

EXPLORING THE PERCEPTIONS OF ACCOUNTANTS ON ACADEMIC PREPARATIONS
RELATED TO OCCUPATIONAL FRAUD AND
INTERNAL CONTROL WEAKNESSES

by

Mohamad Majdi Sahloul

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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Abstract

Occupational fraud and internal control material weaknesses (ICMWs) have become global issues due to the strong correlation between internal control (IC) and fraud revelation. However, academic education (AE) has a positive influence on deliberative reasoning and ethical decisions. Nevertheless, little is known of how accountants perceive their AE prepared them to detect fraud and respond to ICMWs. Thus, there is a need to explore how accountants perceive the strengths and weaknesses in their AE regarding fraud and ICMWs. The study contains a comprehensive review of articles published by peer-reviewed journals, particularly in the last five years. The conceptual framework included the Agency Theory, the Fraud Triangle Theory, the COSO Model, and the Experiential Learning Model (ELM). The method of the research is qualitative with exploratory multiple-case study design. A guarantee of data saturation appeared by conducting thirteen semi-structured, face-to-face interviews with accountants who encountered fraud or ICMWs in work environments. The participants were recruited through a combination of purposive snowball sampling and criterion sampling techniques. Data analysis techniques included open coding, axial coding, content analysis, and cross-case synthesis. Also, data was triangulated by corroborating the findings with evidence from other sources. There are twenty-eight minor themes under eight main themes. Six unique sub-minor themes provided profound findings regarding: (a) educational topics related to anti-fraud, (b) educational methods associated with anti-fraud, (c) educational topics related to IC, (d) educational methods related to IC, and (d) competencies of accounting students (Ass) related to fraud and ICMWs.

Keywords: occupational fraud, internal control, detection, prevention, academic education, topics, methods, forensic, accountants' perceptions, preparedness, strengths, weaknesses, professors, students, OJT, scheme, views

Dedication

I dedicate this applied doctoral research project (ADRP) to my family and parents. An overwhelming feeling of gratitude is to the love of my life; my wife, Laila Morad, who is a patient woman and has provided me with the support I needed. The ADRP has been a three-year endeavor and took time from our lives together and from our two hyperactive children; Abdul Majeed and Tayseer Morad who gave me hugs and shouted “study hard” every day when I was running away to the library. They are now six and four years old respectively. I hope to keep instilling moral values in them and a love for peace. Also, I dedicate this study to the memory of my father, Dr. Mamoun Sahloul, who instilled in me a determination to strive for the highest level of ambition. I also highly appreciate the sacrifices of my mother, Professor Yousra Alyafi, who nourished my inquisitive nature.

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Section 1: Foundation of the Study

Section 1 constitutes the foundation of this study by providing certain necessary elements. For example, the background of the problem, problem statement, purpose statement, and a conceptual framework. Additionally, Sections 1 illustrates the method of the study and its justification. The longest part of Section 1 is a comprehensive review of relevant studies in the literature.

Background of the Problem

In 2007, the AICPA and ACFE joint forces to prevent fraud because business organizations lose about 5% of their revenues annually due to fraud, which can exceed 3.5 trillion (USD) worldwide (Elder, 2018; Rezaee & Jim, 2017; “AICPA and ACFE Join Forces to Prevent Fraud,” 2007). The same sources indicated that the estimated median loss of corporate fraud is one million U.S. dollars for each financial year. Paradoxically, statistics show two contradicting facts. In this context, external auditors audit approximately 86% of companies; however, external auditors usually detect only about 5% of fraud cases (Brazel, Jones, & Prawitt, 2014; Harold, Roger, & Laury, 2010). Ironically, fraud detected by accident constituted 7% of fraud, which is higher than the fraud detected by the external auditors who usually are Certified Public Accountants (CPAs) (ACFE, 2018). Internal auditors, who have more duties than external auditors regarding testing internal control, detected 12% of fraud for small companies and 18.6% for large companies, but tips led to the detection of 29.6% (ACFE, 2018).

On-the-job training (OJT) may compensate for the deficiency of the academic education (AE). Curiously, statistics not only suggest a weakness in the academic preparations of accountants regarding fraud detection (FD) but also confirm an illogical problem to the country that has the headquarters of the Big 4. In average, external auditors worldwide detect only about

5% of fraud cases. That percentage is relatively high in Asia (5.9%). However, the rate declines to just 4.2% in the U.S. (Brazel, Jones, & Prawitt, 2014; Harold, Roger, & Laury, 2010). Such numbers suggest an inherent academic problem regarding how to prepare the accounting students (ASs) to detect fraud, particularly at the U.S.

Some may defend that, after earning their bachelor's degree, 47% of ASs proceed to the accounting firms as either accountants or auditors (ACFE, 2018). In other words, undergraduate ASs do not follow graduate degrees or certificates and forfeit valuable opportunities because most universities teach fraud detection (FD) skills and advanced auditing at the graduate level. However, that justification is not robust because most states require the accountants to have at least about 150 credit hours to sit for the CPA exam. Consequently, the majority of American CPAs hold a graduate degree or certificate. Thus, there is an apparent missing link that may explain why the American CPAs detected a lower percentage of fraud cases compared to the global average. Nevertheless, a light appeared in this tunnel of mysterious facts when Meier, Kamath, and Yihong (2010) presented a catastrophic reality regarding AE. The authors found less than 3% of accounting accredited schools by the AACSB (Association to Advance Collegiate Schools of Business) have separate programs in fraud examinations. However, the gap between practice and demand is still unjustified because the authors indicated that several American schools integrate fraud into other undergraduate courses or even teach it as a stand-alone course.

