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An Analysis of Advanced Accounting Students' Perspectives of their Professional Skills  
Before and After Using Computer-Assisted Instruction

by

Susan Lightweis

M.S. Accounting, Long Island University, 1989

B.S. Ed., Wagner College, 1977

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Administrator Leadership for Teaching and Learning

Walden University

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## Abstract

Research indicates conflict between current instructional and learning processes and professional accounting approaches in the area of critical thinking, communication, and problem solving skills. The purpose of this study was to understand how advanced accounting students describe their skills before and after using a learning tool in order to help bridge the gap between accounting education and the profession. This study was based upon the experiential learning model, which posits learning by doing authentic task work. A qualitative exploratory case study approach including semi-structured interviews conducted before and after computer use and participant reflective journals was employed for data collection. Data were analyzed according to Hatch's interpretive analysis model. Findings included that students made a connection between the concepts learned in school and real-world situations found in the accounting profession while gaining hands-on experience. The experience demonstrated that the simulation built confidence and motivated students to learn more through real-world scenarios to improve skills. The positive social change from the results of this study provided accounting educators with insight on how to help students gain the necessary skills for the profession. Accounting graduates may be better prepared to meet the challenges and expectations of the profession. This in turn will help creditors, investors, and the public feel secure in knowing that organizations are reporting financial information that is relevant and reliable. Additionally, with more accounting graduates being sufficiently prepared to meet the challenges of the profession, future financial scandals may be mitigated.



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## Dedication

This doctoral study is dedicated to my father, Donald E. Renken, who taught me valuable lessons early in life. The importance of education instilled in me was the motivation to accomplish so much. You continue to be the inspiration for greatness even though you are no longer here. Even though you are gone, clearly you have not been forgotten.

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## Section 1: Introduction to the Study

The financial scandals involving Enron and WorldCom in the early part of the 21<sup>st</sup> century resulted in the passing of the Sarbanes-Oxley Act (SOX) of 2002 (Guyette, 2008). Even though this legislation mitigated scandalous behavior, the recent financial fraudulent scheme perpetrated by Bernard Madoff in 2008 continues to demonstrate that the public and investors rely on the professional opinions of members of Certified Public Accounting (CPA) firms (U.S. Securities & Exchange Commission, 2009). Certified Public Accountants are pressured now more than ever to be equipped with the necessary critical thinking and problem solving skills to properly evaluate evidence used to form the basis of financial statements. Also, CPA firms have a professional responsibility to understand and adhere to the SOX legislation. If a CPA firm is found negligent, the legislation imposes fines, penalties, and imprisonment. It is important for both CPA firms and the organizations they audit to keep non-compliance issues out of today's headlines in order to stay viable and competitive (Mastracchio, 2007). Since companies have to comply with strict requirements and achieve annual strategic objectives, CPA firms have the in-depth knowledge to analyze the financial position of many organizations faced with complex challenges and opportunities (Mastracchio, 2007). Additionally, these CPA firms and other business organizations need to hire accounting students after graduation who can demonstrate critical judgment and problem solving skills to identify, assess, and solve increasing complex business challenges (Damitio & Schmidgall, 2007; Guyette, 2008; Mastracchio, 2007). As practitioners provide important financial information that is crucial to an organization's success or failure, accounting students will need to develop strong communication skills to convey this

information with confidence to the organization's top management (Burns & Bloom, 1981; Sharifi, McCombs, Fraser, & McCabe, 2009).

Previous researchers (Guyette, 2008; Jonick, 1998; Smith, 2006) determined that a gap between the skills that accounting students bring into the business world after graduation and what practitioners need is as wide as ever. University learning outcomes are not changing to meet the demands of today's business challenges. More often than not, accounting courses are taught by lecture and recitation (Guyette, 2008; Jonick, 1998). This is a concern for both accounting education and the profession. Blayney and Freeman (2008) stated that other learning resources could be utilized to enhance learning experiences. Therefore, a proactive stance must be a priority for any instructor teaching accounting to provide additional activities that can create challenging situations that mimic the business world. Students learn the challenges of the accounting profession through real world applications. It is important for accounting educators to help develop and enhance a professional skill set that includes a learning approach imbedded in computer-assisted instruction. If additional learning activities are not developed in accounting education, the gap between accounting educators and practitioners will continue to exist.

This study addressed the problem of accounting educators at a university in North Carolina who teach by lecture and recitation and accounting students who learn by rote memorization. These instructional and learning approaches do not allow students to develop or enhance professional skills that may make them valuable, contributing members to organizations at the onset of employment (Sharifi, McCombs, Fraser, & McCabe, 2009). Instead, accounting graduates enter the work force under-prepared. Sharifi, McCombs, Fraser, and McCabe (2009) believed that university accounting curriculums do not focus on developing adequate skills in

critical thinking, communication, and problem solving. Furthermore, university accounting curriculums and pedagogical methods do not focus on how students can apply their knowledge through activities. These activities are important to implement as students may gain the valuable experience they will need to work as successful employees in the business world. Ballantine, Duff, and Larres (2008) stated that there has been little research on interventions that promote skill development in accounting education. The lack of research studies to help accounting educators become knowledgeable about how to integrate activities into their courses further exacerbates the problem facing accounting students.

Researchers have identified significant gaps between accounting curriculums and practitioner needs (Kavanagh & Drennan, 2008; Smith, 2006). Practitioners feel accounting education had become obsolete and are concerned about the value of graduates' educational backgrounds. University pedagogical methods for the last 40 years continue to place emphasis on teaching theories and concepts in order for students to pass the CPA exam (Ballantine, Duff, & Larres, 2008). Kavanagh and Drennan believed that it is the university's responsibility to prepare students with necessary skills before graduation. Sharifi, McCombs, Fraser, and McCabe (2009) stated that accounting course designs should incorporate skill development. Smith indicated that both practitioners and accounting educators agreed that not enough classroom time is devoted to developing skills such as problem-solving in diverse and unstructured situations, written communications, and analytical thinking. Smith also provided the opportunity for accounting educators, practitioners, and accounting graduates to rate effective teaching methods. The most popular and effective techniques cited for both the practitioners and accounting graduates involved experiential exercises or learning by doing authentic task work

during classroom time. On the other hand, Smith noted that accounting educators believed that lectures are the most effective teaching method. Until there is an agreement between accounting educators and practitioners on what teaching techniques are most effective for accounting students, there continues to be a recognizable gap. Smith recommended that a possible solution would be for universities to include skill development in accounting degree programs.

Guyette (2008) suggested that not only is accounting education ineffective in preparing accounting graduates for the work force, but accounting students who are serious enough to take and pass the CPA exam must understand that the profession requires lifelong critical thinking and problem-solving skills in order to competently understand and rely on evidence used to form the basis for financial statements. Smith (2006) concurred explaining that "accounting practitioners wanted special emphasis placed on how to 'learn to learn' because graduates in the workplace must continue to learn throughout their professional career" (p. 20). Accounting educators must recognize that developing professional skills in students while they are still in school help instill a practice that becomes routine as they transition into the business world (Cheng, 2009; Coulson & Thomson, 2006; Gammie, Gammie & Cargill, 2002; Hurt, 2007; Kavanagh & Drennan, 2008; Morris & Puttee, 2006; Springer & Borthick, 2007).

The United States Department of Labor published the Occupational Outlook Handbook (2009), which reports a rather favorable outlook for accounting and auditing jobs during the next decade. Accounting graduates are not bound by seeking employment at CPA firms or accounting positions. These graduates may look at other occupations. These job positions include budget analysts, financial analysts and advisors, tax examiners, and bookkeeping and accounting clerks. All employment in the accounting or related fields affect financial

information and reporting. The growing demand for accountants requires that accounting educators create learning opportunities for students to engage in authentic task work. These learning opportunities may develop or enhance professional skills in accounting students. It is essential that accounting graduates are prepared with skills to help their organizations analyze and report financial information with a high level of integrity. In possessing professional skills, accounting graduates can become contributing practitioners in a complex and challenging business world.

The focus of this study was advanced accounting students' perspectives of their professional skill levels in relation to the challenges that accounting education and the profession are currently experiencing. The research question for this study was how do accounting students perceive their professional skills before and after they complete computer-assisted instruction?

This study used the experiential learning model or learning by doing through authentic task work. The authentic task work was the computer-assisted instruction that includes professional skill training. Further discussion on the experiential learning model in section 2 provides a look at the historical development of the model and how the model is used to enhance the learning process.

### **Problem Statement**

In this study, I addressed the problem of accounting educators in a North Carolina university who teach by lecture and recitation which result in accounting students who learn by rote memorization. I analyzed advanced accounting students' perspectives of their professional skills before and after computer-assisted instruction. I determined that experiential learning or learning by doing authentic task work created an approach for accounting students to develop or



enhance professional skills they need as accounting practitioners. Current research indicates that there is an ongoing concern regarding accounting graduates who do not have adequate skills to meet the challenging issues in the business world (Damitio & Schmidgall, 2007; Guyette, 2008; Kavanagh & Drennan, 2008; Sharifi, McCombs, Fraser, & McCabe, 2009; Smith, 2006).

Although this issue was raised more than 23 years ago in professional and governing committee reports (Accounting Education Change Commission, 1990; American Accounting Association, 1986; American Institute of Certified Public Accountants, 1998; International Federation of Accountants, 1996), the recommendations are still consistent with the problem that is presented in this study. The authors of the reports recommended that accounting graduates must develop the necessary skills in order to meet the complex challenges of the profession. This study also supported accounting educators who need to change their instructional processes in favor of a learning approach that optimizes students' learning experience in accounting.

### **Nature of the Study**

In this qualitative exploratory case study, I analyzed advanced accounting students' perspectives of their professional skills before and after computer-assisted instruction to determine how accounting educators can provide the development of these skills during students' degree programs. One possible solution was exploring a process. Case study research examines a process and provides information that is central to the problem. Additionally, case studies provide rich, thick descriptions of the research setting and can specifically focus on the relationships developed from the phenomena. For this exploratory case study, relationships between student perspectives of their skill levels and computer-assisted instruction provided information for accounting education and the profession. Each participant constituted an

exploratory case study, so there were multiple perspectives regarding skill perspectives and the use of computer-assisted instruction.

One goal of this exploratory case study was to determine how students describe their skill levels both before and after computer-assisted instruction. Another goal was to explore computer-assisted instruction as a learning tool that can be used in accounting education to enhance skill development. Information derived from this study benefits accounting students, accounting educators, and the profession as they seek real world tasks and activities promoting positive student skill level perspectives that align with a challenging career.

### **Research Question**

How do accounting students perceive their professional skills before and after they complete computer-assisted instruction?

Interviews and reflective journals allowed me to analyze students' perspectives of their skills before and after computer-assisted instruction. There is further discussion of the methodology used in this study in chapter 3.

### **Purpose of the Study**

The purpose of this exploratory case study was to analyze advanced accounting students' perspectives of their professional skills before and after computer-assisted instruction. Students who use computer-assisted instruction that includes professional skill training perceived themselves exhibiting an improvement in critical thinking, communication, and problem solving abilities that meet the challenging issues in the business world.

Previous research in the area of computer-assisted instruction provides valuable information on the positive effects of using this type of instruction to achieve a higher level in

students' competencies. Townsend (2006) studied the effect of providing a computer tutorial to students enrolled in an accounting course and whether this tutorial improved their understanding of the accounting concepts. Afterward, a posttest was distributed to these students. Positive indications in test scores proved that this learning tool is a great supplement to course materials. Although this tutorial allowed students to proceed at their own learning rates, the lack of proper computer skills made the initial navigation difficult. Handy (2003) posited learning accounting and the use of technology as a dual benefit. Accounting students can reap the benefits from this type of learning as the business world is highly driven by technology. Handy further stated that in using computer-assisted instruction, the instructors spend less time teaching and more time facilitating inquiries students make on evaluating alternatives and solving problems that emerge during these computer sessions. Valentine and Ivey (2009) used a tutorial program that incorporated a problem finding activity to increase problem solving skill development. The tutorials were developed to deal with students' confidence levels in dealing with ambiguity and uncertainty. The more students worked through these tutorials, the more confident they became when dealing with unstructured situations. Esmond-Kiger and Kirch (2003) demonstrated that computer-assisted instruction provided opportunities to enhance communications skills in their students, along with critical thinking and decision making skills. The positive effects of learning through this medium engaged the student and created enthusiasm for learning. The important aspects of creating a positive learning environment and building skills through computer-assisted instruction should become more available to accounting students at all colleges and universities.

## Conceptual Framework

The conceptual framework that was used to justify this study is the experiential learning model. The foundation for this theory stems from Dewey's (1938) perspectives about the role of experience. This is an important connection that can build a foundation for learning and developing professional skills. Dewey stated that students must experience continuity and interaction in order for learning to occur. A learner moves forward only when past experiences interact with a present situation and an understanding that influences what is experienced in the future occurs. One gains experience in learning accounting concepts by continually practicing them. The experiential learning theory posits learning by doing. Kolb (1984) promoted the experiential learning model in defining how learning occurs as "the process whereby knowledge is created through transformation of experience" (p. 38). The experiential learning model allows the student to become actively involved in authentic task work to transfer the knowledge of what they learned to life outside the classroom (Esmond-Kiger & Kirch, 2003; Marriott, 2004; Morris & Puttee, 2006; Springer & Borthick, 2007; Tolbert-Bynum, 2007). In order to engage in experiential learning, researchers have developed and implemented a form of computer-assisted instruction (Handy, 2003; Marriott, 2004; Townsend, 2006; Springer & Borthick, 2007). Computer-assisted instruction provides a venue for students to engage in real world situations. Students sit in front of a computer and are immersed in what the instructions are asking them to do. Learning comes on an individualized basis and is used to facilitate future experiences.

These researchers were devoted to helping accounting students develop skills. These positive findings promote others, like me, to think how computer-assisted instruction using experiential learning will help students develop their professional skills while still in school. As

advanced accounting students, they should exhibit critical thinking, communication, and problem solving skills that allows for an easy transition into the profession. Throughout students' degree programs, accounting courses teach theories along with real world stories in textbooks to provide a foundation that can be built upon. At the senior level, students have the foundation but little or no opportunities to practice their knowledge. As previous researchers (Handy, 2003; Marriott, 2004; Townsend, 2006; Springer & Borthick, 2007) demonstrated, using computer-assisted instruction helped students practice their knowledge. Students learn by doing, which is the underlying premise of the experiential learning model.

Therefore, the value of computer-assisted instruction in my research study was based upon the experience each student had and told a story of how they perceived their skills before and after using this learning technique. Students were able to build their own learning experience from the knowledge gained in past accounting courses. While previous researchers (Guyette, 2008; Jonick, 1998; Smith, 2006) indicated that there is a gap between accounting education and the profession, my research provided an insight into students' perspectives of their skills. This information helps future researchers to build studies around the skills students actually have while still in school and build learning tools to help strengthen these skills.

### **Definition of Terms**

The following terms brings consistency to the study, as defined:

*Communication skills:* Communication skills for the accountant involve both oral and written processes (Burns & Bloom, 1981). Communication encompasses speaking well and clearly, with attention focused on the audience; using correct grammar; and the ability to form clear, concise sentences in all emails, memos, letters, and reports.

*Computer-assisted instruction:* Computer- assisted instruction is a type of instruction that provides a different way of learning concepts by using graphics, text, and animation in a multi-media presentation format (Handy, 2003). Instructional material is presented in a format where the learner can progress through the program at their own pace.

*Critical thinking skills:* Critical thinking is often defined as "higher order thinking". Critical thinking is the ability to think, understand, apply, and adapt concepts and principles in a variety of situations (Doney & Lephardt, 1993).

*Experiential learning model:* Experiential learning model grounds itself in the works of Dewey (1938) and Kolb (1984) in using experience to learn content. The elements of experience and content interact with one another to create new learning experiences in problem-solving. Skills and knowledge are developed or adjusted each time a learner is confronted with a new experience. This new experience mimics real-life context through a learner's involvement, observations, and reflection, and helps the learner in making decisions and solving problems (Tolbert-Bynum, 2007).

*Problem-solving skills:* Problem-solving skills involve recognizing that a barrier has occurred that prohibits moving forward toward a goal. Once the barrier has been removed, there is an opportunity to create alternate courses of action in order to reach the intended goal (Tallman, Leik, Gray & Stafford, 1993).

*Real Audit™ Simulation:* An interactive game that immerses the participant into the responsibilities of auditing a client. The game includes a virtual desk with information such as the permanent file, drafts of the financial statements, and planning memo. The participant engages in algorithmic conversations between the audit manager and the client's employees to

understand the company environment. From this information, the participant either moves forward in the game to gather hidden evidence or goes back to converse further with the characters. The game's premise is to show participants what it takes to work for a public accounting firm.

### **Assumptions, Limitations, Scope, and Delimitations**

I made two assumptions regarding the study. The first assumption is that advanced accounting students have exposure to developing some skills in critical thinking, communication, and problem-solving by taking non-accounting courses such as English or math at a university. The second assumption is that the participants in the study responded thoughtfully and truthfully in the interviews and reflective journals. The participants in this study were accounting majors and the computer-assisted instruction reflected many of the concepts and topics learned in an auditing course. The results apply to all accounting courses at the senior level.

I am the primary accounting instructor at a North Carolina university and many accounting students have taken several courses with ME. The relationship that has been developed over the years may influence how a participant in the study reacts to the requirements. This limitation was addressed by having the participants understand their role as well as the researcher's role in the study. I provided clear and detailed information before the study commences in the forms of the invitation flyer and the Consent Form (See Appendix D). The invitation flyer (See Appendix C) and the Consent Form provided participant's rights, risks, and benefits of participating in this study.

The scope of this study consisted of computer-assisted instruction as a learning tool for an advanced accounting course at a university. This type of instruction was used as a

supplement to the course textbook. The conceptual basis for the learning tool was the experiential learning model. The underlying elements of computer-assisted instruction using the experiential learning model provided a connection between learners' experiences of accounting concepts and theories and the necessary guidance in developing a professional skill set. The learner experience was entirely up to the participant. In fact, the participant enjoyed the discussions between the controller and the audit manager, then that served as the participant's learning experience. If a participant understood what their audit responsibilities were through discussions with the audit manager and went through the planning module as well as the accounts receivable or fixed asset module, then that served as the participant's learning experience. If the participant went through the planning module then that served as their learning experience. Overall, the time the participant spent in the simulation served as their learning experience.

The delimitation of this study was confined to three advanced accounting students located in the Mid-Atlantic region. The type of data that were collected during this study was limited to the results from interviews, reflective journals, and the computer training program. The interview question responses limited the study to personal perspective and may not be generalized to other advanced accounting students in North Carolina or other regions of the United States. The reflective journal that the participants kept throughout the computer sessions focused on their explanations, thoughts, and questions they experienced from the computer training program. These writings may not be generalized to other advanced accounting students in North Carolina or other regions of the United States. The learning experiences that each participant had while



navigating the computer training program may not be generalized to other advanced accounting students in North Carolina or other regions of the United States.

