from courses in specialized accounting (primarily) and business (secondarily) over courses in liberal arts. If a student wishes to become a partner in a CPA firm and also wishes to have the kind of credentialing that is most common among his/her peers, then it will behoove a student to make this decision as soon as possible after high school. In this way the extra costs of the master's degree can be planned for and elective credits can be used to add to a student's specialized knowledge about accounting and business. However, this recommendation should not be construed as an endorsement of what is best for any individual student or for the public accounting profession, as a whole. Those matters are outside of the scope of this dissertation.

To Educators

CPA partners value the specialized knowledge they obtain through their accounting and business courses. CPA partners believe that their accounting courses fostered critical thinking and communication skills. At the same time, it is recognized that it takes more than knowledge to be a professional. Indeed, as was pointed out in chapter two, the role of the auditor is noble - wisdom, imagination and courage are required. Accounting and business educators should incorporate key skills (CLI³) into their courses in order to prepare accounting students to be professionals. Yet, at the same time, gaining knowledge about accounting first, and business second, is a concurrent goal.

To Society

The bar has been set higher for those entering public accounting. Indeed, not only are an additional 30 credits, required, but those credits may need to be taken in master's in accounting, tax or master's in business programs to ensure success and promotion to the partner level in CPA firms. Graduate credits are often more costly than undergraduate credits. Steps need to be taken to ensure that minorities and under-represented groups have access to those costlier graduate credits, so that the profession is comprised of diverse individuals and can serve a diverse society.

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Appendix A – Survey Instrument



October 1, 2014

Saint Paul Campus

700 East Seventh Street
Saint Paul, Minnesota
55106-5000

www.metrostate.edu

CPA Partners and Leaders,

As someone who has made it to the top of the CPA profession, you are in a great position to provide your opinions and experiences regarding how to get the most value from the additional 30 semester credit hours necessary to be licensed under the 150-Hour Rule. You understand the time and expense for an additional year of college education. Which additional college courses make it worth it?

Share your opinions with accounting educators by filling out this brief survey.

Help accounting students spend college dollars wisely

This survey was designed knowing your time is extremely valuable. Based on your memories and perceptions, please answer six questions (in just a few minutes) on the additional 30 semester credit hours. Then, weigh in your opinions on intellectual thinking and communication. The results of the survey will help educators counsel students regarding how to make the most of the additional 30 hours and spend their college dollars wisely.

Improve the accounting profession's talent pool

People are the accounting profession's most valuable asset – won't you take a few minutes to share your opinions on the professional development of accountants at the college level? This survey is being conducted on a national basis as part of doctoral dissertation research. Your opinions will be accumulated with others and confidentially submitted for publication so that accounting educators and practitioners can benefit from your experience. You can potentially improve the talent pool available to your firm by saying what you think in the short attached survey.

Talented and educated people are the accounting profession's greatest asset.

If you have any questions, please do not hesitate to contact me at my cell phone 612-584-8524.

Best regards,

Linda McCann, MBA, CMA, CPA
Assistant Professor

Please take a few minutes now to gain the satisfaction of helping accounting students. Then drop the survey in the postage-paid envelope today or no later than October 31. Thank you

More college takes time and expense. You can help students make the most of the additional 30 credits

Pre-Survey Disclosures and Contact Information

The following disclosures are required for this academic research survey. The primary benefit of your participation is your personal satisfaction in knowing that you are helping to improve accounting education. In addition, you may request a copy of the results. You were selected as a participant due to your subscription to a professional journal. The survey takes five or more minutes to complete, depending on the number of questions you choose to answer. The study is being conducted by doctoral student, Linda McCann, MBA, CMA, CPA under the faculty direction of Adrienne E. Slaymaker, D.B.A., CPA, both of Metropolitan State University (Minnesota).

Your voluntary responses are confidential and will not be reported or published in a manner that permits identification of research participants. If you have any questions regarding the survey, the researcher can be contacted at Linda.McCann@metrostate.edu (612-659-7263 or 612-584-8524). You can also contact Metropolitan State’s Human Subjects Review Board at hsrb@lists.metrostate.edu or the faculty adviser at Adrienne.Slaymaker@metrostate.edu.