The American Institute of Certified Public Accountants (AICPA) and the Association of Certified Fraud Examiners (ACFE) decided to increase efforts to combat accounting fraud (Bolt-
Lee & Kern, 2015). In this context, most scandals that included fraud and questionable accounting practices during 2000-2008 are due to ineffective internal controls (Kanagaretnam,

Lobo, Ma, & Zhou, 2016). Overcoming internal control weakness and enhancing fraud deterrence have become priorities for most entities that seek to successfully meet those challenges and develop effective controls (Byiringiro & Mahabaleswara, 2016; Donelson, Ege, & McInnis, 2017; Bloch, 2003; Kakovkina, 2014; Morgan & Burnside, 2014).

Additionally, following the fraud scandal of Enron and the enactment of the Sarbanes-Oxley Act, many entities suggested incorporating accounting fraud courses in college curriculum (Larson, 2006). For example, the American Accounting Association (AAA), encouraged professors to develop courses in forensic accounting (FA) and fraud examination to teach students how to respond to internal control weaknesses encountered in their work environments (WEs) (Meier et al., 2010; Alabdullah, Alfadhi, Yahya, & Rabi, 2014).

Undergraduate courses in fraud may raise the students' long-term level of skepticism and positively influence students' judgments about fraud and internal control weaknesses (Ramaswamy, 2005; Carpenter, Durtschi, & Gaynor, 2011). Also, these courses will help future accountants to prevent and detect fraud during their works within non-accounting firms (Gates, Prachyl, & Sullivan, 2016; Seda & Kramer, 2008; Ekmekjian, Drucker, Klein & Basile, 2008). In this sense, most ASs confirm the relative importance of academic topics about internal control weaknesses (Daniels, Ellis, & Gupta, 2013). Nevertheless, only about 10% of universities include fraud and FA courses in the curriculum (Ekmekjian, Drucker et al., 2008; Daniels et al., 2013). Thus, there is a gap between demand and practice.

In a related context, some researchers, such as Apostolou et al. (2013); and Elrod, Pittman, Norris, and Tiggeman (2015), explored how the CPA exams' requirements make it difficult for universities to revise the curricula. Additionally, little is known about how

accountants perceive their academic abilities to detect and manage fraud and internal control weaknesses (Appiah, 2015).

The principal investigator noticed that after graduation with a four-year degree, some accountants encounter the challenge of what to do when they detect fraud or internal control weaknesses during their works (Kranacher & Stern, 2004; Mitrić, Stanković, & Lakićević, 2012). One reason for the challenge is that, in some schools, undergraduate courses did not cover topics relevant to fraud and internal control weaknesses (Watson, Apostolou, Hassell, & Webber, 2003; Seda & Kramer, 2009).

Conversely, some employers think that their accountants received a relevant AE that prepared them to respond to internal control weaknesses appropriately (Bazrafshan, 2016; Popoola, Che-Ahmad, & Samsudin, 2016; Lail, MacGregor, Marcum, & Stuebs, 2017). Furthermore, some professors are not interested in offering topics on accounting fraud and internal control weaknesses (Dickins & Fay, 2017; Chilingirian, 2015; Appiah, 2015; Appiah-Sokye, 2016). Those professors claim that their students' future employers will train them on such topics as necessary (Ramadhan, 2015; Dickins & Fay, 2017; Chilingirian, 2015; Appiah, 2015; Appiah-Sokye, 2016; Dellaportas & Hassall, 2013).

The preceding facts indicate that there is a need to understand how accountants perceive their academic ability to detect and manage fraud and material internal control weaknesses during their works (Ramadhan, 2015; Appiah, 2015; Appiah-Sokye, 2016; Lawson et al., 2014; Finch, Hamilton, Baldwin, & Zehner, 2013). In this context, the ambiguity includes the perceptions of accountants working in any state.

Exploring the perceptions of accountants who already detected fraud or internal control weaknesses during working in a major mid-Western metropolitan area may bridge the gap in the

literature (Bui & Porter, 2010). Moreover, this exploration will result in knowing the strengths and weaknesses in undergraduate courses regarding accounting fraud and internal control weaknesses (Dellaportas & Hassall, 2013; Byrne, Flood, & Griffin, 2014; Ramadhan, 2015; Appiah, 2015; Appiah-Sokye, 2016; Lawson et al., 2014; Finch et al., 2013). Thus, the principal investigator expects that understanding accountants' perceptions, who work in a major mid-Western metropolitan area, will benefit accountants, professors, and organizational managers in all major U.S. cities.