### **Significance of the Study**

The problem of the lack of adequate critical thinking, communication, and problem-solving skills in accounting graduates has been an issue for more than 20 years. Accounting professionals must possess the skills necessary to prevent the amount of financial scandals and other flawed financial reporting that may occur in the future. Accounting educators should focus their efforts on creating activities that mimic real world business challenges. Previous studies indicated that accounting education should emphasize a component within the curriculum that addresses skill development (Coulson & Thomson, 2006; Damitio & Schmidgall, 2007; Gammie, Gammie & Cargill, 2002; Guyette, 2008; Hurt, 2007; Kavanagh & Drennan, 2008; Morris & Puttee, 2006; Smith, 2006; Springer & Borthick, 2007). The opportunity for students to develop and improve skills while in school could encourage them to be more responsible for their own learning (Guyette).

I examined the experiential learning model approach in a computer-assisted instruction program. The professional skill training component embedded in the computer program focused on students' abilities to analyze the dynamics of a particular company through simulated discussions on financial statement information. The simulation also included other pertinent information that allowed participants to learn about the client. Becoming knowledgeable about the company and making decisions allowed participants to move forward in the game. The simulation included a presentation of financial documentation on a client which allowed a participant to provide opinions about financial as well as non-financial information. This

learning approach is geared toward students gaining experience in critical thinking, communication, and problem-solving through specific analysis that occur in many types of businesses. The results of those students who used this type of instruction indicated that the knowledge gained was significant enough to use this approach to learning in other accounting courses as a required supplement.

The results of this study contributed to positive social change by providing an examination of how advanced accounting students perceive their skills both before and after using computer-assisted instruction. This insight provides information for future accounting graduates to have opportunities to practice and apply their knowledge in various business situations while still in school. If these opportunities for learning exist, future accounting graduates may perceive their skills aligning closer to the profession.

Additionally, the results of this study contributed to positive social change by encouraging accounting educators to examine their views of how they teach. Using computer-assisted instruction as a supplement to the textbook promotes changes to classroom management. Accounting educators become facilitators of students' learning process by providing the guidance, instead of providing only lectures, to address a higher level of inquiries and solve problems that may never have occurred in a traditional type of classroom session. This higher level of thought processes influences students to understand their skills in ways that are closer to professional requirements.

Also, the results of this study contributed to positive social change by assisting practitioners to hire accounting graduates who can provide valuable contributions in critical thinking, communication, and problem-solving to their organization. Accountants in the

business world provide financial information that is crucial to an organization's success or failure. It is important for creditors, investors, and the public to feel secure that the financial information recorded and reported has a high level of integrity. Organizations need accountants with the skills necessary to promote that type of security. Therefore, positive social change can occur in the coming years as more of these accounting graduates enter the work force to provide security and integrity to financial statement information.

### **Summary**

Current professional and educational issues regarding the quality of accounting graduates' professional skills focus on experiential activities in computer-assisted instruction that create learning approaches that develop and enhance these skills. The scope of this study involved accepted practices based on the experiential learning model relevant to computer-assisted instruction that includes professional skill training.

## Section 2: Literature Review

### Introduction

Understanding how accounting students can develop or enhance professional skills in computer-assisted instruction is important in determining if this learning approach can be integrated into future accounting curricula. Practitioners continue to voice dissatisfaction with accounting graduates' lack of professional skills and accounting education has failed to incorporate meaningful insight into the profession (Guyette, 2008; Smith, 2006). The professional skills often cited in research studies are critical thinking, communication, and problem solving skills (Jonick, 1998; Guyette, 2008; Smith, 2006). In this study, I looked at a learning approach supported by various educational perspectives that are grounded in philosophy, social psychology, and cognitive psychology theories. The focus of this study was to examine advanced accounting students' perception of their skills before and after they complete computer-assisted instruction. Understanding students' skill perspectives before and after they complete computer-assisted instruction may influence other accounting educators to utilize this learning approach. Now more than ever, practitioners must be able to demonstrate a high level of professional skills which are needed to mitigate financial scandals.

The financial scandals that have occurred recently (U.S. Securities & Exchange Commission, 2009) provided a critical juncture in accounting education. Accounting educators must begin to guide students through real-world activities that develop or enhance the skills that are required by the profession. It is important to understand what learning techniques influence future accounting students to graduate with the necessary skills the profession requires. Also, providing the venue for students to develop and enhance skills while still taking courses may

influence the future business world. Many companies seek and hire accountants that possess higher order professional skills (Smith, 2006). These companies invest in these new accountants to add value to their organizations. If an accountant does not possess skill levels that are adequate, future financial scandals may continue.

The literature review contained in this section includes studies and articles that focused on experiential learning and accounting learning tools. The review focuses on three areas for discussion: experience used to enhance the learning process, the experiential learning model, and how computer-assisted instruction can influence higher-order learning. Each of these areas was reviewed with a focus on providing a computer-assisted instruction program that incorporated professional skill training to develop or enhance skill levels in advanced accounting students.

The strategy used in the literature review followed a logical sequence that examines the role of experience, the theory of experiential learning, and how experiential learning embedded in computer-assisted instruction can be successfully implemented in the classroom. This rationale provided a basis for why each participant in my study used their own experience when describing their professional skills. Additionally, this rationale built an argument for why computer-assisted instruction was used in this study.

My experiences in both the business world and as an accounting instructor provided the foundation for my study. The search strategy involved terms such as “accounting students”, “computer-assisted instruction”, “critical thinking skills”, “communication skills”, and “problem-solving skills” to decide how much information focused on accounting student skills and the ways researchers sought to bridge the gap between what was taught at colleges and

universities and what the profession required. The information gleaned from the results of the various studies and articles contributed the background to my study.

When searching for information, I did not key in any specific methodology or research design. First and foremost, I was curious about how researchers were focused on accounting students and the rationale for conducting their research with supplemental tools, such as computer-assisted instruction. I then had to decide what type of information my study adds to the literature already published. The focus of accounting students' perspectives of their skills and the use of computer-assisted instruction would give a unique perspective of what skills students' think they possess before and after they use this learning tool. When reviewing the methodology that best suited student perspectives of their skills, the qualitative approach could provide an understanding of the world of an accounting student and the skills they need for the profession. Additionally, the strategy to collect detailed information about a phenomenon, such as accounting students' skills, could be examined through an exploratory case study. Further explanation of the research approach and strategy of inquiry chosen is found in this section.

### **Experience and the Learning Process**

Dewey's (1938) theory of experience provided the framework for this study. The theory of experience addresses the quality of individuals' experiences. For Dewey, there were two aspects to experience. The first aspect was whether the experience was good or bad. The second aspect was the influence these experiences had on future experiences. Dewey expressed the quality of the previous experience modifies experiences that occur in the future. Dewey stated that students must experience continuity and interaction in order for learning to occur. A learner moves forward only when past experiences interact with a present situation and an understanding

occurs which influences what is experienced in the future. Freire (1993) believed that the past provides individuals with an understanding of ourselves so that we may be able to create a more intelligent future. Schön (1987) explained that past experience creates a collection of what individuals have seen, identified, encountered, and solved. Certain characteristics in a current situation can be recognized as similar to characteristics of something that was experienced in the past. In using this collection of past experiences, one can understand and resolve current situations. One can include current experiences within the collection to be used in similar situations in the future. Freeland (2009) believed direct experiences have practical use in today's world. Freeland acknowledged that many of today's educators are reviewing the link between learning and experience first posit by Dewey. The role of experience is an important connection that can build a foundation for learning and developing professional skills in accounting students.

Dewey (1938) stated that it is the educator's responsibility to create an environment conducive to positive experiences which allow students to grow intellectually and morally. As the educator creates these worthwhile experiences for students, it presents an optimal chance to use new problems to expand into additional experiences. In this type of environment, it is hoped that the learner becomes motivated to continually explore new information and ideas. Dewey believed that the educator should view teaching and learning as reconstructing experience, taking the present experience to influence future experiences. Freeland (2009) felt that students can be empowered to be valuable problem solvers by using direct experiences in a classroom setting. It was found that students perceive direct experiences add to their learning development. This process of learning from experience aligns with Freire's (1993) thoughts on education. Freire stated that "knowledge emerges through invention and re-invention" (p. 72). Knowledge can be

continually refined and redefined through experience. Freire promoted a problem-posing theory of education which described the more students are faced with problems, the more they will respond to the challenge. These responses create new challenges. The teacher becomes an integral part of students' learning process. Eventually, students become responsible for their own learning and are committed to the learning process.

An important aspect that helps move experience along to another stage in the learning process is reflection. One uses reflection to make sense of experiences (Cranton, 2006; Freire, 1993; Lambert, 2002; Schön, 1987). Reflection involves a process where one remembers, recollects, assesses, and reevaluates experiences. Reflection provides a process where one will stop and think (Cranton, 2006; Dewey, 1938; Lambert, 2002; Schön, 1987). By using reflection, one looks at what has taken place (situation) to what is learned so far in the past (experience). Learners reflect on their own understandings in the learning process to create knowledge and meaning (Lambert, 2002). In reflection, one is reframing experiences to obtain new information. Schön (1987) described reframing as reflection *in action* which allows one to reframe new rules and methods, put them to the test, and evaluate the success or failure in a situation. One becomes more skillful at a task by reflecting, thinking, and doing. Although Schön (1983) stated that thinking interferes with doing, reflection plays an integral part of doing because it broadens one's thinking process into action. Freire (1993) believed in order to be authentic, thought and action requires one to reflect on oneself and on the world. Reflection and action therefore become authentic when it is examined and questioned. One obtains new knowledge through transformation of one's experience (Shumack, 2009).



The research question in this study focused on advanced accounting students' perspectives of their skill levels both before and after completing computer-assisted instruction. Individuals have certain experiences throughout their lifetime that influence how they may perceive their world. Advanced accounting students use their knowledge from previous courses to build a foundation that translates into future employment with the profession. It is in using previous experiences that can build on one's capacity to develop and enhance professional skills.

This subsection discussed how experience can influence the learning process. The theory of experience and using it for educational purposes were promoted by Dewey (1938), Freire (1993), and Freeland (2009). One uses previous experience to build future experiences. Additionally, experience uses reflection to add to one's knowledge base to create meaning. It is this basis that transformational learning occurs. Kolb (1984) developed the framework for the experiential learning model by believing that the learning process goes through a transformation of experience to acquire new knowledge. The following subsection discusses how Kolb established this model and how the model is used for educational purposes to enhance the learning process.

### **The Experiential Learning Model**

Kolb (1984) developed the experiential learning theory as an approach to education and learning as a life-long process. The experiential learning theory is grounded in different perspectives of how learning is developed, knowledge is created, and how learning and knowledge can be applied to activities in and outside the classroom (Freeland, 2009; Shumack, 2009). In emphasizing that experience is central to the learning process, Kolb used the

perspectives of Dewey (1938), Lewin (1951), and Piaget (1971) to provide a relationship between learning, development, and experience in constructing the experiential learning model.

Dewey (1938) provided the philosophical perspective of pragmatism in the theory of experiential learning. The philosophical movement of pragmatism began with Peirce in the middle of the 19th century (Halton, 2004). Peirce (1878) defined pragmatism as taking an object, thinking about how practical the object is by looking at what effect it may bring to us, and then wholly defining the object through experience. Pragmatism used previous cognition in experimental ways to make inferences about the future (Halton, 2004). Peirce (1878) theorized that all cognitions are assumptions that are addressed through inquiry. Inquiry is used by taking past events that may have "conceivable consequences" in the future. Dewey, who became a major advocate of pragmatism studied under Peirce. Dewey demonstrated new ways to look at how the mind becomes vital through constant integration of nature, experience, and conduct (Halton, 2004). The integration of an individual's environment with the experience of going through one situation to another creates the process of how well the individual adopts and learns. Dewey's model of the experiential learning cycle requires observation; knowledge of what happened in similar situations; using the previous experience of those similar situations; and judgment (Kolb, 1984). The key aspect in using judgment is to reflect on the observation and experiences before using action to accomplish a specific task or purpose. Judgment may go through steps 1 and 2 again until there are ideas that are clear and a desire or impulse which exist in order to move forward (Kolb).

Lewin (1951) provided the phenomenological perspective of Gestalt psychology in the theory of experiential learning. Lewin's work focused on how theory and practice is integrated

in the learning process (Kolb, 1984). Gestalt psychology stated that the brain has inherent abilities to organize and structure individual elements into a logical organized and structure whole (Jackson, 2008). It is the whole that provides greater meaning and understanding to situations than its separate elements. The separate elements however must work together in order to apply a flexible and discriminate approach to problem solving (Jackson, 2008). Gestalt psychology can be used in learning situations to improve learning through experience. Lewin's model of experiential learning is a four-step process that begins with the 'here and now' experience or concrete experience; observations and reflections; forming abstract concepts and generalizations; and testing implications of concepts in new situations (Kolb, 1984). The first stage of concrete experience is an immediate experience which provides a reference point for testing problem-solving approaches. This is where the similarity between Gestalt psychology and experiential learning theories converge. Lewin's model is also cyclical in nature as the learning process completes its testing through feedback received in new situations by acting upon the feedback to move forward and therefore create another 'here and now' experience (Kolb).

Piaget (1971) provided the rationalist perspective in the theory of experiential learning. Piaget's work focused on how intelligence is shaped by experience (Kolb, 1984). The result of how an individual interacts with their environment drives intelligence in developing more advanced psychological structures (Lucariello, 2004). In the rationalist perspective, prior knowledge is central to the theory of how knowledge develops (Parton & Bailey, 2008). Knowledge originates through reason and grows through self-evident rationale (Parton & Bailey, 2008). An individual builds knowledge by continuously reasoning and finding truth in their

experiences. As an individual constructs knowledge, the learning process requires inquiry and dialogue in order for the individual to achieve a clearer understanding of that knowledge. Once this understanding is reached, knowledge is enhanced. Piaget's model of learning and cognitive development is a four-step process created with the central premise of how an individual interacts with their environment in order for learning to occur and develop. The first step is sensory motor stage where a child is learning about their world through exploratory activities. The second stage is the representational stage that allows the child to reflect and alter their experiences. The third stage is where inductive learning occurs, which Piaget called concrete operations. The child understands how to create their own experiences through a reliance of selected concepts and theories. The fourth stage is one of formal operations created during the adolescent years where the child becomes active in learning by using more abstraction and reflection to test and experiment with the concepts and theories learned in the past. In between the first and third stage of development processes are where the learning style changes from accommodative to assimilative. It is in this process of intelligence where Piaget's contribution to the experiential learning model is made. In accommodation, one experiences the world through concept and theories, and in assimilation one shapes their own experience with existing concepts and theories. The key to learning therefore is the mutual interaction between concrete to abstract and from active to reflective. This cycle of learning includes what was experienced previously into a new, higher level of knowledge through thought and experience (Kolb, 1984).

Two common elements were found throughout the learning process in Dewey (1938), Lewin (1951), and Piaget (1971) models of experiential learning. These elements placed the emphasis on the role of experience and on development of learning toward a purpose (Kolb,

1984). In using these three models, Kolb developed four modes of learning abilities which set the foundation for the conflict that occurs during the learning process. The only way that new knowledge, skills, or attitudes are attained is through a conflict between 1, 2, or all of these modes (Kolb, 1984). Kolb stated the four modes of experiential learning abilities as concrete experience, reflective observation, abstract conceptualization, and active experimentation. Effective learning requires these abilities to work together as conflicts arise in which a learner must choose which ability or abilities best fit the learning situation. For example, if a situation involves ambiguity, metaphorical thinking, or flexibility, then a learner should use their concrete and reflective abilities. If another situation requires evaluating solution alternatives, then a learner would use their abstract and active abilities. In these situations, a learner chooses the abilities which best adapt to the conflicts that is experienced during the learning process. Learning and adaptation work hand in hand to enrich the learning process. In experiential learning, the focus is on the individual and how well the individual adapts to their environment (Kolb, 1984). This adaptation allows a continuum performance, learning, and development to occur. Adaptation occurs with each transaction an individual experiences in the learning process. In addition, having an experience alone is not sufficient for the learning process to move through each stage of their learning cycles. While Dewey, Lewin, Piaget, and Kolb set the framework for learning and development in their learning cycles, it is within a formal structural dimension that Kolb describes which allows one to move through the stages of these cycles.

This structural dimension allows knowledge to be created through the interaction between apprehension and comprehension. Kolb (1984) stated that “these forms of knowing are opposite processes coming together toward a higher truth that encompasses and transcends” (p.

107). Apprehension is the here-and-now knowing that occurs when one has an experience.

However, experience is not enough to make any connections between transactions.

Apprehension registers the experience and notes whether it was of any interest. It is in the interest of the experience that brings the experience attention and appreciation. Appreciation of the experience determines how meaningful it becomes to someone in this personal subjective process (Kolb, 1984). The polar opposite of apprehension is comprehension. Comprehension allows one to direct and choose which experiences to keep. Comprehension finds relevance with the certain apprehended experiences. However, the main premise of comprehension is the ability to keep a record of past experiences in order to define the future (Kolb, 1984). Comprehension keeps these records as a way to allow one to go through interpretative and critical processes. The knowledge gained through these processes make it likely to analyze, criticize, and reorganize knowledge into clear forms for future use and for different situations that are encountered (Kolb, 1984). The main force in these processes is how critical activity can be used to refine comprehensive knowledge into complex systems and tested against apprehensions. While apprehension in experience is a personal subjective process, comprehension experience is an objective social process. This social process is social knowledge, which is vital in recreating one's personal experience and understanding of their world. An understanding of one's world can further direct the knowledge to become transformational through a series of surprising, unanticipated experiences and insights (Kolb, 1984). Both apprehension and comprehension represent ways of knowing. It is in the continuous interaction between personal and social processes that knowledge can be created, grown, and transformed. Understanding the structure of knowledge is a key component in experiential learning. Experiential learning can be

connected to a learner's existing knowledge and experiences with a new set of knowledge and skills (Lee & Caffarella, 1994). A way that new knowledge and skills can be acquired is through authentic learning experiences in the classroom.

In authentic learning experiences, learners not only absorb knowledge but actively construct knowledge within a learning situation (Jackson & MacIssac, 1994). There are 4 dimensions in authentic learning experiences that look to bring meaning to a learner's experience. These dimensions include definitions of knowledge; elements of cognition; constructivist teaching; and reflective practice. Within the definitions of knowledge, experiential knowledge is recognized as an important form of knowledge. Experiential knowledge uses experiences to inform the process of knowing (Jackson & MacIssac, 1994). Within the elements of cognition, experiential learning looks at the extent of one's knowledge and experiences. For example, experts and novices think in different ways in order to bring meaning to an experience. An expert that has a wealth of knowledge and experiences organizes their experiences around principles and abstractions, whereas a novice with little knowledge and experience interprets their experiences in a more concrete way (Caffarella & Barnett, 1994). Situated cognition also plays an important role in experiential learning as learning activities are "situated" in close proximity to practice, so the transfer of learning can be realized. Skills can be practiced through learning activities. These activities can be practiced both in the classroom and in other settings. The more one practices a skill the more one is able to demonstrate authentic learning that occurs in actual practice (Caffarella & Barnett, 1994). Situated cognition is generally used in internships and apprenticeships. Within constructivist teaching, learners use reflection in order to understand how previous knowledge and experiences affect new knowledge (Caffarella &

Barnett, 1994). The assumption in constructivist teaching allows a learner to fully participate in the construction of knowledge in order for the learner's experience to be meaningful.