Gain the satisfaction of helping to improve accounting education with your confidential responses.

Six Short Questions on the additional 30 hours

- 1) In my opinion, the key benefit of the additional 30 hours (required to meet the 150-Hour Rule) is the opportunity for accounting students to develop additional (check one):
 - Confidence/Maturity Communication skills Distinction/Status Knowledge Professional judgment
 - Other (specify) _____

- 2) The additional 30 hours (above the 120 needed for an undergraduate degree) should be used to study matters that are (check one):
 - Broad and liberal arts based
 - Specialized and accounting based (including masters in accounting or tax)
 - Business management based (such as information systems, finance, MBA)
 - Other (specify) _____

- 3) I have the following educational credentials (check all that apply):
 - BA in accounting BS in accounting
 - BA or BS other (specify major) _____ (additional major) _____
 - Bachelor’s degree with minors (specify minor) _____ (additional minor) _____
 - Additional semester credits not leading to any specific degree. Approximate # of credits over 120 hours _____
 - MBA Law degree Master’s in accountancy Master’s in tax
 - Other master’s degree (specify) _____
 - Master’s degree concentration (specify concentration) _____
 - Doctoral level degree (specify) _____

Questions on the additional 30 credit hours (continued)

4) The most worthwhile way to complete the additional 30 hours to meet the 150-Hour Rule is additional course work in the following: (check all that apply).

- Communications
- Buyer Behavior
- Big Data Analytics
- Accounting Research
- Creative Arts
- Economics
- ERP/Database Mgmt
- Advanced Cost Accounting
- English/Writing
- Leadership
- Financial Modeling
- CPA Exam Review
- Ethics
- Research Methods
- Financial Risk Mgmt
- Forensic Auditing
- Foreign Language
- Project Management
- Options/Derivatives
- Mergers and Acquisitions
- History
- Organizational Theory
- Portfolio Analysis
- Partnership Taxation
- Science
- Strategy
- Statistical Analysis
- Wealth Transfer Taxation

Other courses you would recommend (including new courses or topics you would recommend be offered).

Talented employees are your greatest asset.

What courses give students the most value for the additional cost of 30 credits?

5) If the 150-Hour Rule applied to you, what specialized or unique courses did you take that made the extra 30 hours worth it (i.e. specialized like fraud examination or unique like philosophy)? Check one.

- 150-Hour Rule did not apply
- No additional course(s) stand out as worth it
- Additional course(s) were worth it! Especially, the following course(s):

What additional course(s) to comply with the 150-Hour Rule were worth it to you?

Course _____

Course _____

Course _____

Note: Answer questions based on your memory right now – if nothing comes to mind, leave it blank.

6) If the 150-Hour Rule applied to you, what do you estimate was the additional unreimbursed cost to you personally (e.g. not your employers or parents)?

\$ _____

Does this amount include (check all that apply to the amount you put above)?

- tuition
- room & board
- opportunity cost

Five Short Questions on Intellectual Thinking and Communication

1) Intellectual thinking has been identified as a key skill of accounting professionals. In your opinion, intellectual thinking is composed of the ability to do (check all that apply):

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> accept change | <input type="checkbox"/> listen | <input type="checkbox"/> recognize personal bias | <input type="checkbox"/> tolerate ambiguity |
| <input type="checkbox"/> define problems | <input type="checkbox"/> make judgments | <input type="checkbox"/> reflect | <input type="checkbox"/> solicit diverse views |
| <input type="checkbox"/> empathize | <input type="checkbox"/> negotiate | <input type="checkbox"/> think independently | <input type="checkbox"/> synthesize ideas |
| <input type="checkbox"/> gather data | <input type="checkbox"/> not jump to conclusions | <input type="checkbox"/> think critically | <input type="checkbox"/> value truth |

Other (specify): _____

2) In thinking about your college or university undergraduate experience, please consider the top one to three professors who instilled intellectual thinking (any subject). Which course(s) did these professors teach?

Course 1 _____ Course 2 _____ Course 3 _____

3) In thinking about your college or university graduate experience (if any), please consider the top one to three professors who instilled intellectual thinking. Which course(s) did they teach?