Problem Statement

Occupational fraud has become a global issue because 70% of businesses reported at least one fraud (McCabe, 2018; Gates et al., 2016). According to the ACFE, the presence of anti-fraud controls correlates with lower losses and quicker FD. Moreover, the concept of internal control material weaknesses (ICMWs) has become a crucial concern for businesses due to the strong association between internal control (IC) and fraud revelation (Burke & Sanney, 2018; Donelson et al., 2017). Consequently, many entities, such as the AAA, called on professors to develop undergraduate courses in forensic accounting (FA), fraud examination, and ICMWs (Meier et al., 2010; Alabdullah et al., 2014). Undergraduate courses can enhance the students' levels of skepticism and judgment regarding fraud and ICMWs (Nwanyanwu, 2018; Gates et al., 2016; Cheng and Flasher, 2018). However, most academic institutions (AIs) do not have a separate course or program in fraud, ICMWs, or FA (Daniels et al., 2013). The general problem to be addressed is that there is a lack of studies in the existing literature about accountants' lived experiences regarding how they detected and dealt with fraud and ICMWs. The specific problem to be addressed is that little is known about how accountants, who work in major metropolitan areas, use their undergraduate education to respond to fraud and ICMWs appropriately (Byrne et

al., 2014; Appiah, 2015). Additionally, there is a lack of understanding of how accountants perceive their undergraduate courses prepared them to detect fraud and respond to ICMWs (Lawson et al., 2014; Appiah-Sokye, 2016; Nwanyanwu, 2018).

Purpose Statement

The purpose of this qualitative multiple case study is to understand the professional experiences of accountants who work in a major mid-Western metropolitan area in companies that have occurrences of fraud or ICMWs. In this context, the purpose is to explore how accountants in a major mid-Western metropolitan area perceived their undergraduate courses prepared them to prevent and detect fraud and to respond to internal control weaknesses detected in their WEs. In this sense, the principal investigator will seek answers to the research questions by exploring the perceptions of accountants who work in companies that have experienced fraud or ICMWs. This research will help educators and professional accountants to realize the effect of integrating undergraduate courses or topics about fraud and internal control. Moreover, accountants in other major metropolitan areas will benefit from understanding how the participating accountants perceive their AE prepared them to respond to ICMWs. Also, the research will help organizational managers to customize OJT to meet accountants' expectations based on their perceptions and concerns.

Nature of the Study

The principal investigator determined the qualitative method is the appropriate one to explore certain life experiences of accountants. Furthermore, the design is a multiple case study because it will help in understanding accountants' perceptions regarding how undergraduate courses enhanced their preparedness to respond to fraud and ICMWs appropriately. The principal investigator did not choose the other qualitative designs; narrative, phenomenology,

grounded theory, and ethnography because they do not serve the purpose of the study. Moreover, the principal investigator rejected the quantitative method because its designs; correlational, experimental, descriptive, and quasi-experimental will not help in exploring and understanding the perceptions of accountants.

Discussion of the method. This research is qualitative with a multiple case study. In qualitative studies, researchers examine participants in their natural settings, to understand or interpret, phenomena by exploring individual participants' conceptions (Creswell & Poth, 2018; Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Denzin & Lincoln, 2011). In this sense, Alase (2017) asserted that the qualitative method enables researchers to use their subjectivity and interpersonal skills by applying them to the research processes. Thus, the relevance of experience and meaning is a common ground for qualitative studies (Daher, Carré, Jaramillo, Olivares & Tomicic, 2017; Montgomery, 2011; Creswell & Poth, 2018).

Conversely, the principal investigator rejected a quantitative method because the study contains subjective content that is not measurable using standard, quantitative metrics and hence it cannot be tested (Hagan, 2014). In this context, there are four essential types of quantitative research designs: correlational, experimental, descriptive, and quasi-experimental (Cazan, 2012; Hagan, 2014; Montgomery, 2011; Reswick, 1994; Creswell, 2009). However, all quantitative designs are presented in a numerical form and are analyzed using statistics (Reswick, 1994; Creswell, 2009). Therefore, quantitative designs are not appropriate when the intent is to explore a subject about which the researcher does not know much in advance (Cazan, 2012; Hagan, 2014; Montgomery, 2011; Reswick, 1994; Creswell, 2009).

Also, researchers should not choose a mixed method when they seek only to understand the meanings, perceptions, or motives usually unnoticed in standardized quantitative approaches

such as a survey (Creswell & Poth, 2018; Yin, 2011; Cazan, 2012). Consequently, the principal investigator rejected the quantitative and mixed methods because they will not enhance the understanding of participants' perspectives regarding undergraduate education in fraud and ICMWs.

Discussion of the design. This research is qualitative with a multiple case study. In this sense, researchers develop, in multiple case study, in-depth descriptions and understandings of multiple cases by replicating the procedures for each case (Creswell & Poth, 2018; Yin, 2009; Zucker, 2009; Stake, 2006). Thus, in a collective case study (or multiple case study), researchers analyze and compare multiple cases that illustrate the same issue to show different perspectives on the issue (Creswell & Poth, 2018; Yin, 2009; Zucker, 2009; Stake, 2006). In this context, first, the researcher provides a detailed description of each case and themes within the case (a within-case analysis) (Creswell & Poth, 2018; Yin, 2009). Then, using a cross-case analysis, the researcher provides a thematic analysis across the cases and assertions or an interpretation of the meaning of the case (Creswell & Poth, 2018; Yin, 2009).

Conversely, the principal investigator rejected the other four designs of the qualitative method. In this context, the narrative design was not appropriate because the principal investigator does not intend to explore the life of an individual in this study (Butler, 2015; Yin, 2014; Creswell & Poth, 2018). Also, the phenomenological design is not appropriate for this study because the purpose does not concentrate on understanding the essence of an experience (Alase, 2017; Creswell & Poth, 2018; Cazan, 2012). Additionally, the principal investigator does not seek to develop a theory grounded in data from the field; hence, grounded theory design is not the right one for this study (Marshall, Cardon, Poddar, & Fontenot, 2013; Daher et al., 2017; Creswell, 2018). Furthermore, this study does not contain describing and interpreting a culture-

sharing group; consequently, the ethnographic design should be rejected (Saldaña, 2013; Creswell & Poth, 2018; Yin, 2014).