Constructivist teaching techniques are generally used in an exploratory case study and analysis and in simulations. Within reflective practice, a process occurs in which past experiences are used intentionally in order for the learner to understand the different ways to define, solve, or rethink about a particular situation they are faced with (Caffarella & Barnett, 1994). Reflective practice is used to provide meaning to an experience. The reflective process can be generally practiced by a learner through journal writing and storytelling (Caffarella & Barnett, 1994). All of these dimensions provide learner's with opportunities to engage in active learning experiences that link theory with practice in the field of accounting.

The experiential learning model encompasses an approach for learning that takes a learner through different stages of a learning cycle in order for knowledge to be created and enhanced. The opportunity for accounting educators to create meaningful experiences for learners through authentic task activities enriches the way students see themselves in the real world as a future professional (Freeland, 2009; Goldstein & Fernald, 2009). The important aspects of creating a positive learning environment and skill building through computer-assisted instruction can provide a venue where experiential learning uses accounting students' past experiences to explore and reflect on new knowledge gained.

This learning model provided information central to the research question in this study. The research question focused on students' perspectives of their skills before completing computer instruction. The information gathered from their perspectives provided a look at past experiences in their lives. The intervention of computer-assisted instruction to create learning



experiences provided information from the research question that analyzed students' perspectives of their skills after they used this learning tool.

Using the experiential learning model in education is an important aspect to enhance the learning process. This subsection discussed Kolb's (1984) development of the experiential learning model using the perspectives of Dewey (1938), Lewin (1951), and Piaget (1971). Common elements emphasized the role of experience and on the development of learning toward a purpose (Kolb, 1984). It is in the underlying stages of the learning cycle that Kolb described as crucial to enhance comprehension and hence the learning experience. Application of this model proved to be successful in providing authentic learning experiences in the classroom (Caffarella & Barnett, 1994; Jackson & MacIssac, 1994). The following subsection discusses computer-assisted instruction and higher-order learning. The discussion provides information that compliments the theory of experience and the experiential learning model. This establishes how computer-assisted instruction can enrich students' learning experiences.

### **Computer-Assisted Instruction and Higher-Order Learning**

There is little empirical research within accounting education regarding the effectiveness in using computer technology (Handy, 2003; Mcvay, Murphy, & Yoon, 2008). However, the research that has been conducted in the area of computer-assisted instruction provides valuable information on the positive effects in using this type of instruction to achieve a higher level in accounting students' competencies. Reissetter, LaPointe, and Korcuska (2007) stated that meaningful materials that engage the learner should go well beyond just the textbook. By providing different venues for students to learn at their own pace, there is a chance to improve skills. Tshibalo (2007) recognized that students were active in their own learning when working

with computer-assisted instruction that emphasized problem-solving methodology. The position that Tshibalo took in the paper described how examination scores and assignment work greatly improved when students used computer instruction. Mcvay, Murphy, and Yoon's (2008) quantitative study suggested computer technology that is properly implemented can improve both accounting education and students' competencies. The study's results concluded that accounting students should be given the opportunity to take accounting knowledge gained and apply this knowledge and past experiences in authentic tasks embedded in computer-assisted instruction in order to develop or enhance higher-order skills.

Jonick (1998) believed that if there is an understanding of how students learn, then accounting educators can design course materials that offer types of virtual business situations to enhance student learning. The mixed method study used a computer-based simulation focused on role-playing models to practice functions and processes of actual performance in the accounting field. The simulation's strength was to subject students to the same types of experiences, situations, behaviors, and attitudes which exist in actual day-to-day business practices (Jonick, 1998). The content offered in the simulation provided learning opportunities to take what the student already knew and build upon it. The learning environment becomes a constructivist model that becomes more complex as the simulation continues. A questionnaire given to all students after the simulation was completed served as a positive indicator that student learning did occur.

Marriott's (2004) qualitative case study researched how business simulations enhance student learning. Marriott used experiential learning as a way for a student to learn by active involvement. The business simulation used algorithmic situations which provided an

opportunity for students to develop higher level critical thinking processes. The interactive model provided learning by doing or, more importantly applying technical accounting skills the student had previously developed but not used in an accounting course. The use of computer simulations that model real world business experiences allows the student to practice decision-making and critical thinking skills (Marriott, 2004).

Townsend (2006) studied the effect of providing a computer tutorial to students enrolled in an accounting course. The quantitative study was to determine whether this tutorial improved their understanding of the accounting concepts. Positive indications in test scores from a posttest proved that this learning tool is a great supplement to course materials. This study also noted that the tutorial allowed students to proceed at their own learning rate.

Handy (2003) explained that computer-assisted instruction "provides students with more exposure to technology, while affording them a new way to learn accounting concepts and application" (p. 2). Handy used a qualitative case study to explore how accounting students can reap the benefits from this type of learning. Handy described the business world as highly driven by technology. Handy stated that in using computer-assisted instruction, the instructors spend less time teaching and more time facilitating inquiries students make on evaluating alternatives and solving problems that emerge during these computer sessions.

Valentine and Ivey (2009) designed a tutorial program that helped students deal with a lack of confidence when faced with ambiguity and uncertainty. The computer program focused on a problem finding activity. This activity aligned with problem solving skill development. As students learned to continually solve problems through these activities, they were able to develop

a deeper understanding of real problems as well as increase their confidence levels to solve unstructured problems that they may be faced with in the business world.

Esmond-Kiger and Kirch (2003) demonstrated that computer-assisted instruction provided opportunities to enhance communications skills in their students, along with critical thinking and decision making skills. The positive effects of learning through this medium engaged the student and created enthusiasm for learning.

This subsection discussed how computer-assisted instruction approaches created an opportunity for accounting educators to add supplementary materials to their courses. These researchers (Esmond-Kiger and Kirch, 2003; Handy, 2003; Jonick, 1998; Marriott, 2004; Mcvay, Murphy, and Yoon, 2007; Reisetter, LaPointe, and Korcuska, 2007; Tshibalo, 2007; Townsend, 2006; Valentine and Ivey, 2009) promoted that deeper learning or higher-level critical thinking, communication, and problem-solving skills occur when students used computer-assisted instruction. The research also discussed students that participated in these studies never failed to go through and complete what was required. Therefore, this demonstrates the positive effects of using computer-assisted instruction in the classroom.

The research question in my study addressed students' perspectives of their skills before and after completing computer-assisted instruction. Therefore, the literature review that promoted computer-assisted instruction as a positive learning experience formed a basis for my research question.

### **The Qualitative Exploratory Case Study Approach and Design**

The evidence of computer-assisted instruction and higher-order learning provided in the previous subsection demonstrated positive learning experiences for accounting students when

using computer-assisted instruction. This subsection offers the rationale for my choice of a qualitative exploratory case study approach and design through the literature review that was conducted. Referring to the previous subsection, Marriott's (2004) exploratory case study strategy was reviewed to gather information on how accounting students developed or enhanced their skills through the experiential learning model. The experiential learning model, or learning by doing authentic task work, is grounded in different perspectives of how learning is developed, knowledge is created, and how learning and knowledge can be applied to activities in and outside the classroom (Freeland, 2009; Shumack, 2009). Marriott (2004) studied students' experiences and reactions to this approach. The study results were students who were motivated to go through the directions Marriott set forth. This qualitative case study demonstrated an outcome of learning beyond the boundaries of a textbook. The study provided the reader with a view into the world of accounting students and how they reacted to a computer simulation in order to develop critical thinking skills.

Handy (2003) used a qualitative case study to explore how accounting students can learn and apply concepts through the use of technology. This study aligns close to the stance that I took in my study. The research stance was how to better prepare accounting students for the profession while they still are in school. Handy's (2003) qualitative case study provided the perspective of accounting students' higher-order learning in an environment of technology. In understanding how accounting students maneuver technology to increase their learning, this case study demonstrated what accounting educators can do to create activities that mimic business world situations.

Handy (2003) stated that there is little research in the field of accounting students and their use of technology. Besides Marriott (2004), I found no research studies using the qualitative exploratory case study approach and design specifically in the area of accounting education and accounting students. Yet if the gap between accounting education and the profession still exists (Guyette, 2008; Smith, 2006), why has qualitative research not looked into what skills accounting students possess while still in school and learn from the students' perspectives before and after they use computer-assisted instruction? Therefore, the literature review in the area of qualitative exploratory case study research was also conducted outside the field of accounting to determine overall if one can learn from case studies and students' perspectives.

Welzant's (2007) case study research explored students in an online MBA Problem-Based Learning course. Welzant (2007) felt that the case study strategy could best explain how students' learned in an online environment and how students described their experiences in learning the course material. In bringing meaning to a particular phenomenon through students' perspective, this researcher added to the existing knowledge base through the use of a case study.

Irvin (2010) used the qualitative case study strategy to examine teacher's perspectives of change and change implementation. The case study reviewed perspectives teachers had toward change and change implementation. Irvin (2010) stated that the use of case study worked best to explore how to deal more effectively with teachers at her school. In understanding the roadblocks that teachers had toward change and what teachers required in order for change implementation to be successful, the qualitative case study brought meaning to a particular phenomena.

Legant's (2010) qualitative case study focused on student perspectives engaged in a service-learning program. By asking students questions regarding their experiences in various activities provided throughout the project, light was shed on how to create and implement future service-learning projects.

Other qualitative tactics were reviewed such as biography, ethnography, grounded theory, and phenomenology. Creswell (1998) stated that the biography research design focuses on the life history of an individual. The study's problem involves student skills and the accounting profession, therefore this design was not suitable. Creswell (1998) described the ethnography research design as one that studies cultures. This design was also not suitable because the problem in this study focuses on a business profession, not a culture of people. For the grounded theory research design, Creswell (1998) stated that this design is used to establish a theory grounded in a participant's point of view. The premise of this study is not establishing a theory but rather describing participant's perspectives of their skills relating to the accounting profession. Finally, the phenomenology research design was reviewed and seemed like it could be an appropriate approach for this study. Creswell (1998) described phenomenology as providing meaning to individual lived experiences regarding a concept or phenomenon. Although, professional skills are the phenomenon in this study, the focus of this research is not about lived experiences but an examination of skill perspectives before and after using an intervention in the form of computer-assisted instruction. Therefore, this design was not suitable for the nature of this study.

The qualitative exploratory case study design was chosen because I wanted to “gain an in-depth understanding of the situation and meaning for those involved” (Merriam, 1998, p. 19).

Case studies from Handy (2003), Marriott (2004), Welzant (2007), Irvin (2010), and Legant (2010) all provided additional insight into a phenomenon through the perspectives of students or teachers. This aligns with Creswell (2003) and Yin (2009) who stated that case studies are useful to investigate research questions that ask “how” and “why” regarding a contemporary phenomenon. The research question in my study addressed students’ perspectives of their skills before and after completing computer-assisted instruction. The literature review that provided information to the qualitative approach and the case study strategy formed a basis for my research question.

A literature review of differing methodologies was conducted to determine if an outcome of similar interest could be achieved. In a quantitative approach, “objective data result from empirical observations and measures” (Creswell, 2003, p. 153). For example, Guyette (2008) demonstrated in a quasi-experiment study accounting students willingness to adopt a deep approach to learning through an online instructional designed course model. The results from this quantitative study, from the objective data presented, showed an increase in learning. However without describing how these accounting students felt during the process of learning through this type of innovation, how can accounting education know what to create and implement to show continued success of learning? In a mixed methods approach, there is a “need both to explore and explain” (Creswell, 2003, p. 208). For instance, Jonick’s (1998) mixed methods approach showed that learning did occur. Jonick (1998) created and pilot tested the simulation used in her study. A large amount of Jonick’s time was spent creating the simulation and then gathering both quantitative numbers and the qualitative information in order to answer whether higher-level learning occurred. One must consider whether the costs



outweigh the benefits in order to achieve an outcome in research. Additionally, the questionnaire in Jonick's study provided closed ended questions that did not lend to descriptive information for how accounting students felt during the learning process. The lack of descriptive information from the participants may contribute to the continuing problem of bridging the gap between accounting education and the profession. In my study, the focus was on how accounting students perceive their skills before and after they use computer-assisted instruction. The information provided the knowledge in how to develop the skills of accounting students who will one day join the profession. A qualitative exploratory case study regarding accounting student perspectives, with rich descriptions provided through interviews and reflective journals provided the insight that quantitative and mixed method approaches have appeared not to offer.

### **Summary**

The literature review revealed the importance of the role of experience in learning, how the experiential learning model was developed and effectively used in the classroom, and the benefits of computer-assisted instruction to enhance the learning process. Experiential learning promotes effects in learning, knowledge, and development by using experiences to build meaning. Meaning is further enhanced by students engaging in authentic tasks. Computer-assisted instruction provides a technique for students to work through authentic tasks. Additionally, a qualitative exploratory case study is the best approach to provide thick, rich descriptions of accounting students' perspectives before and after they use computer-assisted instruction. It is important to understand how accounting students' perceive their skills in order to create educational experiences that may help future accounting students develop or enhance their skills before entering into the profession.

Advanced accounting students have experiences in learning and a certain knowledge base from previous accounting courses. By placing these senior level students in an environment where there is computer-assisted instruction that includes professional skill training, how do these students perceive their skills before and after they use this learning technique?

I examined the role of experience and experiential learning in students' perspectives of their skills before and after they complete computer-assisted instruction. Section 3 describes the research design, the sample, and procedures for collecting data and analyses for this study.

### Section 3: Methodology

#### **Introduction**

The purpose of this qualitative exploratory case study was to investigate advanced accounting students' perspectives of their skills before and after they complete computer-assisted instruction. The rationale for exploring computer-assisted instruction through qualitative tactics focuses on the lack of current studies that emphasize the need for further qualitative research. There is the need to support teaching techniques other than lectures in research in order for students to apply and practice their accounting knowledge while still in school to build professional skills. The focus of examining student skill perspectives linked computer-assisted instruction that includes professional skill training as an important learning technique for the accounting student.

There were two main goals to achieve in this study. The first goal of this exploratory case study was how students described their skill levels both before and after they complete computer-assisted instruction. The second goal was that computer-assisted instruction was a learning tool that can be used in accounting education to enhance skill development. Information derived from this study benefits accounting students, accounting educators, and the profession to seek real world tasks and activities promoting positive student skill level perspectives that align with a challenging career.

The exploratory case study design was the optimum choice for my research because the information to be obtained from the students' perspectives of their skills provided rich descriptions of their life and business experiences that allowed insight into their world as accounting students. The underlying premise is that case studies examine a phenomenon, which

in this study was students' perspectives of their skills. Yin's (2009) qualitative case study design and its components best suit the examination of advanced accounting student perspectives in this study.

Other qualitative tactics were reviewed such as biography, ethnography, grounded theory, and phenomenology. Creswell (1998) stated that the biography research design focuses on the life history of an individual. The study's problem involved student skills and the accounting profession, therefore this design was not suitable. Creswell described the ethnography research design as one that studies cultures. This design was also not suitable because the problem in this study focused on a business profession, not a culture of people. For the grounded theory research design, Creswell stated that this design is used to establish a theory grounded in a participant's point of view. The premise of this study was not establishing a theory but rather describing participant's perspectives of their skills relating to the accounting profession. Finally, the phenomenology research design was reviewed and seemed like it could be an appropriate approach for this study. Creswell described phenomenology as providing meaning to individual lived experiences regarding a concept or phenomenon. Although, professional skills are the phenomenon in this study, the focus of this research was not about lived experiences but an examination of skill perspectives before and after using an intervention in the form of computer-assisted instruction. Therefore, this design was not suitable for the nature of this study.

In reviewing all of these qualitative research design approaches, the exploratory case study design provided the most useful information to the problem. Since this study looked at a problem within accounting education and a profession in the business world, the exploratory case

study design provided an underlying look at the perspectives of those students who will one day join this profession.

Chapter 1 introduced the problem of current professional and educational issues regarding the quality of an accounting graduate's professional skills with a focus on experiential activities in computer-assisted instruction. This created a learning approach to develop and enhance these skills. Chapter 2 introduced the literature review from previous research important to the conceptual framework of experiential learning with a focus on a computer-assisted instruction program that incorporates professional skill training to develop or enhance skill levels in advanced accounting students. Based upon key information in these chapters, the research question was developed. This research question was the guide in collecting and analyzing data on advanced accounting students' perspectives of their skills before and after they complete computer-assisted instruction.

Chapter 3 introduces a discussion of the research design and methodology that I used for this study. I described the rationale for choosing the design and methodology to address the problem and to answer the research question proposed in Chapters 1 and 2. Chapter 3 revisits the problem and then discuss the research methodology, the research question, the context for the study, measures for ethical protection of participants, role of the researcher, criteria for selecting participants, data collection and analysis procedures, and methods for addressing the validity of the study.

### **Problem Statement**

The study addressed the problem of accounting educators in North Carolina who teach by lecture and recitation which result in accounting students who learn by rote memorization. The

study analyzed advanced accounting students' perspectives of their professional skills before and after they complete computer-assisted instruction. The study determined that experiential learning created an approach for accounting students to develop or enhance professional skills they need as accounting practitioners. Current research indicates that there is an ongoing concern regarding accounting graduates who do not have adequate skills to meet the challenging issues in the business world (Damitio & Schmidgall, 2007; Guyette, 2008; Kavanagh & Drennan, 2008; Sharifi, McCombs, Fraser, & McCabe, 2009; Smith, 2006). Although this issue was raised more than 23 years ago in professional and governing committee reports (Accounting Education Change Commission, 1990; American Accounting Association, 1986; American Institute of Certified Public Accountants, 1998; International Federation of Accountants, 1996), the recommendations are still consistent with the problem that is presented in this study. The reports recommended that accounting graduates must develop the necessary skills in order to meet the complex challenges of the profession. This study also supported accounting educators who need to change their instructional processes in favor of a learning approach that optimizes students' learning experiences in accounting.

### **Research Methodology**

A qualitative exploratory case study was used to examine the perspectives that advanced accounting students have regarding their skills before and after they complete computer-assisted instruction. Merriam (1998) defines the qualitative tradition as “an umbrella concept covering several forms of inquiry that help us understand social phenomena with as little disruption of the natural setting as possible” (p. 5). Other qualitative designs were considered such as biography, ethnography, grounded theory, and phenomenology. The focus of this study involved student

skills and the accounting profession not the life history of an individual, a cultural of people, to establish a theory, or to provide meaning to individual lived experiences regarding a concept or phenomenon. Although, professional skills are the phenomenon in this study, the focus of this research was not about lived experiences but an examination of student skill perspectives before and after using computer-assisted instruction. Additionally, the choice of qualitative over quantitative or mixed method traditions stems from what was being studied. The study's research question was not looking for effect as the quantitative approach dictates. Also, the mixed method approach gathers data both qualitatively and quantitatively. The study's focus was students' perspectives of their skills before and after they use computer-assisted instruction. The study sought meaning, not numbers to define a phenomenon in order to answer the research question. Therefore, the best choice to answer the research question was an exploratory case study design.