Course 1 _____ Course 2 _____ Course 3 _____

4) During your college experience, your ability to communicate was increased through the following evaluation methods (check all that apply):

- | | | |
|--|---|--|
| <input type="checkbox"/> case study/simulation | <input type="checkbox"/> presentations | <input type="checkbox"/> none, college courses did not improve my ability to communicate |
| <input type="checkbox"/> essay questions | <input type="checkbox"/> reflective papers | |
| <input type="checkbox"/> in-class group work | <input type="checkbox"/> research papers | |
| <input type="checkbox"/> making and relaying judgments | <input type="checkbox"/> short answers to homework problems | |
| <input type="checkbox"/> multiple choice questions | <input type="checkbox"/> team projects | |

5) During your college graduate or undergraduate experiences, these course(s) gave you the skills to communicate as a CPA.

Course 1 _____ Course 2 _____ Course 3 _____

Almost done – a minute or two about you

1) My professional expertise is most closely aligned with the following:

- Audit/assurance Tax
- Management consulting (specify type) _____
- Other (specify type) _____

2) My firm size most closely resembles:

- Sole Proprietor Small/Local Medium/Regional Large/National

3) I typically describe to others the size organization (client) I typically work with as:

- Individual Small Medium Large

4) I was originally licensed as follows:

State _____ Year (approximate) _____ Not applicable _____

5) My position is:

- Partner Shareholder Director Other (specify below) _____

6) Gender:

- Male Female Prefer not to answer.

7) (Optional) I would like to add the following comments to help students and educators make the most of the extra education required for the 150-Hour Rule:

(Optional) I would like a summary copy of the results e-mailed or mailed to me.
(To maintain confidentiality, please enclose your business card or a separate piece of paper with your e-mail address on it.)

Drop this survey in the enclosed postage-paid envelope and put in the mail now! Thanks!

Thank you for contributing to the dialog on accounting education!

Linda McCann, MBA, CMA, CPA
Assistant Professor
Metropolitan State University
700 East Seventh Street
St. Paul, MN 55106-5000

FIRST CLASS MAIL

CPA partner
At CPA partner address on file (home or office)
At CPA city, state and zip

An additional 30 credits – What makes it worth it?

For the return envelope, use Metropolitan State's image for the #9

Appendix B – HSRB Application Cover Page and Approval



Human Subjects Review Board

RESEARCH REVIEW COVER PAGE

Project Title: 150 Hour Rule – Paths and Perspectives

Name of Principal Investigator(s) and role (e.g. faculty, student, etc.) Linda McCann - faculty and doctoral student, Adrienne E. Slaymaker, D.B.A. – doctoral adviser

Department/College: College of Management

Metropolitan State University E-mail address(es)

linda.mccann@metrostate.edu, Phone # 952-303-3632, Responsible Project Investigator (RPI) (faculty/staff sponsor for student research)

Adrienne.slaymaker@metrostate.edu, phone # 231-873-8473

The above named investigators and associates are submitting an application that describes a proposed research study involving human subjects, including its purpose and the information to be collected. It also describes the provisions for confidentiality and for the security of individually identifiable records and record information. The investigators and associates will report and/or publish research findings and conclusions in a manner that does not permit identification of research participants (i.e., subjects). The investigators and associates will destroy any individual identification associated with the records and record information as soon as the purposes of the research project have been accomplished. The investigator(s) and associates will assure that the procedures described in the study will be carried out as described. The study design shall not be altered in any form without written approval of the HSRB. Any problems or adverse consequences to subjects will be immediately reported to the HSRB. No research will be conducted, including recruitment of participants, until this proposal has been reviewed and the research approved by the HSRB. In the event the investigators or associates fail to comply with any terms of this agreement, the HSRB has the right to take such action as it deems appropriate, including stopping the research project

The commitments made in the foregoing statements are hereby acknowledged and accepted:

Investigators' and Associates' Names	Signatures	Date
Linda McCann		7/31/14
Adrienne E. Slaymaker, D.B.A.		07/31/14



Human Subjects Review Board
NOTICE OF APPROVAL

Date: August 13, 2014

TO: Dr. Adrienne Slaymaker, Linda McCann

FROM: Dr. Brian Goodroad, HSRB Chair

RE: HSRB Application #05 150 Hour Rule – Paths and Perspectives

The Human Subjects Review Board has reviewed and approved the research proposal referenced above.