Summary of the nature of the study. By using a qualitative method and multiple case study design, the principal investigator will examine accountants in their natural settings to understand and interpret their conceptions. Hence, this will help in replicating the procedures for each case to explore and understand multiple cases and provide a detailed description of each case and themes within the case. Thus, the qualitative method will help the principal investigator to explore the life experiences of accountants regarding their perceptions of how AE enabled them to respond to fraud and ICMWs appropriately. Moreover, the principal investigator will interview several accountants; hence, with multiple participants, each one represents a case.

Research Questions

RQ1. How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or internal control material weaknesses within their organizations?

RQ2. How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive the effect that their individual education has had on their preparedness to detect and respond to fraud and internal control material weaknesses?

Answering those questions will significantly help in accomplishing the purpose of the study by understanding how accountants, in a major mid-Western metropolitan area, perceive their undergraduate education prepared them to detect fraud and ICMWs. Moreover, the answers to those questions will bridge the gap between accounting practice and demand. In this context, those answers will advance the literature by exploring the gap between what managers expect accountants can do and between what undergraduate courses prepared them to do. Additionally,

the answers will fill an apparent gap in the literature by understanding how AE can be enhanced to better prepare accountants to respond to critical challenges encountered in WEs (Apostolou, Dorminey, Hassel & Rebele, 2015).

Conceptual Framework

The principal investigator utilized the Agency Theory, the Fraud Triangle Theory, the COSO Model, and the Experiential Learning Model (ELM) to construct a conceptual framework for this research. By combining the four theories and by reviewing the existing literature, it is apparent that there is a strong relationship between undergraduate courses in accounting fraud and accountants' abilities to detect fraud and to appropriately respond to ICMWs (Dickins & Fay, 2017; Chilingirian, 2015; Appiah, 2015; Appiah-Sokye, 2016).

Many studies focused on internal control; however, few studies explored the perceptions of accountants regarding AE (Dickins & Fay, 2017; Chilingirian, 2015; Appiah, 2015; Appiah-Sokye, 2016). Therefore, there is a need to explore accountants' perceptions about how universities prepared them academically and practically to respond to fraud and internal control weaknesses (Dellaportas & Hassall, 2013; Byrne et al., 2014; Ramadhan, 2015; Appiah, 2015; Appiah-Sokye, 2016; Lawson et al., 2014; Finch et al., 2013).

The Agency Theory. The Agency Theory indicates that the board of directors is responsible for representing shareholders' interests because the owners are unable to manage the corporation due to the separation of control from ownership (Bao & Lewellyn, 2017; Nyberg, Fulmer, Gerhart, & Carpenter, 2010; Campbell, Campbell, Sirmon, Bierman, & Tuggle, 2012; Kerr & Bettis, 1987). However, there is no guarantee that corporate directors and managers will always work toward increasing the shareholders' wealth or best interest (Heenetigala & De Silva Lokuwaduge, 2013; MacMinn, Ren, & Li-Ming, 2012). In this context, there are many fraud

schemes that directors and managers perpetrate or fail to detect (Donegan, Ganon, & Johnson, 2017; Carpenter & Moscow, 2017).

Conversely, most corporate directors expect employees to help in reporting fraud and internal control weaknesses. More specifically, many managers expect accountants, internal auditors, and external auditors have received undergraduate courses that enable them to detect fraud during their works and to distinguish ICMWs (Seda & Kramer, 2009; Maksy, 2012). Nevertheless, most accountants and auditors indicated that they did not receive undergraduate courses in fraud or internal control (Dickins & Fay, 2017; Chilingirian, 2015; Appiah, 2015; Appiah-Sokye, 2016; Jaffar, Salleh, Iskandar, & Haron, 2008; Gramling & Myers, 2003). The gap between the academic experience and external auditors' abilities becomes apparent when statistics show two contradicting facts. In this context, external auditors audit about 86% of companies; however, external auditors usually detect only less than 5% of fraud cases (Brazel, Jones, & Prawitt, 2014; Harold, Roger, & Laury, 2010).

The Fraud Triangle/Diamond Theory. Donald R. Cressey focused his research on embezzlers (Akers & Matsueda, 1989). His findings resulted in a theory that, during the years, has become known as the Fraud Triangle. The Fraud Triangle indicates that there are three interrelated elements that enable someone to commit fraud: (a) the motive or pressure that drives a person to want to commit the fraud, (b) the opportunity that enables the person to commit the fraud, (c) and the ability to rationalize the fraudulent behavior (Epstein & Ramamoorti, 2016). However, a newer emerging theory, the Fraud Diamond, suggests adding capability as a fourth element to the Fraud Triangle Theory (Yusof & Lai, 2014).