The rationale for an exploratory case study design stems from Hatch (2002) who suggested that "case studies investigate a contextualized contemporary phenomenon within specific boundaries" (p. 30). The contemporary phenomenon in this study was the examination of critical thinking, communication, and problem solving skills that students' believe they had. The specific boundaries were students' skill perspectives before and after they complete computer-assisted instruction that includes professional skill training. Additionally, the exploratory case study design was specifically chosen to "gain an in-depth understanding of the situation and meaning for those involved" (Merriam, 1998, p. 19). Case studies are useful to investigate research questions that ask "how" and "why" regarding a contemporary phenomenon (Creswell, 2003; Yin, 2009). The research question presented in this study examined the

contemporary phenomenon by asking “how” students perceive their skill abilities both before and after completing computer-assisted instruction.

Yin's (2009) approach to qualitative case study design methodology was chosen because the components of this design best suited the examination of student perspectives of their skill abilities both before and after completing computer-assisted instruction. Yin stated that in designing case studies, a researcher is creating a plan or a process. There are five components of a qualitative case study design plan or process that Yin identified. They are a study's questions, propositions, unit of analysis, the logic that links that data to the propositions, and the criteria for interpreting the findings.

The first component of this qualitative case study research design is the research questions. Yin (2009) stated that a study's question pose the “how” and “why”. The research question for this study focused on the information that needed to be collected (Yin, 2009). The line of inquiry focused on how the student perceives their professional skills both before and after they complete computer-assisted instruction. The research question is presented in the next section.

The second component of a qualitative case study research design is its propositions. Propositions are not found in all qualitative case study designs (Yin, 2009). Propositions in case studies are used to draw conclusions or predict outcomes. I did not draw conclusions or predict outcomes in this qualitative exploratory case study. Yin stated that if the topic of the study is an exploration, it is a valid reason for not having propositions. Also, it is reasonable to suggest that if the topic is an exploration, the purpose of the study needs to be stated. Additionally, I have explained how the exploration was judged successful (Yin, 2009). I have restated the purpose of



this qualitative exploratory case study, the justification for the exploratory case study, and conclude with the criteria for judging the outcome as successful.

The purpose of this qualitative exploratory case study was to analyze advanced accounting students' perspectives of their professional skills before and after they complete computer-assisted instruction. The rationale for exploring computer-assisted instruction through qualitative tactics focuses on the lack of current studies that emphasize the need for further qualitative research. Additionally, there is the need to support teaching techniques other than lectures in research in order for students to apply and practice their accounting knowledge while still in school. The focus of examining students' perspectives of their skills linked computer-assisted instruction that includes professional skill training as an important learning technique for the accounting student.

The criteria for judging the outcome as successful added to the existing knowledge base of closing the gap between accounting educators and practitioners regarding the lack of adequate skills graduates need in today's work environment. The student perspectives of themselves in relation to the profession both before and after they complete computer-assisted instruction provided rich descriptions of their experiences during this study. Since little research has been done with advanced accounting students' perspectives of their skills, information was not available in other current qualitative studies.

The third component of a qualitative case study research design is its units of analysis. Yin (2009) defined the term as "what the case is" (p. 29). In this qualitative exploratory case study, the primary units of analysis were the individuals or participants. This study examined the participant's perspectives of their skills before and after completing computer-assisted

instruction that included professional skill training. Information about the participant was to be collected. Since there were multiple participants in this qualitative exploratory case study, information regarding each and every participant were collected in order to answer the research question. Additionally, Yin stated that the case or cases should involve a real-life phenomenon. In this qualitative exploratory case study, the real-life phenomenon was the perspectives of skills that each participant or case believes they had before and after completing computer-assisted instruction. Finally, Yin pointed out that there should be a relevant connection to the research literature and how a researcher defines the case or cases. Each unit of analysis should be similar in nature to ones previously studied by other researchers (Yin, 2009). The cases or participants in this study are advanced accounting students. In previous research studies, accounting students have been identified as students' attending four-year undergraduate universities. Advanced accounting students are identified as having successfully completed three years of core accounting courses and have completed one or more fourth year core accounting courses.

The fourth component of a qualitative case study research design is linking data to propositions and criteria for interpreting the findings. Yin (2009) provided pattern matching logic as an analytical technique during the data analysis phase. Trochim (1989) stated that the logic uncovers the relationship between the theoretical proposition and several pieces of data. Therefore, pattern matching is where two patterns coincide (Yin, 2009). One is the observed pattern while the other is the theoretical pattern.

The fifth component of a qualitative case study research design is criteria for interpreting a study's findings. Yin (2009) stated that this criteria needs to be described in the design phase even though the interpretation of the study's findings takes place during the data analysis phase.

Yin suggested including rival explanations as part of the design work. For this study, there are two rival explanations that I was aware of. First, Yin identified an implementation rival as one where “the implementation process, not the substantive intervention, accounts for the results” (p. 135). I questioned whether the implementation was done right. Second, Yin identified a super rival as “a force larger than but including the intervention accounts for the results” (p. 135). It was important for me to understand the implications of rival explanations and state them in the design phase. These rival explanations were part of creating a general analytical strategy in the data analysis phase of this study.

### **Research Question**

In this qualitative case study, I examined computer-assisted instruction that developed or enhanced a set of professional skills for advanced accounting students. How can accounting educators provide the development of these skills during students’ degree programs? One possible solution was to explore a process. This entailed examining computer-assisted instruction to determine if a connection existed between this type of instruction and the development of a professional skill set. Case study research examined this process best because it provides information that is central to the problem.

#### *Research Question*

How do accounting students perceive their professional skills before and after they complete computer-assisted instruction?

The use of interviews, reflective journals, and the computer program allowed me to analyze students’ perspectives of their skills before and after they complete computer-assisted instruction.

### **Context of the Study**

I addressed the problem of accounting educators in North Carolina who teach by lecture and recitation and accounting students who learn by rote memorization. The study used computer-assisted instruction as a supplemental learning tool to analyze advanced accounting students' perspectives of their skills. Interviews were conducted both before and after the computer-assisted instruction was used. Participant responses of their perceived abilities in critical thinking, communication, and problem-solving focused on how they felt before and after completing the requirements in the simulation. Reflective journals provided an understanding of how participants deal with ambiguous situations in a real world context provided in the simulation.

### **Measures for Ethical Protection**

In case studies, both data collection and the findings reported link directly to the relationship between the researcher and the participants (Merriam, 2002). Before this study began, I had an established relationship with each of the participants' based on trust from previous experiences in accounting courses. To protect one ethical aspect of this study and to ensure that students did not feel their grades in prior courses to this study would be compromised, I did not establish a relationship or make any contact with potential participants regarding this study until after the course was completed and grades submitted.

I participated in Walden's National Institute of Health (NIH) web-based training course "Protecting Human Research Participants" prior to submitting this study for approval by the Institutional Review Board (IRB). I obtained permission from the IRB approval number 12-30-10-0383595 to conduct the study. I provided information in an Invitation to Participate Flyer

(See Appendix C) and Consent Form (See Appendix D) that explained the confidentiality of students' information, the list of procedures that the participant went through during the entire study, their rights and benefits as a participant, and that they had not been identified in any way in the published data. Additionally, information provided to the participants in the Consent Form stated that the researcher was responsible for the safety of the participant, that any identifying information was not available to anyone that is not directly involved in this study, and that the researcher's responsibility includes awareness of how information is protected from unauthorized observation, and if and when participants are notified of any unforeseen findings from the research that they may or may not want to know. Additionally, the researcher understood that if any adverse events materialized regarding any participant, the researcher would notify the IRB immediately by completing the form "Adverse Event Reporting Form" found on the Walden website. The researcher would also immediately notify her Committee Chair regarding an adverse event to discuss and provide additional guidance. At no time has the researcher revealed the identities of the participants during this process. Also, the researcher understood that a participant had the right to withdraw during the study. The researcher did not publish any information that had been provided by the withdrawing participant. The data gathered before participant withdrawal would be separated from the information that would be published. The unpublished data is stored in a locked box that is kept by the researcher for five years. After five years this box will be destroyed.

I used a laptop computer throughout the study to gather and record data. This laptop has a password-protected feature. The password was created by the researcher and only the researcher knows the password.

All information was burned to a CD and erased off my computer hard drive after the completion of the study. The CD and paper documents are kept in a locked box for five years. After five years, all the information in the box will be destroyed.

### **Role of the Researcher**

I am employed as a full-time accounting instructor at a university. The study took place during a period when participants were not taking courses with me. The participants in this study have taken three or four accounting courses that I had taught at one of the university campuses in Central North Carolina. An instructor/student relationship of trust had been built prior to this study. Therefore, several measures took place before the study commenced to ensure that data collection was not affected by bias. The participants chosen were provided with the background of the study as well as the role they assumed in this study. The researcher provided clear and detailed information before the study commenced in the Invitation Flyer (See Appendix C) and the Consent Form (See Appendix D). The Invitation Flyer and the Consent Form fully described a participant's rights, risks, and benefits of participating in this study. In assuming the role of the researcher, I did keep personal bias and emotions to a minimum. As a measure to avoid personal bias or emotions to come through in the study's results, I used member checking after each interview and for the reflective journals. This allowed participants to review the transcriptions of the interviews and reflection journals to ensure objectivity and accuracy with how I recorded and reported the data.

### **Population and Sampling Procedure**

The goal of this qualitative exploratory case study was to solve a qualitative problem therefore probabilistic sampling is not used. The use of non-probability sampling is based on the

qualitative tradition in case studies to understand the rich meaning of a phenomenon rather than determining 'how much' or 'how often' (Merriam, 2002). I selected a purposeful sample that helped understand the problem and the research question. Creswell (2003) stated that purposeful sampling does not involve a large number of participants, only the optimal participants that will maximize what can be learned. Patton (1987) agreed with the premise of purposeful sampling and how the selection of cases can provide information that is rich in detail.

For my study, the strategy for a purposeful sample was maximum variation. Maximum variation provides both the diversity of information obtained from the individual participants as well as information that formed important patterns and themes essential to answer the study's research question (Creswell, 2007; Patton, 1987). I purposefully selected participants for this study from a wide range of cases by posting invitation flyers in student lounges at three of the university campuses in Central North Carolina. There were two specific requirements to participate in this study. The first requirement was that students successfully pass a senior level auditing course. The second requirement was that the students' degree majors were in the field of accounting. All employment in the accounting field affects financial information and reporting in the business world. The second requirement aligns with current research that have concerns regarding accounting graduates who do not have adequate skills to meet the challenging issues in the business world (Damitio & Schmidgall, 2007; Guyette, 2008; Kavanagh & Drennan, 2008; Sharifi, McCombs, Fraser, & McCabe, 2009; Smith, 2006).

In reviewing sample size in qualitative studies, Merriam (1998) posed the question "how many to sample?" Merriam answered that "there is no answer" (p. 64). Patton (1987) believed that the sample should be small enough in order to gather in depth data on each participant. This

qualitative exploratory case study chose to examine three advanced accounting students. In a purposeful sample with maximum variation as a strategy, Patton argued that selecting a small sample may create issues of heterogeneity. However, Patton rationalized this issue by stating that it is in the heterogeneity which provided both a sense of uniqueness in the high-quality descriptions from each case as well as shared patterns that may transcend across the cases (p. 51). The three participants were selected to illustrate an in depth understanding of the research problem through multiple perspectives. This study is a multiple-case design.

Yin (2009) stated that multiple-case designs cover several participants or cases in one study. The logic behind the multiple-case design is that each case consists of a 'whole study' and the data derived from each case may be similar enough to provide evidence that can be used to replicate its findings. Yin suggested that in multiple case designs, the researcher should follow a replication design. This design questions whether the findings for each case can be duplicated. It is in replications that the findings in multiple-case studies are deemed sufficient. Additionally, this design is suitable to derive replication in a few cases, such as the sample size selected for this study. A careful selection is made for each case so that it predicts similar results. This would be a literal replication.

In a literal replication, procedures must be supported by a theoretical framework (Yin, 2009). This framework states the condition that a particular phenomenon is expected to be found (Yin). For this study, the conceptual framework that was used was the experiential learning model. This model places emphasis of the learning process on the role of experience and on development of learning toward a purpose (Kolb, 1984). In using this model, I examined computer-assisted instruction that contains professional skill training and advanced accounting



students' perspectives of their skills. The condition in this study was the computer-assisted instruction. The particular phenomenon in this study was the participants' perspectives of their skills. The computer-assisted instruction is a simulation on auditing. This study selected three advanced accounting students who completed a senior level auditing course.

The emphasis of this qualitative exploratory case study was on the students and not on any particular university. This is not an exploratory case study on a university. This qualitative exploratory case study was on an examination of computer-assisted instruction and of students' perspectives of their skills. The rationale for selecting the sample was to examine a learning tool as an additional instructional technique for accounting students. The study's research question focused on the students' perspectives of their skill levels before and after completing computer-assisted instruction. The three participants chosen all voluntarily agreed to participate (see Consent Form Appendix D). They possessed varied personal and professional backgrounds. The decision to choose these particular participants was intentional as to provide this study with various perspectives. These various perspectives provided uniqueness to this qualitative exploratory case study.

### **Data Collection Procedures**

This section is devoted to describing the data collection techniques that addressed the problem of students' learning by rote memorization and not being provided with the opportunity to apply their accounting knowledge to unstructured and ambiguous situations they may be faced with in the business world. According to Merriam (1998), a researcher identifies a problem, reviews what information is required to address the problem, and then decides how best to obtain that information. Merriam (1998) suggested that the data collection techniques chosen are also

determined by the purpose of the study and the sample that is selected. The purpose of this qualitative exploratory case study was to analyze advanced accounting students' perspectives of their professional skills before and after computer-assisted instruction. For this study, I chose a purposeful sample. The type of purposeful sample was maximum variation. Maximum variation provided both the diversity of information obtained from the three individual participants as well as information that formed important patterns and themes essential to answer the study's research question (Creswell, 2007; Patton, 1987). The participants in this study provided essential information in the areas of academic accounting knowledge and experience by using computer-assisted instruction that includes professional skill training. The collection data procedures encompassed sources of evidence that provided information central to the problem. For this study, interviews, student reflective journals, and the computer simulation were chosen as the sources of evidence. Each of these data collection techniques are described in this section.

Before data collection takes place, Yin (2009) suggested that a researcher obtains or practices certain skills that maximize effective data collection. The skills Yin mentioned were to ask good questions, be a good listener, be adaptive and flexible to new, unexpected situations, be sensitive and responsive to contradictory evidence, and have a firm grasp of the problem being studied. Oftentimes, researchers rush into the field to collect data. Some researchers realize the consequences of not spending an adequate amount of time in the field. Researchers should be aware that all data collection may not go as smoothly as one would like. Additionally, researchers should not have a rushed disposition when performing field work. I have paid as much attention on the preparation for data collection that Yin has described above as well as to the data collection protocol when I was in the field.

Yin (2009) described three principles of data collection, which mainly support the quality or validity of qualitative exploratory case study evidence. The application of those principles is found in the validity section below. However, Yin believed that the principles of data collection should be followed in order to maximize the benefits from sources of evidence in case studies. I used interviews, student reflective journals, and the computer program as primary sources of evidence.

The first principle of data collection is to use multiple sources of evidence. Both Merriam (1998) and Patton (1987) agreed that in using multiple sources of data, a more comprehensive understanding of the phenomenon can be trusted over using only one source. Patton (1987) also suggested that in using multiple sources of evidence, the different data derived captures different things that one source may not provide. Merriam (1998) described the use of multiple means of data collection as necessary in order provide both depth and breadth of the qualitative case study in its totality. Yin (2009) rationalized the use of multiple sources of evidence to triangulate and corroborate the findings in converging lines of inquiry. The findings become more convincing if a researcher follows that corroboratory mode.

The two other principles of data collection that Yin described are creating a qualitative case study database and maintaining a chain of evidence. Those two principles, as well as the first principle of the use of multiple sources of evidence, are discussed in the validity section.

### **Interviews**

Interviews are used in case studies as both a common form of data collection as well as one of the more major sources of information (Merriam, 1998; Yin, 2009). The data derived from interviews finds its strength in understanding the phenomenon under study (Yin, 2009).

The participants' in a qualitative exploratory case study defined their world according to the questions that are being asked. Yin (2009) stated that these questions guide the conversation. Merriam (1998) believed that the researcher develops the conversations with a purpose in mind. One of the points Yin (2009) made in preparing for data collection is being able to ask the right questions. I was able to understand the phenomenon well enough in order to ask the right questions. In asking the right questions, I was able to obtain the information needed in order to answer the research question.

Yin (2009) described three types of interviews, which are in-depth, focused, and surveys. I chose to conduct in-depth interviews for this study. As Yin (2009) explained, in-depth interviews are conversations about facts, opinions, and insights that are provided by each participant. The interviews conducted took place over a series of time. I looked for the participant to become a key informant in the understanding of the phenomenon. Merriam (1998) stated that the key informant offers a rich perspective of the topic that is being examined. I conducted interviews before and after computer-assisted instruction is used by the participant.

Prior to the use of the computer instruction, I developed a precomputer interview guide (See Appendix A) that focused on the participants' perspectives of how they view their skills in critical thinking, communication, and problem-solving. It is important to understand the participants' views of their abilities and experiences in both their academic and professional lives. The questions developed were sensitive to the participants' perspectives therefore the interview format was one of open-ended, semi-structured questions that started with "how" instead of "why" in order to elicit important information that was examined in each computer session. The interview dates, times, and length were agreed upon by both myself and each

participant. I arranged a specific meeting place that offered a quiet and comfortable environment to conduct the interviews. The interview length was between twenty and thirty minutes.

I recorded each interview. I used a digital recorder that was tested prior to each interview. The recorded interviews provided exact information of what was said and served as a useful instrument for transcription and coding later on during the data analysis phase of this study. I was aware that not all participants would feel comfortable being taped. The participants had the option to choose not to be taped at any time before or during the interview process. The Consent Form (see Appendix D) explained the participant's rights with regard to the tape recording conducted during the interview sessions.

Additionally, after participants completed the computer-assisted instruction, there was an interview. I developed a postcomputer interview guide (See Appendix B) that was structured the same as the precomputer interview. The interview dates, times, and length were agreed upon by both myself and each participant. I arranged a specific meeting place that offered a quiet and comfortable environment to conduct the interviews. The interview length was between twenty and thirty minutes.

All data collected from these two interview sessions were transcribed to derive major themes regarding students' perspectives of their skills before and after computer-assisted instruction is used. Further discussion on the process of information received and analyzed from these two interview sessions is found in the data analysis section.

### **Real Audit™ Simulation**

The second primary source of evidence in data collection was the computer-assisted instruction. The Real Audit™ Simulation is an interactive game that was developed by Dr. John

A. Schatzel. The simulation game can be found on the web site: <http://www.realaudit.com>. An instructor at a university or college can request a copy of the simulation for a 90-day trial period. However, before the copy of the simulation is provided to the instructor, the instructor must provide a college or university email address which Real Audit™ verifies before releasing the requested copy.

The simulation game immerses the participant into the responsibilities of auditing, which include understanding the auditing environment and the auditor's client. The game includes a virtual desk with information such as the permanent file, drafts of the financial statements, and planning memo. The participant engages in algorithmic conversations between the audit manager and the client's employees to understand the company environment. From this information, the participant either moves forward in the game to gather hidden evidence or goes back to converse further with the characters. The game's premise is to show participants what it takes to work for a public accounting firm.