The approval is good for one year from the date noted on this memo. As the responsible project investigator of this study, you assume the following responsibilities:

CONTINUING REVIEW: You are required to apply for renewal of approval at least once a year for as long as the study continues. The enclosed **Research Status Form** is used for this continuing review. If you complete your research prior to the end of the year of approval, please complete and submit the enclosed **Research Completion/Termination Form**.

AMENDMENTS: Investigators are required to report any changes to the research study, including study design, subject recruitment procedures, consent forms and procedures, and subject population (including size). New procedures must not be implemented without review and approval of the HSRB. Minor protocol amendments must be requested from the HSRB on the enclosed Research Minor Modification form. Major modifications require the investigator to submit a new application.

ADVERSE EVENTS: Adverse events are unexpected problems whose nature, severity, and frequency are not described in the information provided to the HSRB or to subjects. Examples include unexpected complications for a subject, missteps in the consent documentation, or breaches of confidentiality. As the responsible project investigator you are responsible for reporting any adverse events to the HSRB within 10 working days of the event.

KEEPING RECORDS: Researchers must maintain a file of all documents concerning the use of human subjects in research for at least three (3) years. The documents that researchers must have on file include: 1) a copy of the original application submitted to the HSRB, 2) the HSRB notice of approval or approval renewal, and 3) copies of all other correspondence with the HSRB. HSRB records are subject to inspection by federal authorities. Sanctions for incomplete or nonexistent records include suspension of funding, fines, and exclusion from future funding. For further information regarding the above, please consult the HSRB website at www.metrostate.edu/hsrb.

RE: HSRB #14: 150 Hour Rule- Your response needed by Sept 8

Brian Goodroad

Wed 8/27/2014 1:15 PM

To: Linda McCann <Linda.McCann@metrostate.edu>; Adrienne Slaymaker <Adrienne.Slaymaker@metrostate.edu>;

Cc: herb <herb@metrostate.edu>;

Dear Ms. McCann and Dr. Slaymaker,

I have reviewed your minor modification form and find that the changes do not pose additional risk to participants. These modification are approved. You should receive notification from Nancy Traen in the Provost's office via email soon.

Thank you so much for your application and I wish you the very best of luck on your research project.

Sincerely,

Brian Goodroad

HSRB Chair



Human Subjects Review Board
NOTICE OF APPROVAL

Date: September 22, 2015

TO: Dr. Adrian Slaymaker, Linda McCann

FROM: Katherine Johnson, HSRB Chair

Two inadvertent typing errors were made on this document - first, on the spelling of Dr. Slaymaker's first name (which should be Adrienne) and second on the date (which should be 2014). This formal letter was received after the e-mail indicating approval of the minor modification. See e-mail above. Approval for the minor modification was obtained in 2014 before the survey was mailed in October.

RE: HSRB Application #05 150 Hour Rule – Paths and Perspectives Modification

The Human Subjects Review Board has reviewed and approved the modification to the research proposal referenced above.

The approval is good for one year from the date noted on this memo. As the responsible project investigator of this study, you assume the following responsibilities:

CONTINUING REVIEW: You are required to apply for renewal of approval at least once a year for as long as the study continues. The enclosed **Research Status Form** is used for this continuing review. If you complete your research prior to the end of the year of approval, please complete and submit the enclosed **Research Completion/Termination Form**.

AMENDMENTS: Investigators are required to report any changes to the research study, including study design, subject recruitment procedures, consent forms and procedures, and subject population (including size). New procedures must not be implemented without review and approval of the HSRB. Minor protocol amendments must be requested from the HSRB on the enclosed Research Minor Modification form. Major modifications require the investigator to submit a new application.

ADVERSE EVENTS: Adverse events are unexpected problems whose nature, severity, and frequency are not described in the information provided to the HSRB or to subjects. Examples include unexpected complications for a subject, missteps in the consent documentation, or breaches of confidentiality. As the responsible project investigator you are responsible for reporting any adverse events to the HSRB within 10 working days of the event.

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