The vulnerability that an organization encounters from individuals capable of combining all three elements of the fraud triangle is fraud risk (Mock, Srivastava, & Wright, 2017). In this

context, management should consider fraud risks in the assessment of internal control design (Drábková, 2016; Nix & Morgan, 2013). However, existing methods for detecting fraud are inadequate, and universities need to teach fraud courses that enhance students' abilities to detect and to appropriately respond to internal control weaknesses (Wessa & Baesens, 2009; Moreno-Fernández, Blanco, Garaizar, & Matute, 2017). Consequently, there is a need to explore how accountants perceive their academic knowledge concerning FD and dealing with ICMWs.

COSO Framework. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) developed the COSO Model for evaluating internal control (Dickins & Fay, 2017; PR, 2013; King, 2016). COSO Framework has been recognized as the generally accepted framework for internal control (Duggan & Peo, 2013; Dickins & Fay, 2017). In this context, COSO Framework is the definitive standard against which many organizations measure the effectiveness of their internal control system (Duggan & Peo, 2013; Dickins & Fay, 2017; D'Aquila, 2013).

According to COSO Framework, internal control is a process that is caused by an organization's board of directors, management, or other individuals to provide reasonable assurance about achieving the objectives in three categories: (a) effectiveness and efficiency of operations, (b) reliability of financial reporting, and (c) compliance with applicable laws and regulations (Rae, Sands, & Subramaniam, 2017; King, 2016). In this sense, King (2016) indicated that, in an "effective" internal control system, there are five components support the achievement of an entity's objectives. They are (a) control environment, (b) risk assessment, (c) control activities, (d) information and communication, and (e) monitoring (Rae et al., 2017; King, 2016).

Experiential Learning Model (ELM). ELM is a process of learning through experience (Singh, 2017; Brooks & Simpson, 2014; Baden & Parkes, 2013; Lai, Yang, Chen, Ho, & Chan, 2007). Kolb (1984) is the first one who used ELM to purposefully engage students in learning by concentrating the learning on experiences to solve problems (Singh, 2007; Benson & Chau, 2017; Wu & Sankar, 2013).

Colleges can use ELM to prepare ASs to detect fraud during their works and to appropriately respond when they encounter ICMWs in their organizations (Singh, 2017; Brooks & Simpson, 2014; Baden & Parkes, 2013; Dellaportas & Hassall, 2013; Kolb, 1984; Lai et al., 2007; Sewchuk, 2005). For example, Dellaportas and Hassall (2013) studied the influences of visits to prison by undergraduate ASs. The students identified factors contributing to fraudulent conduct and understood the nature of conflicts encountered by professional accountants (Dellaportas & Hassall, 2013). Also, the students learned practical lessons about how they should respond to some challenges in their professional careers (Dellaportas & Hassall, 2013).

Moreover, Kramer, Seda, and Bobashev (2017) recommended using ELM when including FA courses in accounting education. Furthermore, educators can use ELM to build core competencies in ASs, such as problem-solving and peer collaboration, which will enable them to respond to fraud and internal control weaknesses smartly (Hill & Johnson, 2014; Lai et al., 2007; Sewchuk, 2005). Therefore, by using simulations, internships, and guest speakers, colleges can promote critical thinking through active learning (Singh, 2017; Sewchuk, 2005; Baden & Parkes, 2013).

However, when applying the ELM, professors should act as facilitators, by emphasizing learning through experience, and not as dispensers of information (McComb, Banerjee, Mechler, Morrow, 2012; De Vault, 1998). Additionally, accounting professors should strategize how to

synchronize theoretical assignments and other teaching instruments with enhancing students' practical abilities to detect fraud (Singh, 2017; Brooks & Simpson, 2014; McComb et al., 2012; De Vault, 1998).

Discussion of relationships between concepts. The Agency Theory assigns responsibility to detect fraud on management. In turn, managers expect accountants, and other employees, to play a pivotal role in combating fraud and detecting ICMWs. However, accountants claim that their AE did not prepare them appropriately to respond to fraud and ICMWs. Thus, the accounting curriculum should include topics about the Fraud Triangle and the COSO Framework. Furthermore, the Experiential Learning Model (ELM) suggests that business schools should modify their traditional methods of accounting teaching to rely more on practical experience. In this context, the practical applications in accounting courses should include the elements of the Fraud Triangle and techniques to prepare students to foster the COSO Model in their WEs to achieve the purpose of the Agency Theory.

Summary of the conceptual framework. The conceptual framework for this research includes the Agency Theory, the Fraud Triangle Theory, the COSO Model, and the Experiential Learning Model (ELM). By learning the COSO Model, ASs will have a definitive standard against which to measure the effectiveness of their internal control system.

Moreover, by learning the elements of the Fraud Triangle, students will recognize that fraud risk is the vulnerability that their organization encounters from individuals capable of combining all three elements of the fraud triangle. Consequently, and by integrating the ELM model in accounting courses, accountants will better support the anti-fraud controls and respond appropriately to ICMWs; and hence, lower losses and quicker FD. Put differently, integrating the ELM Model in undergraduate courses in the Fraud Triangle and COSO Model will support the

Agency Theory by raising the students' long-term level of skepticism and positively influence students' judgments about fraud and ICMWs. More information about the conceptual framework are available in Appendix A.

Definition of Terms

Accounting Conservatism Principle. The conservatism principle in accounting states that when in doubt, choose the accounting treatment that will be least likely to overstate income and assets (Hellman, 2008; Ji, Lu, & Qu, 2016). This principle accelerates the recognition of the bad news; hence, it is more likely that decision makers will acknowledge problems earlier and start searching for solutions (Hsu, Novoselov, & Rencheng, 2017; Zongrun, Yan, Yanju, & Yanbo, 2014).