Each participant received access to the Real Audit™ Simulation through an Adoption Form prepared by the researcher, who purchased a number of licenses through the official web site: <http://www.realaudit.com>. The participant registered through the web site and used the researcher's name at time of payment. Each participant received a USB flash drive to download the computer program. A user guide was provided to each participant. The guide demonstrated how to load the program on to a flash drive. The user guide was included in a three ring binder that the researcher provided to each participant after the precomputer interview.

The three ring binders contained guidance for the participant as they navigated through the simulation. There are six sections in this binder: an introduction to the simulation, starting

the simulation, analytical procedures and client risk, audit strategy, and the Real Audit™ Simulation User Manual.

The introduction to the simulation provided the participant with an overview of the game, the protocol set by the researcher, the experiences one had when going through the simulation, and documenting the experiences in a reflective journal. The overview described how the game placed the participant in-charge of an audit engagement with a series of tasks to complete. Additionally, the participant communicated with two inexperienced staff auditors who were automatically assigned audit tasks, such as getting to know the client and testing financial statement balances. Afterward, the participant discussed the findings with the Controller and then report back to the Audit Manager to receive a full staff evaluation. In this simulation, there was built-in performance experience rating that scored a participant's success in locating the necessary evidence (through inquiry and other audit tests) and the participant's ability to identify and negotiate the needed audit adjustments. Experience points were also granted by the participant's ability to control efficiency and the audit fee which had an effect on the outcome of the engagement.

The introduction to the simulation also contained the various modules participant's can go through in the game to gain experience points. The experience a participant had was totally up to them. If in fact, the participant enjoyed the discussions between the Controller and the Audit Manager, then that served as a learning experience. If a participant understood what their audit responsibilities were through discussions with the Audit Manager and went through the Planning module as well as the Accounts Receivable or Fixed Asset module, then that served as a learning experience. If the participant only went through the Planning module then that served as a

learning experience. Finally, a participant may only be interested in the experience score they received every time they went through the simulation. The participant documented their experience through a reflective journal (see next sub-section), responded to questions that the researcher posed in each section of the binder, as well as any questions or thoughts they had as they navigated through the game.

The second section of the binder provided direction with starting the simulation. The participant read and responded (by following the clues that allowed one to proceed with the discussion between the participant and the Audit Manager) to the initial instructions from the Audit Manager. Then the participant was asked to do the game tutorial. The final instructions was to find the virtual desk (with some help from the receptionist) and responded to a series of questions about the audit client such as what type of company it is, if the company is large or small, and if the company is public or private.

The third section of the binder contained the analytical procedures and client risk, an aspect of auditing a client that is reviewed before work in the field is conducted. In this simulation, a copy of the preliminary analytical review report and the balance sheet listed all of the accounts and account balances. Based upon the numbers in these two reports, the participant was asked a series of questions such as assessing the risk and whether the account balances are troublesome enough to withdraw from the audit engagement. The participant documented their answers in the reflective journal.

The fourth section of this binder had copies of the financial statements that the researcher printed out. These reports were exactly what were found in the simulation. These reports were used as a quick reference as a participant went through the simulation.



The fifth section of this binder provided the audit strategy. The virtual auditing firm where the participant was an auditor had taken a position of how they approached the audit. The participant had this information in the form of a planning memo. Within the planning memo, the participant was asked to focus their understanding of the audit approach that the auditing firm had taken. The participant was prompted to review the two pages of the audit approach in this section of the binder. Additionally, a participant used an auditing textbook to make sure that they understood the testing that the audit team conducted with the client's revenue cycle, expenditure cycle, inventory, and fixed assets. The participant was asked a series of questions regarding the approach to this audit. The participant's responses were documented in the reflective journal.

The sixth and final section of this binder contained the simulation author's user guide to the game. When a participant successfully registered with Real Audit™, a user guide in the form of a PDF file was available. However, a hard copy of this user manual was included in the binder for easy reference.

The simulation allowed multiple times that one can access it. As a feature of the simulation, every time one exits out of the simulation, a performance report was emailed to the instructor. As the researcher, I chose this feature when I purchased licensed copies of the simulation. The performance report included the time a user spends in the program and an experience score. The experience score was based upon how many hints were used and how well a user navigated through the requirements of the audit engagement. For my study, the experience scores were not the focal point. The time spent in the simulation to gain real world experience was a key point in analyzing a participant's perception of their skills in critical

thinking, communication, and problem-solving. The performance reports were emailed to my Walden email address.

### **Reflective Journals**

The third primary source of evidence in data collection was documentation from reflective journals. These reflective journals were the participant's diaries during the research study. Yin (2009) found that this type of evidence has stability, is unobtrusive, exact, and covers a period of time. The stability in the reflective journals was documentation that can be reviewed repeatedly. The reflective journals were unobtrusive in that they were not created as a result of the qualitative exploratory case study, but were created during the case study. The reflective journals contained exact information and rich detail about a participant's personal thoughts regarding the computer-assisted instruction. Additionally, the reflective journals promoted a change in attitude or abilities while using computer-assisted instruction over a period of time.

These reflective journals became part of a participant's personal journey through an academic experience over a period of one month. The reflective journals provided firsthand knowledge of the phenomenon under study. Additionally, reflective journals were authentic documents because they were being written by the participant. The participant was provided with instructions on the use of reflective journals at the beginning of the study. In addition, there were journal prompts provided in the computer simulation binder that guided a participant's experience through documentation. The reflective journal for each participant was given to them at the beginning of the study. I collected these reflective journals at the end of the study and placed them in a secure location after data analysis.

### **Data Analysis**

With the data collection procedures in place, I refer back to both Yin (2009) and Merriam (1998) for their approaches to qualitative case study data analysis. Yin (2009) stated that qualitative case study data analysis does not have a fully developed plan to follow. Instead the procedures for analysis use the premise of what researchers do with the evidence collected. Somehow qualitative case study researchers need to make sense of the data. In other words, how can researchers tell the story from the data? It depends upon the researcher during the collection of the evidence to ensure that there is a sufficient presentation of data.

Yin (2009) provided guidance for developing analytical strategies and techniques. The researcher formulates their own plan to proceed during this phase of the study. Merriam (1998) suggested that a good way to analyze data would be at the same time data collection takes place. Often in qualitative studies, information may be continuously collected and at the end of this phase of the study there appears to be an overwhelming amount of analysis to be conducted. This could lead a researcher to become confused with the amount of analysis and present findings that may be incorrect. I simultaneously analyzed data during the data collection phase in this qualitative exploratory case study, per Merriam's suggestion. There were numerous occasions when data collection took place. Data collection began with three separate precomputer interviews. The researcher arranged for these interviews to occur within days of one another. I transcribed those interviews within a one week period. After the precomputer interview sessions, the participant registered with Real Audit™ and downloaded the simulation game to a USB flash drive. I provided each participant with a three ring binder and a reflective journal notebook that they took home. Each time a participant worked through the simulation

game and then exits the game, the simulation results were emailed to me. The participant wrote in the reflective journal during the study and I analyzed these data when I collected the journals. I collected each journal when I conducted the postcomputer interviews. Within one week after the postcomputer interviews take place, I fully transcribed the interviews. Additionally, I analyzed the data in the reflective journals and the time spent in the simulation game.

I did not use qualitative dissertation software for data analysis. The analysis of data was processed manually. I developed a coding system for the evidence that was collected. Hatch (2002) provided guidance to develop codes for major categories. For the interviews, reflective journals, and time spent in the computer simulation, the coding process was derived from the Hatch's (2002) interpretive analysis model. This interpretive analysis model provided meaning of the data by creating explanations of what went on with the phenomenon and participants in the setting. Major categories were created by developing insights and attaching significance to what the data meant. Hatch also suggested that the researcher return to the participants with a draft of the insights to make sure that interpretation of what occurred in the research setting was an accurate description. I created codes based on the common themes and patterns from the interpretation of words and phrases.

In using the interpretive model, I developed major categories gleaned from the interviews, the reflective journals, and the time spent in the computer simulation. I created subcategories from reading the evidence several times to make sure that the major categories were valid and broken down further into detail. Additionally, I used Miles and Huberman's (1994) guidance to assign meaning to the data by creating topics and subtopics that made sense to the evidence collected while referring back to the research question. I conceptualized the

evidence collected in relation to the research question, how advanced accounting students perceive their professional skills before and after they complete computer-assisted instruction? I used Hatch's (2002) process of creating an outline of categories/topics that drilled down to sub-categories or sub-topics. This outline provided a logical way to take chunks of the data and assign data codes according to which major category the information related to.

Once the coding was developed, I used the logic model that Yin (2009) described as one of five analytical techniques in qualitative case study data analysis. The premise of the logic model lies in the planned chain of events that occur over a period of time. This is a form of pattern matching however it formulates on the events to demonstrate a repeated cause-effect-cause-effect pattern. Yin stated that “a dependent variable (event) at an earlier stage becomes the independent variable (causal event) for the next stage” (p. 149). I matched the observed event(s) (empirical) to the theoretical predicted events. The purpose of this qualitative exploratory case study was to examine advanced accounting students’ perspectives of their skills before and after they complete computer-assisted instruction.

Computer-assisted instruction was an intervention aimed at improving student skill levels. The intervention involved an interactive auditing simulation that demonstrated students’ experience and knowledge in the area of auditing. Within this simulation, there were many choices that a student chose when dealing with their first audit client. If they were unsure of how to proceed throughout the simulation, the student moved either forward to backward. Experience points were assigned when the student moved forward. This activity provided time for students to work through various conversations and information they encountered with both the audit manager and the client. The student slowly began to develop a formal audit plan (immediate

outcome). The result of the immediate outcome was evidence of increased understanding and satisfaction with their learning process (second immediate outcome). The activities in the simulation in the computer sessions lead to the increased development or enhancement of certain professional skills.

Yin's (2009) logic model of events demonstrated a cause-effect-cause-effect relationship. The participants used their knowledge learned in an auditing course and applied that knowledge to the simulation requirements. The students were practicing their knowledge and applications, all the while building their experience in dealing with ambiguity in a real-life context. The theoretical predictions in this logic model followed my conceptual framework of using experiential learning to develop or enhance professional skills in accounting students.

### **Discrepant Cases**

In qualitative research, we search for major themes and categories to find meaning in the phenomenon we are studying. While researchers organize data analysis into these themes and categories, there may be data we come upon that does not fit into the theories and explanations stated in our studies. These data are termed “negative evidence” or “discrepant cases” (Kaczynski, 2004; Marriott, 2002; Miles & Huberman, 1994). The procedure for dealing with discrepant cases in this study followed the protocol suggested by Kaczynski (2004) and Miles and Huberman (1994). The discrepant cases would be analyzed for the information they provided. Instead of ignoring such data in this study, the information would stand separate from the major categories and themes developed. These data would be measured against the categories and themes to determine if there was a perspective that the researcher did not think about before that provided an alternative finding. Further procedure in a discrepant case was to

determine if the proportion of positive evidence outweighed the negative evidence found.

Nevertheless, data analysis in this study encompassed all evidence found whether it was positive or negative. The procedures set forth in this subsection determined if negative evidence was large enough to be reported in this study's findings.

### **Validity**

Establishing quality in a qualitative study undergoes a series of validation and reliability issues that need to be addressed (Creswell, 2007). The procedures that are put into place can ensure that the study provides valid and reliable knowledge (Merriam, 1998). The research should be trustworthy. It is a combination of strategies and processes that guides the investigation ethically that proved to be the most powerful in establishing quality for this study.

It was important to employ more than one strategy for establishing quality because the study went through a series of time and phases and one strategy did not fit all phases. For example in case studies, Yin (2009) provided a simple guideline at what phase tests for validity and reliability need to occur. Construct validity tests fall under the data collection and composition phase of research. Internal validity tests fall under the data analysis phase of research. External validity tests fall under the research design phase. Reliability tests fall under the data collection phase of research.

Construct validity occurs when a researcher develops an operational set of measures for the concepts being studied (Yin, 2009). The use of multiple sources of data is necessary to triangulate the data during the data collection process. I used triangulation during the data collection process. The multiple sources of data used were from interviews, reflective journals, and the time spent in the computer program. When a researcher draws and verifies conclusions,

there should be a chain of evidence that ties together the research question, the data, and the results of the qualitative case study (Yin, 2009). I established a chain of evidence during the data collection phase. This chain of evidence was presented as logical factors that were connected by relationships (Miles & Huberman, 1994). An evidential trail was formed slowly, tested and verified against the data collection so that a case was made for what causes the problem. Finally, I provided the qualitative exploratory case study findings to key informants. This safeguard was implemented to ensure accuracy of the findings (Yin, 2009).

Internal validity deals with credibility and authenticity (Miles & Huberman, 1994). It also asks the question are we measuring and reporting what we think we are measuring and reporting (Merriam & Associates, 2002). Internal validity in a study deals with the reality that is portrayed in the findings (Merriam, 1998). I was the primary instrument for data collection. I collected data through interviews, reflective journals, and the computer program. I also used member checking. Member checking involved the participants to provide feedback on what the researcher has interpreted (Merriam & Associates, 2002). This would ensure that I had portrayed the participant's experiences correctly. Finally, Yin (2009) stated that a strategy to be used in case studies is pattern matching. The form of pattern matching that I used was Yin's logic model that demonstrated a repeated cause-effect-cause-effect pattern. In this study the repeated cause-effect-cause-effect formed a logical pattern and this helped strengthen internal validity (p. 136).

External validity in a qualitative study deals with evidence in the data and in the findings that can be generalized to other situations. A researcher needs to think how the results are applicable and transferable to another situation (Merriam, 1998; Yin, 2009). There has been a problem with generalizations in qualitative studies in the past (Merriam, 1998). Generalization



cannot be thought of quantitatively because I did not use numbers in this qualitative exploratory case study. Qualitative researchers use information to communicate a particular phenomenon in depth. I used a common strategy for generalization in this qualitative exploratory case study by providing sufficient descriptions of the study's context and the use of multiple cases. When detailed descriptions of a study's environment are presented, readers or users can make comparisons with their situation (Merriam, 1998).

Reliability focuses on "whether the results are consistent with the data collected" (Merriam, 2002, p. 27). I needed to assure others that the results are logical, consistent, and dependable (Lincoln & Guba, 1985; Miles & Huberman, 1994). Yin (2009) suggested that if another researcher takes the procedures written from a previous qualitative exploratory case study, they should come up with the same results. Additionally, researchers should make their position in the study evident. I explained my position regarding the relationship with the participants as well as the assumptions and theory used in the study (Merriam, 1998). As stated previously, I used triangulation. Triangulation was a strategy that was used to improve reliability through the data gathered from interviews, reflective journals, and the computer program in this qualitative exploratory case study. Finally, in order for the study to be authentic in its findings, I thoroughly described data collection, categories developed, and decisions made in order for my study to contain a trail that can be audited (Merriam, 1998).

### **Summary**

Chapter 3 contained a discussion of the research design and methodology that I used for this study. I described the rationale for choosing the design and methodology to address the problem and to answer the research question posit in Chapters 1 and 2. Chapter 3 explained the

context for the study, which described the problem of accounting students who learn by rote memorization. The study used computer-assisted instruction as a supplemental learning tool to analyze advanced accounting students' perspectives of their skills before and after they complete computer-assisted instruction. Interviews, reflection journals, and the time spent in the computer simulation provided an understanding of how participants deal with ambiguous situations in a real world context. I described the measures for ethical protection of participants and the role of the researcher. I explained the criteria for selecting participants, data collection and analysis procedures. Finally, I addressed validity to ensure the quality of my qualitative exploratory case study.

#### Section 4: Presentation and Analysis of Data

The purpose of this qualitative exploratory case study was to analyze advanced accounting students' perspectives of their professional skills before and after computer-assisted instruction. Student perspectives of their professional skills and their experiences in using computer-assisted instruction were reported in their own words in order to better understand those individuals that may one day join the profession. For this study, precomputer and postcomputer interviews, a computer simulation, and student reflective journals were the data sources collected in the winter of 2011. The preinterviews probed student perspectives of their skills in critical thinking, communication, and problem-solving. The postinterviews probed student perspectives of their skills after they used computer-assisted instruction. The computer simulation navigated the student through various challenges that mimicked real world auditing scenarios. Data collected from this simulation was from performance reports measured in students' time and activity every time they logged in to the program. The reflective journals provided students' experiences in using the computer simulation. Section 4 describes the procedure, results, evidence of quality, and conclusion.

##### **Procedure**

The following steps were followed to collect data for this qualitative exploratory case study.

To obtain a purposeful sample for this study, invitation flyers were posted at three university campus student lounges (Appendix C). Based upon the responses, permission was obtained from individual students to be interviewed, participate in the computer simulation, and write in a reflective journal (Appendix D).

The students were selected based upon two specific requirements. The first requirement was students who have successfully passed a senior level auditing course. The second requirement was that the students' degree majors were in the field of accounting. An additional consideration was students' availability during the time that the study was conducted. Three students, who had met the above criteria, participated.

Data collection began with three separate precomputer interviews. I transcribed those interviews within a one week period. After the precomputer interview sessions, each participant registered with Real Audit™ and downloaded the simulation game to a USB flash drive. I provided each participant with a three ring binder and a reflective journal notebook that they took home. Each time a participant worked through the simulation game, the simulation results were emailed to me. Participant's time in the simulation totaled between 3 and 4 3/4 hours during a one month period. After one month, I emailed each participant to request a final meeting. During this final meeting, I collected the reflective journals and conducted postcomputer interviews. Within one week after the postcomputer interviews took place, I transcribed those interviews.

I did not use qualitative dissertation software for data analysis. The analysis of data was processed manually. I developed a coding system for the evidence that was collected using Hatch's (2002) interpretive analysis model to develop an open coding system for major

categories derived from the interviews, reflective journals, and time spent in the computer simulation. This open coding process provided meaning of the data by creating explanations of what went on with the phenomenon and participants in the setting. Major categories were created by developing insights and attaching significance to what the data meant. I then created codes based on the interpretation of words and phrases. This generated common patterns. From the common patterns, four themes were identified. Subtopics were derived using Miles and Huberman's (1994) guidance to assign meaning to the data to conceptualized the evidence collected in relation to the research question, how advanced accounting students perceive their professional skills before and after they complete computer-assisted instruction? I used Hatch's (2002) process of creating an outline of categories/topics which provided a logical way to take chunks of the data and assign data codes according to which major category the information related to. For example, the first category that was identified was the relationship or connection made between students' perspectives between school and the workplace when using the simulation. From this category, I was able to analyze the evidence from all sources to identify this connection as a major theme. Another major category was the hands-on experience that the students were receiving when using the simulation. From the hands-on experience category, I was able to analyze the evidence from all sources to identify hands-on experience as a major theme. While the first data collected was from precomputer interview transcripts, these data could only be construed as a baseline. It was only after analyzing the data collected from the reflective journals and postcomputer interview transcripts that I went back to the precomputer interview transcripts. The data from the precomputer interview transcripts complemented the common patterns and themes derived from the other sources of evidence.

Once the coding was developed, I used the logic model that Yin (2009) described as one of five analytical techniques in qualitative case study data analysis. The premise of the logic model lies in the planned chain of events to demonstrate a repeated cause-effect-cause-effect pattern over time. Yin (2009) stated that “a dependent variable (event) at an earlier stage becomes the independent variable (causal event) for the next stage” (p. 149). I matched the observed event(s) (empirical) to the theoretical predicted events. It was students’ repeated time and use of the computer simulation that allowed their perspectives to change the way they felt about their professional skills in the areas of critical thinking, communication, and problem-solving. The following sub-section provides the results.