Accounting fraud. Accounting fraud is the intentional misrepresentation or alteration of accounting records (ACFE, 2018; Popescu & Nişulescu, 2014).

Accounting practitioners. Accounting practitioners are accountants in the practice of public accounting for an individual or a business (Rouen, 2017). Each state regulates the accounting profession using a licensing system for its accountants (Bauer, 2017).

Analytical Procedures (APs). Analytical procedures are evaluations of financial information by studying plausible relationships among both financial and nonfinancial data (Bailey, 2016; Schmidt, 2014; Moepya et al., 2017). APs are an essential part of the audit process because auditors expect plausible relationships among data to exist reasonably and continue in the absence of known conditions to the contrary (PCAOB, 2002; AU Section 329, 2002).

Auditors use APs in planning other auditing procedures. Also, they use APs in the final review stage of the audit as an overall review of the financial information (Bailey, 2016;

Schmidt, 2014; Moepya et al., 2017). Additionally, auditors use APs as a substantive test to obtain audit evidence (Mubako & O'Donnell, 2018).

Asset misappropriation. Asset misappropriation includes the theft or misuse of a company's assets (ACFE, 2018; Mustafa Bakri, Mohamed, & Said, 2017).

Association of Certified Fraud Examiners (ACFE). The ACFE is the world's largest anti-fraud organization and an essential provider of anti-fraud training and sources (Clark, 2013). The ACFE studies the worldwide occupational fraud and publishes, every six months, the Report to the Nations on Occupational Fraud and Abuse (RNOFA) (Balashova, 2016). One purpose of ACFE is to combat white-collar crime and help in fraud detection and prevention (FD&P) (Peltier-Rivest & Lanoue, 2015; McGee & Byington, 2013).

Assurance services. Assurance services are professional services for the enhancement of information or the context of information to reduce the risk of receiving the wrong information; hence, decision-makers can make better decisions (Assurance News, 2017).

Audit expectations gap. The audit expectation gap is the difference between what financial statement users expect auditors are responsible for and what auditors consider their responsibilities are (Hsu, Kung, & James, 2013; Saeidi, 2012).

Auditing. Auditing can be external or internal. The external auditor is an independent auditor who expresses an opinion on whether the financial statements are presented fairly in all material respects and under the generally accepted accounting principles (GAAP) and whether the organization maintains effective control over financial reporting (Malenich, 2017). In contrast, the internal auditor provides an independent, objective assurance and consulting activity to enhance an organization's operations (Sobel, 2016). Unlike the external auditor who is independent, the internal auditor is an employee of the organization (Sobel, 2016).

Big 4. The Big 4 refers to the global four largest accounting and auditing firms, which are Ernst & Young (EY), Deloitte & Touche, KPMG, and PricewaterhouseCoopers (PwC). They are critical to the accounting practice and education because they offer audit, taxation, assurance, actuarial, management consulting, advisory, corporate legal, and financing services (Liu, Robinson, & Xu, 2018).

External auditor. The external auditor is an independent auditor who expresses an opinion on whether the financial statements are presented fairly in all material respects and under the generally accepted accounting principles (GAAP) and whether the organization maintains effective control over financial reporting (Malenich, 2017).

Financial reporting. Financial reporting refers to the communication of financial information to the financial statement users such as managers, investors, and creditors (Donelson et al., 2017; Inayanti & Sukirman, 2016; Lail et al., 2017). In this context, financial information includes financial statements, accompanying footnotes, reports issued to shareholders, auditor reports, and financial information communicated to interested users (Donelson et al., 2017; Inayanti & Sukirman, 2016; Lail et al., 2017).

Financial statement fraud. Financial statement fraud is the deliberate misrepresentation of the financial condition of an organization to deceive financial statement users through intentional misstatement or omission of amounts or disclosures in the financial statements (ACFE, 2018; Hajek & Henriques, 2017; Tušan, 2016).

Unlike some other types of fraud, the motivation for financial statement fraud does not always involve personal gain (Lin, Chiu, Huang, & Yen, 2015). In general, financial statement fraud is used to make an organization's earnings look better on paper (West & Bhattacharya, 2015). The fraudster uses a variety of methods, such as concealing liabilities, expenses valuation

judgments, and manipulating the timing of transaction recording (Fleming Riley Jr., Hermanson, & Kranacher, 2016; West & Bhattacharya, 2015; Lin et al., 2015).

Financial statements. Financial statements are monthly, quarterly, or annual reports prepared by management about an organization's financial results and condition, and cash flows (Hajek & Henriques, 2017). They include the balance sheet, income statement, statement of cash flows, and statement of owners' equity or statement of changes in retained earnings, (Brazel, Jones, Thayer, & Warne, 2015).

The balance sheet presents the financial position at a specific point of time, whereas the income statement presents the profitability and the financial performance during a certain period (Albrecht, Holland, Malagueño, Malagueño, & Tzafrir, 2015; Hajek & Henriques, 2017; Brazel et al., 2015). In addition to the financial statements, the financial reports include notes to the financial statements, management's discussion and analysis (MD&A), and required supplementary information other than MD&A (Gray & Debreceeny, 2014; Goel & Uzuner, 2016).