## **Findings**

### **Research Question**

How do accounting students perceive their professional skills before and after they complete computer-assisted instruction?

In reviewing the transcripts from the precomputer interviews, the performance reports from the Real Audit™ simulation game, the participant’s writings in the reflective journals, and the transcripts from the postcomputer interviews, I was able to identify four themes regarding the research question. The first theme was making a connection between the concepts learned in school and real world situations found in the accounting profession. The second theme was gaining hands-on experience as the participants were using the simulation. The third theme was the experience demonstrated that the simulation built confidence. The fourth theme was the motivation to learn more through real world scenarios to improve skills.

Data were collected from participant precomputer and postcomputer interviews, reflective journals, and the performance reports from the Real Audit™ simulation game. The following sub-sections describe the results from the data collected.

### **Precomputer interviews.**

There were 7 precomputer interview questions involving participants' perspectives of their skills in the areas of critical thinking, communication, and problem-solving (Appendix A).

Interview question 1 asked the participant; how do you begin to work on a school assignment? The responses revealed that all participants were methodical in how they organize the work to be accomplished. The participants usually begin by reading the requirements in the assignment and then review material in the textbook, PowerPoint® slides, their course notes, or the internet. Once the participants felt like they have a sufficient understanding of the materials, they would compose their answers. The participant's methodical approach in how they worked through school assignment requirements is something that they are comfortable with after attending school for a number of years.

Interview question 2 states: How do you approach a problem you are faced with? While the results revealed all participants would solve problems according to the nature of the problem and that all problems cannot be solved in the same way, each participant had a different perspective in their approach. Participant A responded, "I go straight to the source and tell them exactly what the problem I am having and see what they can do to resolve the problem... if the problem isn't resolved within the time frame that I have set forth...then I would take it to the next level." Participant B stated, "There is no hard and fast rule to how I solve a problem...I would look at it, analyze it, and then look at the appropriate solution for that problem."

Participant C responded, “First I try to analyze the problem...find out what is causing the problem...try to think about different solutions. Once I get the solutions I try to apply the most effective or efficient solution to solve the problem.” The participant’s individual approaches imply that problems encountered in everyday life, whether at home, school, or at a job, have successfully been employed by each participant.

Interview question 3 states: How would you describe your biggest fear before you proceed to this computer program? The results revealed that there was uncertainty about how the participant’s auditing knowledge and understanding were in relation to the requirements of the simulation. The participants were dealing with an area they had not ventured into before at school. Participant A responded the fear was that, “I would forget everything that I had learned and would sit there frozen in front of the computer.” Participant B stated, “I still have a fear of whether I am prepared enough to do this and to do it well.” Participant C revealed, “I think my biggest fear is to be able to use all the knowledge that I have related to accounting in order to complete the games.” It was noted by the participants that prior courses at their university or college did not have this type of learning tool, therefore these participants could not visualize what they were to do once they logged into the computer simulation. However, the fear present in these precomputer interviews did not prevent the participants to venture in to the simulation to complete the requirements.

Interview question 4 states: How do you feel regarding your critical thinking skills and the ability to do accounting? All of the participants responded that they felt their skills were very high. Each participant expressed that they enjoyed a challenge and the ability to go through a critical review to achieve results. Participant A stated:



I believe that I am a very inquisitive person so I really don't care to just be told what it is. But I would really like to know how you arrived at that place. So I am really those that ask questions. I would dig deep to find out. And I am excited to find the process of getting to it. Because once you know the process, then everything opens up and it starts rolling over.

Participant B responded, "I have very high critical thinking skills. I know that I would not do a thing without taking a critical look at it. I think deep and hard to enable me to come up with what I think should be the solution to whatever situation that I am faced with." Participant C stated, "I feel like my critical thinking skills have really improved in the last 4 years."

With the ability to do accounting, there were some mixed responses mainly because these participants are not working in the accounting field. Additionally, participants wanted to obtain more practical experience to use the knowledge gained so far in school. Participant A revealed, "Honestly, I feel OK with the things that I have learned in the auditing class. But with the accounting I would I really love hands on. It would make me feel a little more confident in the accounting field once I get the hands on experience." Participant C responded, "I feel more able to use the knowledge that I know to apply to solve issues related to accounting." Participant B stated, "In terms of my ability to do accounting, I would not call myself an expert or an experienced person. In fact, I did not hesitate to call myself an accountant because I just try to relate and I don't have any practical experience. So for now I would not say my ability to do accounting is very high."

Interview question 5 states: How do you feel regarding your communication skills? The question was broken down into 2 separate queries. The accounting field requires professionals to

have both written and oral communication skills, so each skill was questioned separately in the interviews. All of the participants felt that they had very good written communication skills and were able to express themselves through the written word. Participant A stated, “I am able to express more on paper...when you sit down and write, you are able to think things over more clearly. You have more time to really express what you are trying to relate to the party at hand... my written communication skills...I believe that it is very intact.” Participant B expressed, “I have very good written communication skills.” Participant C responded, “It’s easy for me to write than I talk. It’s always easier with school I had to write papers all the time.” There were mixed responses regarding the participant’s oral communication skills. Participant A stated, “Orally I can communicate what I feel, what I think, what I believe, what my opinion is about things.” Participant B responded, “Well, my oral communication skills may not be that high. But I know that I can communicate well enough.” Participant C stated, “English is not my first language, so I always have problems with communication skills. I think I’ve improved in the last few years. And I always keep improving try to speak slower, mostly to say the words the right way. School definitely helped me to improve the skills.”

Additionally, there was a follow up question; why are communication skills important to the accounting profession? All of the participants stated that good communication skills were important in the accounting profession. Participant A stated, “Effective communication is a priority and it is very important in the accounting function. Knowing how to speak clearly so that they can understand what is being said, what you might need, and to effectively be able to bring it across so it won’t be misconstrued. To get what you really need and not get something that you don’t need.” Participant C responded, “They are important because you are exchanging

information all the time, so you can get a lot of misunderstandings or you can make a lot of mistakes in failure not to communicate. Or when you are working with clients you have to be able to talk properly, in a professional manner to them. Try to explain everything the right way so you make sure they understand.” Participant B expressed it this way:

With regards to the importance of communication skills to the accounting profession, there is absolutely no doubt that as an accountant...even if you don't have very high oral communication skills your written communication skills have to be high because you will need to communicate with your clients, with your work. For instance, you are an auditor and the engagement has to be done in such a way that your client will feel that they have achieved the best result. And communicate to them in such a way that your work will be meaningful not only to them but to the other users of your audit report.

Each of the participants understanding of the importance of communication skills directly related to how they perceived the accounting profession to be. Even though these participants were not working in the accounting field during this study, they clearly understood the expectations of communicating well with potential employers and clients.

Interview question 6 states: How do you feel regarding your problem-solving skills and the ability to do accounting? All of the participants stated that they feel good about their problem-solving skills. They believed this skill is directly related to solving client or employee issues as well as solving problems related to the company's financial information. From the perspective of problem solving skills related to client or employee issues, Participant A stated, “I have someone that's being very hard about giving me information that I need. So that's created a problem for me to finish my job at hand...I would have to know how to approach the person...

how to guess what type of behavioral type they are. Make sure that my tone is at a place where it is not harsh it is not overwhelming... overbearing. I tend to lean more toward getting into the other person's shoes...to try to understand them to try and approach them with some other type of question, to come at another angle." In relation to problem solving skills in accounting, Participant A responded, "I tend to dig to get more information, to find out the missing piece. Maybe its balances out of whack, one is one amount compared to some amount in the previous year. I would tend to get every piece of missing information, missing links, things that you would not even think to look into, become more investigative in this, to find out because most of the time the problem at hand is very simple and something is right in front of you. But it takes a little work. So I am willing to put forth the work, the effort, and the time to solve the problem at hand, because I prefer a finished product and I don't like anything hanging out." Participant B stated, "In regard to the ability to do accounting, I will not consider myself an experienced accountant. I do the best I can based on my elementary level of accounting. If I do have an accounting problem that I cannot solve, I would seek the help of an experienced accountant that can help. I know that with time just like everything else practice makes perfect. So the more I do accounting, or deal with accounting problems the more confident I would become in my ability to handle accounting problems." Participant C responded, "From all of the accounting classes that I have taken, problem solving has always been an important factor. You have to be able to find solutions to problems all the time. I think my skills have improved, specifically in the last 2 years after taking high level courses. Most I would say you can use the concepts and the procedures that you know in order to apply to solve some problems. But I think the more experience you get the better I am going to get to help solve problems."

Interview question 7 states: How do you feel about learning new concepts on your own? All of the participants enjoyed learning new accounting concepts on their own. However, it was also important to these participants that working with someone to learn these new concepts would confirm their understanding of new material. Participant A stated, “I tend to get more of an understanding when I am on my own because I can go at my own pace. But I would love also to be able to have someone or some information, a book or manual that I can refer to in the case that I need help or some more guidance to get what I need to understand.” Participant B responded, “I always like learning new things, including new accounting concepts. I feel excited when I learn something new and different. It helps me to be in a position to handle the problem that might be related to that knowledge. I’ll also take the initiative to research for new things because at the end of the day it enhances my knowledge.”

Participant C expressed it this way:

I am always trying to learn new concepts on my own. I am always reading newsletters and magazines...always looking at online dictionaries to learn new concepts. You don’t always learn everything in school. You also have to look in your spare time by yourself to try to learn new concepts. I mean, I learn on my own but yeah it would help if you had somebody so you can exchange ideas...maybe we can have a different understanding of the same concept. So it’s good to know what the other person thinks.

In summation, the precomputer interviews revealed that these participants felt very good about their critical thinking, communication, and problem-solving skills. Each participant described their methodical approach in completing school assignments and how they approach problems they encounter. The participants had mixed feelings regarding their communication

skills. The interviews broke this skill down into three components. The first component was written communication skills, which all participants felt that they had. Written communication skills had been developed throughout the participant's years in school as writing papers in different courses was a way to practice this skill. The second component was oral communication skills. While one participant felt that they had pretty good oral communication skills, the two other participants felt that this skill was not as strong as they would like it to be. However, these two participants stated that they continue to work on improving this skill. The third component was the importance of having good communication skills in the accounting profession. All participants expressed that they clearly understood the expectations of having very good written and oral communication skills in the profession. These participants provided examples during the interviews of how they would communicate with potential employers and clients. Regarding participant's problem-solving skills, each expressed that their skills were very good. The participants described that they work to understand the nature of the problem and either thought about different solutions or looked for someone to provide guidance in solving problems. Finally, all of the participants reported that they felt very comfortable in learning new concepts on their own. These participants enjoyed the journey to find new information to enhance their knowledge base. In addition, the participants expressed that they would not mind learning and sharing information with someone if a different perspective was presented and knowledge was gained in the end.

Overall, the precomputer interviews provided the perspectives of the participant's skill levels in critical thinking, communication, and problem-solving. Although each participant perceived their skills to be very good, they felt uncertain about working through the simulation

requirements. Two contributing factors in the participant's lack of self-confidence may stem from not currently working in the field of accounting and not being provided with opportunities to practice what they have learned in school.

### **Computer simulation.**

Every time a participant logged in to the simulation, the information transmitted to the Real Audit™ server. The time spent in the simulation as well as the participant's activities was transmitted in a performance report emailed to me. There is a built-in performance experience rating that judged a participant's success to locate the necessary evidence (through inquiry and other audit tests) and their ability to identify and negotiate the needed audit adjustments. Experience points were granted by the participant's ability to control efficiency and the audit fee. However, experience points is not the focal point in this study rather the time spent in the simulation program was a key factor in analyzing a participant's perspectives of their skills after they used the program. Participant A spent a total of 3 hours in the simulation, Participant B spent a total of 4 3/4 hours in the simulation, and Participant C spent a total of 4 1/4 hours in the simulation. Before the postcomputer interview was conducted, each participant expressed concern over the scores they were receiving. For example, Participant A was using the hints and enjoying the discussions with the audit manager only to find out that this affected the score. This participant thought that by using the hints, it would of helped get to the solutions a lot quicker. It turns out that each time one uses the hints in the simulation program, the audit fee increases while the experience rating decreases. Participant C focused on decreasing the audit fee. In fact the last time that Participant C used the simulation, the performance report indicated the audit fee did decrease significantly while the experience rating increased. Participant B expressed concern

over the scores but focused on getting the necessary information to fulfill the requirements of the simulation.

### **Student reflective journals.**

Each participant received a three ring binder that contained guidance to navigate through the simulation (Appendix E). Most sections asked the participant a series of questions. The responses were recorded in their reflective journal. The sections asked participants to respond to were starting the simulation, analytical procedures and client risk, and audit strategy.

In starting the simulation, the guidance prompts the participants to read and respond to the initial instructions from the audit manager, do the game tutorial, find the virtual desk, and inspect the permanent file. The participants answered the following questions in their reflective journals; who is the client? What do they do? Where are they located? Are they large or small? Public or private? The participants responded to the questions as follows: The client is Prairie Technological Partners (PTP); they distribute value added networking and communication equipment and software; they are located in Albuquerque, New Mexico; they are a small company; the company is a privately owned company. Participant B added, "It's a relatively small company basically controlled by one man- the owner who makes most of the important decisions in the company". After these questions were answered, the final question in this section asked the participants; any thoughts regarding what you have read and done so far in this simulation? Participant C wrote, "...game tutorial was very helpful...audit manager describes the client and what I am expected to do during the audit. Permanent file provides information that helped me to better understand the company and the environment for that industry. By the information provided here, it seems like the accounting department is kind of small. Separation



of duties is not properly used. I think there is a lack of internal control.” Regarding the simulation itself, Participant C wrote, “The simulation gives very good directions of what I will be doing during the audit as well as provide useful information about the client. It also defines concepts such as what is a value added.”

In the analytical procedures section, the participants were asked to analyze financial information of the audit client. There were two financial information reports. The first financial report was the preliminary analytical review report. The two questions that the participants answered regarding this report were; are the differences you notice in some of the accounts a concern for you? Which accounts would you concentrate on in your audit? Participant B responded to the questions as follows,

I am concerned by the accounts receivable which appears to be significantly higher than the previous years balance. Average days to collect for the current year is much higher than industry standard and higher for the current year than the previous years. Net profit margin for the current year is much lower for the current year than the previous year and a lot lower than industry standard. Current ratio: The company’s current ratio is too low relative to industry standards...because of the balance of accounts receivables relative to industry standards, I may concentrate on accounts receivable.

Participant C wrote, “Need to make sure that last year’s adjustment of inventory valuation was made...one of the accounts that I will focus on is the inventory account...large change from last year”.

The second financial information report was the balance sheet. The participants answered the following questions; are you concerned about any one of these accounts? Are they the same

accounts you found in the preliminary analytical review report? Participant B wrote, “I am concerned about the following accounts: cash, accounts receivable, accrued expenses, short-term securities...one of them which is accounts receivable was among the accounts I found in the preliminary analytical review report”. Participant C wrote, “Company uses incentive bonus plans that depend on operating income to motivate management. This can cause misstatements from the controller...accounts receivable is another account to look into...large change from last year (+15.3%)... most of the accounts found in the preliminary analytical review are the same found on the balance sheet.”

Regarding the section on client risk, the participants assessed engagement risk and decided whether to continue or withdraw from the engagement. The questions asked the participants; is there a high or unacceptable risk of us getting sued if we take on this client? Is there a high or unacceptable chance that we might get fired if we take on this account? Will our reputation be tainted? The participants responded that the company did not have an unacceptable amount of risk therefore there was not a risk of getting sued or fired by this client. In the final part of this section, the participants wrote down their thoughts and ideas regarding the processes auditors must go through when dealing with their clients and their financial information.

Participant B wrote,

Auditors really walk a very tight rope. It seems to me that some of the employees of the company being audited are not very friendly. They behave as if the auditor is an unwelcome guest! Some are downright rude and even hostile to the auditor who tries so hard to be polite and professional.

Participant C wrote, “The company seems to operate in an informal way...don’t see anything PTP does to communicate any code of ethics...I did not realize it was so hard to get the client to cooperate...Russ Garaud (a character in the simulation) is a very grumpy person.”

In the audit strategy section, the participant focused on the planning memo, specifically the audit approach that the audit team took in the simulation game. The participants reviewed the testing that the audit team conducted with the client’s revenue cycle, expenditure cycle, inventory, and fixed assets. The participants answered the following questions; based upon your knowledge so far, do you agree with their approach? Why do you agree with their approach? Or why wouldn't you agree with their approach? Participant C wrote, “For the audit strategy, I agree with performing test of controls. PTP does not have an adequate segregation of duties...substantive test is the best way in this case to test for dollar misstatement that PTP may have.” Participant C wrote that they followed the directions on how to do audit planning and analytical procedures from Chapters 8 and 9 of an auditing textbook in order to respond to these questions. Participant B combined both the series of questions on the audit approach as well as the final question asked in this section; how does the simulation help you understand the responsibilities of an auditor? “The simulation helps me to understand the responsibilities of an auditor. However the experience I gained is not enough to enable me to offer any opinions as to how good the audit approach taken by the audit team really is”. Additionally, the participants wrote about the experience they had with this simulation. Participant A wrote,

The beginning of the tutorial session was helpful, informative, and insightful. The actual simulation revealed my need for actual hands on experience. But the simulation was great in offering detailed instructions, tips, and guidance for the user. Overall, the audit

simulation is a very helpful tool, time consuming, and should be done over a long of period of time to get everything out of it you need. Getting the hints, I thought were part of the simulation... being able to communicate with the audit manager proved to be very beneficial and an asset for the entire experience.

Participant C wrote, "I like the way the game gives you hints on what you need to do...first score was really good, but it keeps improving every time I played the game...pages 16 to 21 of the binder were very helpful on finding out how to do things through the simulation...great learning experience...it would help if the program gives answers so you can see where mistakes were made."

The final question asked the participants; how does the simulation help you understand the responsibilities of an auditor? The participants wrote that the simulation helped better understand the responsibilities of an auditor. More notably, the mention of interpersonal skills within the simulation was important to get the evidence needed.

In summation, all of the participants were able to successfully navigate through the simulation in order to answer the questions stated in their binders. In answering the questions directly into the reflective journal, it provided evidence of a participants' understanding of the auditing environment. Each participant brought the knowledge gained from school and applied what they knew when navigating through the simulation. Additionally, the reflective journals demonstrated a participant's ability to analyze ambiguous situations which previous to using this tool was unfamiliar territory. Finally, the positive words written in these journals regarding how helpful the simulation was provides the evidence that this was a good learning experience for all participants.

### **Postcomputer interviews.**

There were 7 postcomputer interview questions involving a participant's perception of their skills in the areas of critical thinking, communication, and problem-solving after they used computer-assisted instruction (Appendix B).

Interview question 1 asked the participant; how did you tackle this computer program/simulation? All of the participants were methodical in organizing and reading the introduction to the simulation to get an idea of how to proceed. After reading the instructions, they did the tutorial before going into a game. After the participants went through the game for the first time, they were comfortable in choosing different hints and using an auditing textbook to answer the simulation questions.

Interview question 2 states: How well did you understand the information presented in the computer simulation? All of the participants responded that the information presented was clear and understandable. Participant A stated, "The information presented was very clear. I understood what the different accounts were. I understood what they were presenting. It was at the point of knowing what to do." Participant B responded, "I had a basic understanding of the information presented in the simulation." Participant C stated: "The information was very straight-forward and useful."

Interview question 3 states: How well did you analyze the problems you encountered in the computer simulation? All of the participants felt comfortable enough to bring to the game what they had learned in prior accounting courses to solve the issues presented in the simulation.

Additionally, each of these participants found their own way to analyze and resolve the issues presented in the simulation. Participant A expressed it this way:

I felt that getting help through the audit manager who was in the computer simulation and other clues and things that was programmed in it, it gave me the tools I needed to go in and analyze each thing that I had to, that I did encounter. I was able to take the information that was given or the instructions that were given by the audit manager, look at the problem and see what I need to focus in on in order for me to see how I can solve it. So I believe that I was pretty OK analyzing the problem.

Interview question 4 states: How do you feel regarding your critical thinking skills and the ability to do accounting after you now have worked through the computer simulation? The responses from the participants were positive. This means the participants felt pretty good about their critical thinking skills after they used the computer simulation program. The games reinforced their positive feelings in critical thinking skills. Participant C expressed that they felt challenged at times to delve in deeper to figure out what they needed to do in the game. Participant A responded, “After doing the game simulation, it just reinforced which I always felt which was put it to use what I have already learned, which is of great importance. It is much better to take what you learned and be able to use it in something and gain the experience with hands on then just to learn it and not to do anything with it.” Participant B stated, “My critical thinking skills are being developed with regards to doing accounting. I trust that it could only get better with more hands on experience in accounting. And there’s no doubt that the simulation was quite helpful.”

Interview question 5 states: How do you feel regarding your communication skills and the ability to do accounting after you now have worked through the computer simulation? The participants felt good about their communications skills. Each participant had the opportunity to observe the communication between characters in the simulation. Two of the participants mentioned interpersonal skills as being very important to the accounting profession. Participant A expressed it this way:

You have to be able to gauge the mood of the person you are talking to or requiring information from. You have to be able to not only communicate clearly what it is you need from that person, but also be able to present yourself friendly. So its really important to know the person's mood, know the environment that you are in be able to communicate, listen to the person so you would know what to ask, how to ask, or to know when maybe I should ask this right now or I'd come back and inquire about that. So I guess really be able to read the person that you are speaking with so that you can communicate the most effective way.

Interview question 6 states: How do you feel regarding your problem-solving skills and ability to do accounting after you now have worked through the computer simulation? All of the participants expressed the need for more hands on to gain experience in accounting after they completed the simulation games. Participant A responded, "I need more experience! After going through the simulation, I know that for me personally that I do not have any problem in my problem solving skills. I believe that this game simulation allowed me to even know that I am better at problem solving when I am hands on." Participant B responded, "I feel really, really good about my problem solving skills and I believe that with more practice my ability to do

accounting will be much stronger.” Participant C stated, “My problem-solving skills have improved. The simulation makes me take what I have and try to find the solutions to the problem.”

Interview question 7 states: How do you feel about learning new concepts on your own? This same question was posed during the precomputer interviews. Each of these participant’s responses indicated no change in the way they enjoy learning concepts on their own. However in the postcomputer interviews each participant mentioned the simulation in their responses. Participant A stated, “In this game simulation, I was on my own but I had the help if I needed any guidance, it was there for me. So if I was doing it on my own, I am going at my own pace, so I feel good about that.” Participant B responded, “This simulation has really been quite helpful, helping me see accounting in a much different way than the way I had seen it before the simulation. My enthusiasm to learn more is really much greater now than before.”

Additional commentary was presented by Participant C in the postcomputer interview regarding the feedback received from the game. Participant C expressed their feelings this way:

I think that the game was really useful to give you an idea of what auditing is about in the real world. I like the way they give you different information like an invoice that you have to compare to make sure that everything matches. One thing I didn’t like is that it doesn’t give you an answer or a solution to the game to see how well I did. I would like to know what I did wrong so I can fix it... or improved on it.

In summation, the postcomputer interviews allowed each participant to express their perspectives of their critical thinking, communication, and problem-solving skills after they used the simulation. What the results of these interviews revealed was how the participants



methodically approached the simulation game. Each participant began by reading the instructions and then went through the game tutorial. After the game tutorial, the participants felt comfortable in their abilities to complete the requirements set forth in the binders. Because the instructions were clear enough to proceed, the participants brought their knowledge of accounting into the game. Additionally, the participants felt that they analyzed the problems presented in the simulation very well. Regarding participant's perspectives in their critical thinking skills and the ability to do accounting, they all felt pretty good about their abilities in this skill. The participants felt that putting their knowledge to use in the game created hands-on experience for them. This hands-on experience was a positive factor in how they felt about themselves and the ability to do accounting. Regarding participant's perspectives of their communication skills, having inter-personal skills was important in communicating effectively in the accounting profession. Each participant took the time to observe how the employees were communicating with one another in the simulation. Additionally, the participants learned about the importance of interpersonal skills through communicating with the audit manager and the client's employees in the simulation. Regarding participant's perspectives of their problem-solving skills, their need for more hands-on experience in order to increase this skill was expressed several times. Finally, all of the participants mentioned the simulation throughout these interviews. This created a sense of enthusiasm for improving accounting skills using this tool and for other tools that may help them learn more about the accounting profession through real world simulations.

### **Discrepant Cases**

As discussed in section 3, there may be data we come upon that does not fit into the theories or explanations stated in our studies. The above subsection revealed the results after all data were analyzed. This subsection reports that the data analyzed was consistent in nature. This means that the data from all of the participants followed similar patterns in how they responded or in what they wrote. There were no discrepancies found in any of the sources of evidence.

### **Summarizing the Findings**

The results describe advanced accounting students' perspectives of their professional skills before and after they completed computer-assisted instruction. What was found in this qualitative case study was that the use of computer-assisted instruction helped improve these skills. The analysis began with the precomputer interviews. All of the participants felt good about their skills in critical thinking, communication, and problem-solving. This may be due to the fact that these participants have been in school for a number of years and have earned good grades therefore skills have been developed in some form. As the performance reports, reflective journals, and postcomputer interviews were analyzed, four themes emerged that helped answer the research question. The first theme was making a connection between the concepts learned in school and real world situations found in the accounting profession. The simulation helped the participants realize the connection as they worked through the games. Additionally, the participants made certain observations of the auditing environment through the characters presented in the games. The second theme was gaining hands-on experience as the participants were using the simulation. The participants reported that the experience gained from the simulation improved their skills. In gaining hands-on experience, third and fourth themes were

identified. The third theme was the experience demonstrated that the simulation built confidence. While theory taught in school is a valuable aspect necessary for the business world, the application of theory becomes a confirmation of one's understanding of the accounting profession challenges. This understanding transformed the participant's confidence to believe they can be successful in the profession. The fourth theme identified was the motivation to learn more through real world scenarios to improve skills. Gaining the experience promoted participants to be motivated to learn more about what it takes to be confronted with accounting profession challenges. The participants were enthusiastic to learn about the accounting profession through the simulation and felt that being provided with future opportunities, like the one presented in this study, could only increase their skills.

In conclusion, the advanced accounting students' perspectives of their skills in critical thinking, communication, and problem-solving were thought of as being very good before they used computer-assisted instruction. Advanced accounting students' perspectives of these skills after they used computer-assisted instruction was thought of as being improved. This improvement in skills was identified in the four themes mentioned above and helped answer the research question, how do accounting students perceive their professional skills before and after they complete computer-assisted instruction?

### **Evidence of Quality**

In qualitative studies, validating the accuracy of findings ensures that procedures have been faithfully applied (Merriam, 1998). Evidence of quality in my study was demonstrated through the use of member checking, triangulation, and thick rich descriptions from information gathered. Creswell (2003) describes member checking as a validation strategy in qualitative

studies. This is when the researcher takes descriptions back to the participants to make sure that what was provided in the data is accurately reported (p. 196). For my study, I had used this strategy during three different occasions. The first occasion was providing the precomputer interview transcripts to each of the participants. These transcripts were emailed to the participants. The participants replied to my email agreeing to the accuracy of the information provided in these transcripts. The second occasion was through reading the reflective journal writings back to the participant. This assured that I could not only read their handwriting but in speaking the exact words back to the participant face to face helped confirm that those writings were accurate. This face to face meeting was prior to conducting the postcomputer interview. The third occasion was providing the postcomputer interview transcripts to each of the participants. These transcripts were emailed to the participants. The participants replied to my email agreeing to the accuracy of the information provided in these transcripts.

The second strategy I used to validate the accuracy of the findings was triangulation. Multiple data sources facilitate deeper understanding of a perspective and checks the consistency of the data (Creswell, 2007; Lincoln & Guba, 1985). Creswell (2003) describes this qualitative strategy as a way of bringing different sources of evidence together to defend the common themes found in a study. For my study, the sources of evidence I used were the precomputer and postcomputer interview transcripts, the student reflective journals, and time spent in the simulation. These sources of evidence validated the data and findings by the four common themes I found in my analysis. The first theme was making a connection between the concepts learned in school and real world situations found in the accounting profession. The second theme was gaining hands-on experience as the participants were using the simulation. The third

theme was the experience demonstrated that the simulation built confidence. The fourth theme identified was the motivation to learn more through real world scenarios to improve skills.

The third qualitative strategy that I used to validate the accuracy of the findings was clarifying the bias the research brings to the study. My bias was in the position that I held as an accounting instructor, the problem I found in a North Carolina university and the belief that there needs to be more than just teacher lectures and student recitations of accounting concepts. My belief is that students need to apply what they have learned with authentic task work to enhance employable skills for the accounting profession. Creswell (2003) stated that in order to clarify the researcher's bias, rich and thick descriptions need to be provided in a qualitative study. Rich and thick description provides information regarding transferability of a research study. Miles & Huberman (1984) suggested that rich and thick description allows the reader to experience what had occurred during the data collection and analysis phases to create transferability. The participants' narratives provided the research setting as the study events unfolded where data were collected and analyzed. For example, in the precomputer interview transcript, Participant B provided this response to the question of how they perceived their critical thinking skills; "I have very high critical thinking skills. I know that I would not do a thing without taking a critical look at it. I think deep and hard to enable me to come up with what I think should be the solution to whatever situation that I am faced with." Participant B's description of how they felt about their critical thinking skills allows readers to experience this skill through the perspective of the participant. For the postcomputer interviews, a follow-up question was asked; why are communication skills important to the accounting profession? From the postcomputer transcript, Participant A stated, "Effective communication is a priority and it is

very important in the accounting function. Knowing how to speak clearly so that they can understand what is being said, what you might need, and to effectively be able to bring it across so it won't be misconstrued. To get what you really need and not get something that you don't need." Again, the participant's own words can allow the reader to experience what a participant's perspective was after they completed computer-assisted instruction. The thoughts of the participants in their own words reported in the study from the reflective journals were provided in a detailed manner. For example, the reflective journals were used by the participants to respond to various questions as they analyzed financial information found in the simulation. The second financial information report was the balance sheet. The participants answered the following questions; are you concerned about any one of these accounts? Are they the same accounts you found in the preliminary analytical review report? Participant C wrote in their reflective journal, "Company uses incentive bonus plans that depend on operating income to motivate management. This can cause misstatements from the controller...accounts receivable is another account to look into...large change from last year (+15.3%)... most of the accounts found in the preliminary analytical review are the same found on the balance sheet." These writings demonstrated participants' perspectives of their understanding of financial information found in the simulation and allow the reader to experience this understanding. In validating the accuracy of the findings in my study through the use of three accepted qualitative strategies of member checking, triangulation, and rich and thick description threats to validity were minimized.

## Conclusion

Section 4 contained a discussion of the results of this study. I described the steps that were followed to collect data. In response to the research question, how do accounting students perceive their professional skills before and after they complete computer-assisted instruction, I gleaned data from precomputer and postcomputer interviews, student reflective journals, and time spent in a simulation computer program. The findings demonstrated that advanced accounting students' perspectives of their skills in critical thinking, communication, and problem-solving were thought of as being very good before they used computer-assisted instruction. Advanced accounting students' perspectives of these skills after they used computer-assisted instruction was thought of as being improved. Additionally, four themes were identified in the data analyzed. The first theme was making a connection between the concepts learned in school and real world situations found in the accounting profession. The second theme was gaining hands-on experience as the participants were using the simulation. The third theme was the experience demonstrated that the simulation built confidence. The fourth theme was the motivation to learn more through real world scenarios to improve skills. There was an additional discussion on discrepant cases. These discrepant cases would have been discovered during the data analysis phase. Since the data collected, analyzed, and reported was consistent in nature, where clear themes were identified, I did not find any discrepancies. Finally, Section 4 contained a discussion on the evidence of quality to support the accuracy of the findings reported in this study. The use of three accepted qualitative strategies of member checking, triangulation, and rich and thick description validated the findings. Section 5 contains discussions on the

interpretation of the findings, social implications, and recommendations for action and further study.



## Section 5: Summary, Conclusions and Recommendations

The purpose of this qualitative exploratory case study was to analyze advanced accounting students' perspectives of their professional skills before and after they completed computer-assisted instruction. The research question was: How do accounting students perceive their professional skills before and after they complete computer-assisted instruction? A qualitative exploratory case study was used in order to collect data that addressed the problem of accounting educators in North Carolina who teach by lecture and accounting students who learn by rote memorization. Current professional and educational issues regarding the quality of an accounting graduate's professional skills focus on experiential activities in computer-assisted instruction that create a learning approach to develop and enhance these skills. Data collected were from precomputer and postcomputer interviews, a computer simulation, and student reflective journals. This study described advanced accounting student skill perspectives in the areas of critical thinking, communication, and problem-solving before and after computer-assisted instruction. Additionally, the data provided information to determine whether computer-assisted instruction is a learning tool that can be used in accounting education to enhance skill development. The participants invited to participate in the study had successfully passed a senior level auditing course. Additionally, the students' degree majors were in the field of accounting. Three participants agreed to be part of the study. The participants' perspectives of their skills provided insight that may be useful to both accounting education and the profession.

### **Interpretation of Findings**

The findings were addressed through the research question. The findings from the precomputer interviews served as the beginning point for how students' perceived their skills before they used computer-assisted instruction. The findings revealed that these participants felt very good about their critical thinking, communication, and problem-solving skills. These participants have been in school a number of years. Their earned grades throughout this time created a sense of confidence in their skill abilities. Although each participant perceived their skills to be very good, they felt uncertain about working through the simulation requirements. Two contributing factors in the participants' lack of self-confidence regarding the simulation requirements may stem from not currently working in the field of accounting and not being provided with opportunities to practice what they have learned in school. Students' perspectives of his or her skills and what practitioners need from graduates will continue to be an issue unless accounting education becomes proactive in providing the necessary practice for students to gain experience and improve their skills. The conceptual framework for this study is the role of experience, the experiential learning model, and computer-assisted instruction. Dewey (1938) believed that the role of experience is important for learning to occur. A learner moves forward only when past experiences interact with a present situation and an understanding occurs which influences what is experienced in the future. One gains experience in learning accounting concepts by continually practicing them. The experiential learning theory posits learning by doing. Kolb (1984) promoted the experiential learning model in defining how learning occurs as "the process whereby knowledge is created through transformation of experience" (p. 38). The experiential learning model allows the student to become actively involved in authentic task

work to transfer the knowledge of what they learned to life outside the classroom (Esmond-Kiger & Kirch, 2003; Marriott, 2004; Morris & Puttee, 2006; Springer & Borthick, 2007; Tolbert-Bynum, 2007).

In order to engage in experiential learning, researchers have developed and implemented a form of computer-assisted instruction (Handy, 2003; Marriott, 2004; Townsend, 2006; Springer & Borthick, 2007). The simulation in my study allowed a student to immerse themselves in the role of an auditor and learn about the auditing environment. What occurred when the participants played the simulation games several times is the experience gained. This is similar to what Dewey (1938) described as the role of experience in influencing what is experienced in the future. As learning occurred, the participants were able to provide the responses to the simulation requirements. The game challenged the students to think about how to obtain information. For example, one factor which made the participants comfortable was the instructions provided for the simulation. Once the participant understood what needed to be accomplished, their confidence increased as they found the answers to the simulation requirements. Additionally, when the participants continued to play the games this mimicked authentic task work. Authentic task work is part of Kolb's (1984) experiential learning framework. The participants described having a worthwhile, hands-on experience as they played the simulation games. Also, the participants felt that they experienced the auditing environment and its challenges as it really would happen in the business world. This in turn allowed the participants to make connections between what they learned in school and how they can apply theories to real world situations.

The results presented in the reflective journals demonstrated how participants were maneuvering through each game. Additionally, these reflective journals became part of a participant's personal journey through this academic experience. The participants documented their simulation question responses clearly. In addition, the writings indicated an enthusiasm for what they had experienced and learned during the study. Each of the participants noted that it was a great learning experience.

The postcomputer interview findings indicated that, overall, all participants perceived their skills to be improved after they completed computer-assisted instruction. This finding was similar to Handy's (2003) qualitative case study which provided the perspective of accounting students' higher-order learning in an environment of technology. Handy's (2003) study demonstrated how accounting students successfully maneuvered technology to increase their learning. More specifically, the findings from the interviews in my study indicated an improvement in critical thinking skills. This finding was similar to Marriott's (2004) qualitative case study to increase critical thinking skills by providing a business simulation with algorithmic situations. Marriott (2004) posited the use of computer simulations that model real world business experiences to allow the student to practice decision-making and critical thinking skills. The findings of a perceived improvement in communication skills was more of an observation of the participants in my study who described that interpersonal skills were very important in the accounting profession. The participants observed the conversations between the employees. The participants also communicated one-on-one with their audit manager, who provided guidance. This role-playing was similar to the findings in Jonick's (1998) mixed method study. Jonick's (1998) simulation subjected students to the same types of experiences, situations, behaviors, and

attitudes which exist in actual day-to-day business practices. In having students' role play, it provided learning opportunities to take what the student knew and build upon it. The findings of a perceived improvement in problem-solving skills in my study were similar to the findings in Valentine and Ivey's (2009) study which helped students deal with a lack of confidence in problem-solving. Their computer program focused on a problem finding activity. As students learned to continually solve problems through these activities, they were able to develop a deeper understanding of real problems as well as increase their confidence levels to solve unstructured problems that they may be faced with in the business world.

### **Implications for Social Change**

The study's findings contribute to positive social change by understanding how advanced accounting students perceive their skills before and after they complete computer-assisted instruction. Research studies going back more than 20 years indicated that accounting graduates do not have adequate skills when they enter the profession. The findings in this study revealed that students perceived their skills to be very good before they completed computer-assisted instruction. The themes that resonated from all participants after they completed computer-assisted instruction were making a connection between the concepts learned in school and real world situations found in the accounting profession, gaining hands-on experience when using the simulation, the experience demonstrated that the simulation built confidence, and motivation to learn more through real world scenarios to improve skills. Therefore, this research becomes a vehicle for changes in college and university's accounting degree programs. As accounting instructors implement these types of simulation programs in their courses, more students are apt to realize the skill expectations of the profession. Additionally, the more

accounting students are exposed to simulations, the more experience can be gained in the areas of critical thinking, communication, and problem-solving, thus improving the skills necessary to be successful in the profession. The lack of simulation use in the classroom demonstrate that even though accounting students feel good about their professional skills, the skill levels are not reconciling with the profession's expectations. This should be the motivation for accounting education to change the way courses are taught and managed. Simulations can provide a visual inside look at the profession's environment. This inside look does not come across in lecture formats, even though an accounting instructor may have real world experience. The simulations provide student accountability for how the profession operates. This in turn can prepare students to graduate with skills that align closer to the profession.