Forensic accounting. Forensic accounting (FA) is the use of professional accounting skills in matters involving potential or actual civil or criminal litigation (Huber, 2017; Atağan & Kavak, 2017). Hence, FA is litigation support involving accounting (Simeunović, Grubor, & Ristić, 2016; Prabowo, 2013; Cody, 2014). A fraud examiner and a forensic accountant perform different but related jobs. Forensic accountants investigate and detect fraud in businesses, and their professional services include fraud, bankruptcy, and valuation (Daniels et al., 2013).

Fraud examiners are financial detectives and are called upon when a forensic accountant has suspected fraud. Hence, fraud examiners conduct fraud examinations to find additional evidence depending on the findings of the forensic accountant to either prove or disprove that fraud was committed by an individual or business (Daniels et al., 2013).

Fraud education. Fraud education (FE) is theoretical and practical courses, or topics of courses, that enhance students' abilities and awareness regarding FD&P (Chilingerian, 2015; Daniels et al., 2013).

Fraud. Fraud is any deliberate act, which uses unfair means such as deception or guile, to deprive another of money or property (Cepeda, Gerardo, Perez, & Rivera, 2015).

Internal auditor. The internal auditor provides an independent, objective assurance and consulting activity to add value and improve an organization's operations (Sobel, 2016). Unlike the external auditor who is independent, the internal auditor is an employee of the organization (Sobel, 2016).

Internal control. The internal control provides reasonable assurance about achieving the objectives of operations, compliance, and reporting (ACFE, 2018; Shapiro, 2014). Internal control is a process effected by an organization's board of directors, management, and other personnel (ACFE, 2018; Ravi, Kindzierski, & Herman, 2013). The Committee on Sponsoring Organizations (COSO) identified five interrelated components of internal control: control environment, risk assessment, control activities, information and communication, and monitoring (ACFE, 2018; PR, 2013).

Occupational fraud. There are three types of occupational frauds: asset misappropriation, corruption, and financial statement fraud (ACFE, 2016). Asset misappropriation schemes are both the most commonly reported and the least costly of the three major categories of occupational fraud (ACFE, 2016). In contrast, financial statement fraud is the least commonly reported type of occupational fraud but caused considerably more damage than frauds in the other two categories (ACFE, 2016).

Professional skepticism. Professional skepticism, for auditors, means an attitude that includes a critical assessment of audit evidence, a questioning mind, and being alert to red flags, which may indicate error or fraud (ACFE, 2018; Yazid & Suryanto, 2017; Mubako & O'Donnell, 2018). A fraud examiner may not assume a fraud did not occur (ACFE, 2018; PR, 2014).

Securities and Exchange Commission (SEC). The SEC maintains fair U.S. markets, protects investors, and facilitates capital formation (Casey, 2017; Felsenthal & Loffreno, 2017). In this context, the SEC oversees the key participants in the securities world, including mutual funds, securities exchanges, securities brokers, investment advisors, and dealers (Casey, 2017; Felsenthal & Loffreno, 2017).

Segregation of duties. A good internal control system should not give all controls over a transaction to a single individual. Authorization of transactions, custody of assets, and keeping of accounting records should be assigned to different individuals (Shapiro, 2014).

The American Institute of Certified Public Accountants (AICPA). The AICPA's membership-size makes it the world's largest member association representing the accounting profession (Persson, Radcliffe, & Stein, 2018). The AICPA develops and grades the Uniform Certified Public Accountant (CPA) Examination. Moreover, the AICPA sets ethical standards for the accounting profession and U.S. auditing standards for private companies, nonprofit organizations, federal, state and local governments (McCabe, 2018).

The Institute of Internal Auditors (IIA). The IIA is an international professional association and the global voice of the internal audit profession because it provides the certification of Certified Internal Auditor (CIA) (Fountain, 2016).

The Institute of Management Accountants (IMA). The IMA is the worldwide association of management accountants and provides the certification of Certified Management Accountant (CMA) (Charles, 2018).

The Sarbanes-Oxley Act (SOX). The SOX is known as the "Public Company Accounting Reform and Investor Protection Act (McCann, 2017; Wilbanks, 2016; Turpan, 2016). SOX is a federal law that set new and expanded requirements for all U.S. public companies and public accounting firms (McCann, 2017; Wilbanks, 2016; Turpan, 2016). The legislation came into force in 2002 and introduced significant changes to the regulation of financial practice and corporate governance (Wilbanks, 2016).

Assumptions, Limitations, Delimitations

The principal investigator considered eleven methodological assumptions in this qualitative multiple case study. The groups of the assumptions are 1. assumptions about FE, 2. assumptions about participants and documents, and 3. assumptions about the findings. Also, there were eight limitations, and the principal investigator categorized them into three groups. They were: (a) limitations regarding the participants, (b) limitations concerning the principal investigator, and (c) limitations concerning sources and resources. Moreover, the delimitations of the study are presented.

Assumptions. There were eleven assumptions, and the principal investigator grouped them into three categories.

Assumptions about FE. A fundamental assumption was that there is a strong relationship between undergraduate courses and students' abilities to respond appropriately to fraud and ICMWs (Dickins & Fay, 2017; Appiah-Sokye, 2016). Another main assumption was that incorporating certain fraud and internal control education in undergraduate courses will enhance

students' abilities to initiate proper actions when they encounter red flags suggesting fraud or ICMWs (Chilingirian, 2015; Appiah, 2015). These assumptions carry certain risks regarding the real effect of academic courses on students' preparedness to deal with fraud and ICMWs. In this context, there is a risk that accountants may mix mistakenly between AE and professional training they receive from their employers.