This study was about accounting students and their skill perspectives. Additional efforts must come from accounting education to provide more than just theories in a lecture format. This study established a need for accounting students to gain crucial hands-on experience through the use of simulations to improve skills. Accounting graduates are more prepared to meet the challenges of recording and reporting on financial statements with a high level of integrity. This in turn helps creditors, investors, and the public feel secure in knowing that organizations are reporting financial information that is relevant and reliable. The gap between what accounting educators teach and the skills that the profession requires will close. Additionally, with more accounting graduates being sufficiently prepared to meet the challenges of the profession, future financial scandals may be mitigated.

### **Recommendations for Action**

One recommendation is to present these findings to the author of Real Audit™ Dr. John Schnatzel. Before I administered the simulation to my participants, I had spent several hours going through the game tutorial and the various algorithmic game situations. I had spent many years in the business world and these simulation games were ones that truly mimicked real world scenarios. Dr. Schnatzel's simulation had provided information to my study regarding accounting students' perspectives that is rare in current research. In collaboration, we may be able to bring this type of simulation to a broader audience that would benefit from this learning experience.

The second recommendation is to present the results of this study at the local association of Certified Public Accountants conference. These conferences are widely attended by Certified Public Accountants working in various industries, accounting professors, and accounting students throughout North Carolina. This is a proactive measure to solve the gap between what accounting educators teach and what the profession needs by having both sides of the argument together in one place to review the results of my study.

### **Recommendations for Future Study**

The first recommendation is to replicate this study. This investigation at other colleges and universities in North Carolina could review accounting student perspectives before and after completing the auditing simulation. Additionally, this investigation could look at how to integrate the simulation into the auditing course. There would need to be separate investigations as to how to integrate simulations into accounting courses. For example, one investigation should be where the simulation is presented in front of the entire class to work through.

Consideration has to be made in this example to the different learning styles of students in that class. Also, would only a few students be the ones to move a game along by being more vocal about the responses required by the simulation than other students? Another investigation could be installing the simulation onto computers in a classroom lab. However, other classes would be using these labs and could compromise the simulation program itself. A third investigation would allow a student to download the simulation onto a USB flash drive, which is what I had done in my study. This flash drive could be used at either student's residences or in the computer lab classroom. The choice would be up to the accounting professor. Ultimately, future studies would come up with their own way of how simulations are to be integrated into accounting courses.

While my study analyzed accounting student perspectives in an auditing simulation, a study could be conducted on other simulation topics, such as forensic accounting, lease accounting, investment accounting, or cost accounting. If these types of simulation topics have not been created then accounting professors should set some of their research time aside to develop an interactive simulation as Dr. Schnatzel has done with the auditing simulation used in my study. The results from these future studies can make the audience aware of how to bring real world situations into the classroom side-by-side with accounting theories.

Another recommendation for future study should be on practitioner orientation training programs. Previous research only studied practitioners claim that accounting graduates do not have adequate skills to meet the business world challenges. Since the practitioner has made this claim, then some responsibility should fall toward CPA firms to provide orientation training for their new hires. A survey study should look at various CPA firms, both large and small,



throughout the United States. A key question would ask if the firm does have an orientation training program. If the firm does have orientation training then they should be selected to be interviewed. The focus of the interview can be whether the training program prepares the new hire for doing business with the firm's clients. If firms do not have a training program, the survey should have an open-ended question that addresses why they do not have an orientation program. These firms can also be selected for interviews to determine their views on graduate readiness and why they have chosen not to implement an orientation training program.

### **Reflection on the Researcher's Experience**

As a researcher, I came into the research process as an accounting instructor. Before I was an accounting instructor, I had worked in the accounting field for many years. The bias I may have had came from the passion that I had to do something with the issue of universities teaching by lecture and students who learn by rote memorization. This had been on my mind for many years. However, once I began to collect data from the participants I completely allowed them to tell the story in my study. After all, this study was about accounting students' perspectives. As the data collected started to unfold, each participant's story had perspectives that added value to the existing research base. The importance of learning how accounting education can improve the quality of skills in students that will one day join the profession came from the voices of the three participants in this study. The participants worked hard throughout the month maneuvering through the simulation many times to provide the data for my study. This was not a surprise for me rather I felt that these three participants had qualities that would very work well with the accounting profession. Finally, I did not know what to expect from each participant as they came to the postcomputer interviews. However, each participant possessed an

enthusiastic attitude. Not only did they tell me it was a great learning experience but it was a worthwhile experience for them.

### **Conclusion**

The problem that accounting education teaches by lecture has not translated into how students can improve their skills in critical thinking, communication, and problem-solving which are adequate for the profession and its challenges. My study was about how advanced accounting students perceive their skills before and after they complete computer-assisted instruction. The results suggested that students perceived their skills to be very good before using computer-assisted instruction. However, students' perspectives of their skills and what practitioners need from graduates continues to be an issue unless accounting education becomes proactive in providing the necessary practice for students to gain experience and improve their skills. My study used an auditing simulation which provided students an inside look into an audit environment. Students took the knowledge from their auditing course and applied it as they worked through the simulation games. The findings suggested that students perceived their skills to be improved and were enthusiastic to learn about how to gain additional hands-on experience.

The recommendations made indicate that further research in the use of accounting simulations used in accounting education is imperative. This study has placed responsibility for helping students improve their skills not only on accounting education but on the profession as well. Suggestions for orientation training in CPA firms could help new hires in making an easier transition to the challenges that the workplace is faced with. As more graduates become better prepared by practicing real world simulations in school or orientation training in the workplace,

they will meet the challenges of recording and reporting on financial statements with a high level of integrity. This in turn will help creditors, investors, and the public feel secure in knowing that organizations are reporting financial information that is relevant and reliable. The gap between what accounting educators teach and the skills that the profession requires will close.

Additionally, with more accounting graduates being sufficiently prepared to meet the challenges of the profession, future financial scandals may be mitigated.

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### Appendix A: Precomputer Interview Questions

1. Describe your plan of action you have in place before you start working on a school assignment.
2. You have a problem you are faced with. What different approaches do you use before tackling this problem?
3. Describe your biggest fear before you proceed to this computer program.
4. Describe how you feel regarding your critical thinking skills and ability to do accounting.
5. Describe how you feel regarding your communication skills. Why are communication skills important to the accounting profession?
6. Describe how you feel regarding your problem-solving skills and ability to do accounting.
7. Describe how you feel about learning new accounting concepts on your own.

### Appendix B: Postcomputer Interview Questions

1. How did you tackle this computer program/simulation?
2. How well did you understand the information presented in the computer simulation?
3. How well did you analyze the problems you encountered in the computer simulation?
4. How do you feel regarding your critical thinking skills and ability to do accounting after you now have worked through the computer simulation?
5. How do you feel regarding your communication skills and ability to do accounting after you now have worked through the computer simulation?
6. How do you feel regarding your problem-solving skills and ability to do accounting after you now have worked through the computer simulation?
7. How do you feel about learning new accounting concepts on your own?

## Appendix C: Invitation Flyers

**RESEARCH PARTICIPANTS NEEDED  
FOR DISSERTATION STUDY ON:****ADVANCED ACCOUNTING STUDENTS' PERSPECTIVES OF  
THEIR PROFESSIONAL SKILLS BEFORE AND AFTER  
COMPUTER-ASSISTED INSTRUCTION**

Hello,

My name is Susan Lightweis. I am a doctoral student at Walden University. I am conducting a study on advanced accounting students and need research participants. The title of my research study is:

An Analysis of Advanced Accounting Students' Perspectives of their Professional Skills Before and After Using Computer-Assisted Instruction.

This study analyzes students' perspectives of their professional skills before and after they complete computer-assisted instruction. The computer-assisted instruction is an auditing simulation game.

There are two requirements in becoming a potential participant. The first requirement is that you have successfully completed a senior level auditing course. The second requirement is that your degree program is in the field of accounting.

If you agree to participate in this study, you will be asked to participate in two interview sessions, work through the simulation game requirements, and keep a reflective journal. **Please note, participation in this study will be held in the strictest of confidence.**

If you are interested in participating in this study and are earning a degree in accounting as well as completed a senior level auditing course, please contact me at [susan.lightweis@waldenu.edu](mailto:susan.lightweis@waldenu.edu) or 919.475.4101.

Thank you,

Susan Lightweis

## Appendix D: Consent Form

You are invited to take part in a research study of An Analysis of Advanced Accounting Students' Perspectives of their Professional Skills Before and After Using Computer-Assisted Instruction. You were chosen for the study because you have successfully passed a senior level auditing course and your degree program is in the field of accounting. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by a researcher named Susan K. Lightweis, who is a doctoral student at Walden University.

### **Background Information:**

The purpose of this case study will be to analyze advanced accounting students' perspectives of their professional skills before and after computer-assisted instruction. How do accounting students perceive their professional skills before and after they complete computer-assisted instruction?

### **Procedures:**

If you agree to be in this study, you will be asked to:

- Participate in pre and post computer interviews. Each interview will last between 20- 30 minutes and will be tape recorded for data collection purposes.
- Participate in an auditing simulation game. There will be a user manual available. You will download the game onto a USB flash drive after the initial interview. The researcher will provide the USB flash drive.
- Write in a journal. There will be instructions provided in a binder. The binder will be provided to you after the precomputer interview.
- Sign the consent form.

### **Voluntary Nature of the Study:**

Your participation in this study is voluntary. This means that everyone will respect your decision of whether or not you want to be in the study. No one at the university you are currently attending will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind during the study. If you feel stressed during the study, or if there are circumstances (i.e. in crisis or pregnancy) that the researcher may not be aware of, you may stop participating in this study at any time. Finally, if the questions that are being asked by the researcher during the study are considered too personal for you, you have the right not to respond.

### **Risks and Benefits of Being in the Study:**

There is minimal risk to you as a participant, who has been identified for this study as an adult over 18 years old. Minimal risk is defined as follows in U.S. federal regulations: "that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests." There is no benefit to you by

participating in this study. The researcher will benefit from your participation by collecting data necessary to complete her doctoral study.

**Compensation:**

You will not receive any compensation for participation in the study.

**Confidentiality:**

Any information you provide will be kept confidential. The researcher will not use your information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in any reports of the study.

**Contacts and Questions:**

You may ask any questions you have now. Or if you have questions later, you may contact the researcher via 919-329-9481 or at [susan.lightweis@waldenu.edu](mailto:susan.lightweis@waldenu.edu). If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 1-800-925-3368, extension 1210. Walden University's approval number for this study is **12-30-10-0383595** and it expires on December 29, 2011.

The researcher will give you a copy of this form to keep.

**Statement of Consent:**

I have read the above information and I feel I understand the study well enough to make a decision about my involvement. By signing below, I am agreeing to the terms described above.

Printed Name of Participant

Date of consent

Participant's Written or Electronic\* Signature

Researcher's Written or Electronic\* Signature

Electronic signatures are regulated by the Uniform Electronic Transactions Act. Legally, an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically.



## Appendix E: Simulation and Reflective Journal Prompts

Each participant will receive access to the Real Audit™ Simulation through an Adoption Form prepared by the researcher, who will purchase a number of licenses through the official web site: <http://www.realaudit.com>. The participant will register through the web site and use the researcher's name at time of payment. Each participant will receive a USB flash drive to download the computer program. A user guide will be provided to each participant that demonstrates how to load the program on to a flash drive. The user guide will be part of the three ring binder that the researcher will provide to each participant after the precomputer interview.

The three ring binder provides the guidelines for each participant. There are six sections, which are presented below:

### **Section 1: Introduction to the Real Audit™ Simulation**

In this simulation, you are placed in-charge of an audit engagement and given a series of tasks to complete. For these computer sessions, the main task will be to go through the Planning stage (module). If you have additional time, you will be able to go to the Accounts Receivable or Fixed Asset module of the game.

You are also assigned two inexperienced staff auditors who are automatically assigned audit tasks by you. The tasks range from getting to know the client to testing their financial statement balances. At the end of each account, you need to discuss your findings with the Controller and then report back to the Audit Manager to receive a full staff evaluation.

You will be scored by the simulation's experience rating. In this simulation, there is a built-in performance experience rating that judges your success in locating the necessary evidence (through inquiry and other audit tests) and your ability to identify and negotiate the needed audit adjustments. Experience points are also granted by the user's ability to control efficiency and the audit fee can also have an impact on the outcome of the engagement.

What your mission is in these computer sessions will be to follow a protocol set by the researcher. This protocol will serve as your guideline that allows a minimum of distracting activities within the simulation which may confuse you. These computer sessions are set up to provide a learning experience for the user. If in fact, a user enjoys the discussions between the Controller and the Audit Manager, then that serves as your learning experience. If a user understands what their audit responsibilities are through discussions with the Audit Manager and goes through the Planning module as well as the Accounts Receivable or Fixed Asset module, then that serves as your learning experience. Or if the user only goes through the Planning module, then that will serve as the learning experience. Finally, you may just be interested in the experience score you receive every time you go through the simulation. The learning experience that you will have is totally up to you.

Remember, there will be a reflective journal that you will be writing in throughout your computer sessions. In each section of this binder, there are journal activities that ask a series of questions related to a particular section of the simulation. The more you explain your thoughts or questions you have as you go through the simulation, the more it becomes your learning experience of what it is like being an auditor, in an auditing environment, communicating with both the audit manager and the audit client.

Have a great learning experience!

## **Section 2: Start the Simulation**

**After you log in, here are the guidelines to proceed:**

1. Read and respond (by following the clues that allows you to proceed with the discussion between yourself and the Audit Manager) to the initial instructions from the Audit Manager. It is perfectly OK to go back and forth until you are comfortable with how the discussion is going.
2. Do the game tutorial.
3. Find the virtual desk (with some help from the receptionist).

**Inspect the Permanent File. Write in your journal your thoughts regarding the following questions:**

1. Who is the client?
2. What do they do?
3. Where are they located?
4. Are they large or small?
5. Public or private?
6. Any thoughts regarding what you have read and done so far in this simulation?

## **Section 3: Analytical Procedures and Client Risk**

Analyze the financial information that you have:

Both financial reports are found in the Financial Statements Tab of this binder:

1. Preliminary Analytical Review Report
  - a. Are the differences you notice in some of the accounts a concern for you?

b. Which accounts would you concentrate on in your audit?

2. Balance Sheet

- a. Are you concerned about any one of these accounts?
- b. Are they the same accounts you found in the Preliminary Analytical Review Report above?

**Assess engagement risk and decide whether to continue or withdraw from the engagement:**

1. Is there a high or unacceptable risk of us getting sued if we take on this client?
2. Is there a high or unacceptable chance that we might get fired if we take on this account?
3. Will our reputation be tainted?

**To Do:**

Write in your reflective journal your response to each of these three questions. In addition, write down your thoughts and ideas regarding the processes auditors must go through when dealing with their clients and their financial information.

**Section 4: Financial Statements**

The Preliminary Analytical Review Report and the Balance Sheet are found in the "Virtual Desk" area of the simulation. Copies of these reports are provided to each participant in the binder.

**Section 5: Audit Strategy**

Within the Planning Memo, focus your understanding of the audit approach that the audit team has decided to take.

Review the two pages of their strategy in this section of the binder. You may want to use an auditing textbook to make sure that you understand the testing that the audit team wants to conduct with the client's revenue cycle, expenditure cycle, inventory, and fixed assets.

You may return to the simulation to continue to work through the game to the best of your ability. Remember, there is no right or wrong way to go through the game.

**To Do:**

1. Answer the following questions in your reflection journal:
  - a. Based upon your knowledge so far, do you agree with their approach?

- b. Why do you agree with their approach? Or why wouldn't you agree with their approach?
2. In addition to responding to the above questions, write in your journal the experience you are having with this simulation.
3. How does the simulation help you understand the responsibilities of an auditor?

### **Section 6: Real Audit™ Simulation User Manual**

The user manual is a PDF file that is attached separately to this application.

## Appendix F: Permission to Use Real Audit™ Simulation

**Subject :** Re: Permission from Author of Real Audit to use in research

**Date :** Wed, Jun 30, 2010 07:22 PM CDT

**From :** Support <support@realaudit.com>

**To :** [susan.lightweis@waldenu.edu](mailto:susan.lightweis@waldenu.edu)

Hi Susan,

Yes, I think your research question is a good one and you may use Real Audit(tm) to carry out your study. I have conducted some similar research but did not use a before and after design (which is a good idea). I have tried to encourage some of the current adopters of the simulation to conduct some research and so I think your idea is a good one. I have examined a lot of research on the subject and so in addition to your dissertation, you may want to look into publishing a paper on your study. Given my background and prior research on the subject, you could consider me as a possible co-author. I would be happy to help where possible, my best,

John Schatzel

## Curriculum Vitae

**SUSAN K. LIGHTWEIS****Teaching Experience****Strayer University, Raleigh, NC***Full Time Faculty- 2006 – present*

- Accounting Professor
- Accounting tutoring services
- Academic advisor

**Wake Technical Community College, Raleigh, NC***Adjunct Accounting Instructor- 2010 – present*

- Teach accounting to freshman and sophomore level students

**University of Phoenix Online***Adjunct Accounting Instructor- 2002 – 2010*

- Taught a variety of graduate and undergraduate level accounting courses

**University of Phoenix, Jersey City, NJ***Area Chair/Lead Faculty - Financial Planning & Control-2006*

- Actively mentored all new faculty members and reviewed materials for successful course development and taught a variety of finance courses.

**Business Work Experience****Suplee, Clooney & Company, Westfield, NJ***Senior Auditor/Public School Accountant- 2004 – 2006*

- Audited a variety of organizations, including governmental units

**KeySpan Services, Inc., Warren, NJ***Accounting Manager- 1999 – 2004*

- Key contact for 16 subsidiaries
- Prepared monthly consolidated financial statements

**Metropolitan Museum of Art, New York, NY**

*Accounting Manager- 1997 - 1999*

- Direct contact for all curatorial departments
- Supervisor for the donor area in the finance department

**Susan K. Renken, CPA**, Northport, NY  
*Owner & Operator- 1991 – 1997*

- Provided bookkeeping and tax services to a variety of small businesses

**Israeloff Trattner & Co.**, Valley Stream, NY  
*Staff Accountant- 1989- 1991*

- Auditor and accountant to 30+ clients

*Also worked with various companies as a Bookkeeper and Accounting Clerk from 1977 through 1989, including companies such as KPMG Peat Marwick and Paine Webber.*

## **EDUCATION**

### **Walden University**

Doctorate in Education

Administrative Leadership

Expected graduation date: August 2011

### **Long Island University, Brookville, NY**

Master of Science in Accounting, 1989

### **Wagner College, Staten Island, NY**

Bachelor of Science in Elementary Education, 1977