To mitigate these assumptions' risks, the principal investigator will encourage the participants to list the titles of undergraduate courses they perceive to have enhanced their response to fraud. Such a measure is intended to motivate the participants to seriously consider their undergraduate courses and how each impacted their response to fraud and ICMWs positively. Additionally, the principal investigator will ask the participants about what necessary knowledge they did not learn at universities, but they acquired it later in WEs. The principal investigator believes such measures will mitigate the risks associated with these assumptions.

Assumptions about participants and documents. A necessary assumption was that accountants who encountered fraud and ICMWs would participate in this study at their volition and explain their perspectives regarding their undergraduate education. In this context, the principal investigator assumed that because of confidentiality assurances, participants would openly provide honest descriptions of their experiences (Mason, 2010; Dworkin, 2012). In this regard, there was an assumption that participants were willing to discuss their perceptions more liberally because the principal investigator is also an educator and a Certified Fraud Examiner (CFE) (Jacob, & Furgerson, 2012; Marshall et al., 2013).

Furthermore, the principal investigator assumed that the selections of participants are homogeneous concerning their undergraduate education and experiences with encountered fraud and ICMWs (Butler, 2015; Guest, Brunce, & Johnson, 2006). Moreover, there was an

assumption that literature obtained from books, peer-reviewed journals, and professional accounting bodies, such as ACFE, AICPA, IMA, AAA, and IIA, are accurate. These assumptions carry several risks; hence, they require specific measures to mitigate the risks. In this context, the principal investigator should have an expanded list of potential participants to compensate for accountants who refuse to participate.

Also, the principal investigator should be careful to foster interviews that encourage an open dialogue. Furthermore, the principal investigator should be willing and prepared to conduct additional interviews if selected participants proved not to be homogeneous. Additionally, the principal investigator will review an expanded number of peer-reviewed journals to select the most accurate literature.

Assumptions about the findings. There was an assumption that knowing participants' perceptions will help managers to understand how accountants respond to fraud and ICMWs (Ramadhan, 2015; Donelson et al., 2017; Shapiro, 2014; Ravi et al., 2013). Hence, it is assumed that managers will know better how to fill gaps in their employees' academic knowledge regarding internal control (Al-Hadrami & Hidayat, 2015; Donelson et al., 2017; Rae, Sands, Subramaniam, 2017).

Similarly, there was an assumption that accountants will benefit from understanding participants' experiences by noticing weaknesses in their academic knowledge and by learning how to better respond to certain red flags (Higgins, 2012; Rae et al., 2017; Kanagaretnam et al., 2016; Kakovkina, 2014). Also, there was an assumption that educators and professional accounting bodies will incorporate appropriate education in the curriculum after being informed of the sufficiency of ICMW and FE (Kramer et al., 2017; West Virginia University, 2007; Martinov-Bennie & Mladenovic, 2015; Wang & Calvano, 2015; Rakestraw, 2014).

These assumptions carry risks of missing a significant link between AE and professional training. To mitigate this risk, the principal investigator will review an expanded number of peer-reviewed journals. Such literature review will uncover the perceptions of educators, students, accountants, and employers regarding how undergraduate courses in fraud and ICMWs enhance students' responses to fraud. Moreover, that literature review will help the principal investigator in noticing the nuances that do make a difference in employers' satisfaction regarding their accountants' academic preparedness. Consequently, these results will be employed in the interviews to mitigate the assumptions' risks.

Limitations. The principal investigator encountered eight limitations and categorized them into three groups.

Limitations regarding the participants. A critical limitation of this research was the possibility of encountering participants who withheld information salient to the study (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010). Additionally, a limitation was due to participants' bias and subjectivity and their emotional state at the time of the interviews that could distort their responses (Patton, 2002; Yin, 2011; Creswell & Poth, 2018). Consequently, the principal investigator had to let the participants confirm the accuracy of their responses by several techniques such as asking the question in different wording or by reading the responses back to them and carefully noticing their body languages (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010).

Furthermore, there was a limitation due to the sensitivity of the studied topics because accountants avoid disclosing their academic weaknesses publicly (Marshall et al., 2013). To overcome this issue, the principal investigator conducted the interviews in reserved rooms in public libraries and assured privacy and confidentiality to interviewees. Also, another main

limitation was due to the qualitative nature of the study. In this context, the findings would be dependent on the participants' willingness to answer the interview questions openly and truthfully (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010; Marshall et al., 2013). Therefore, the principal investigator had to write accurate notes regarding how interviewees responded when they heard each question.

Limitations concerning the principal investigator. One limitation was the principal investigator's possible unintended bias because the researcher's interpretations in qualitative studies cannot be separated from the researcher's backgrounds (Zucker, 2009; Patton, 2002; Yin, 2011; Creswell & Poth, 2018). Additionally, there were limitations concerning recall errors and self-seeking responses from participants. Thus, the principal investigator had to use a digital voice recorder to record the semi-structured interviews (Creswell & Poth, 2018).

Limitations concerning sources and resources. A fundamental limitation was the scarcity of literature regarding exploring accountants' perceptions related to the AE of fraud and ICMWs. This limitation was significant because the principal investigator excluded graduate education and specialized professional bodies. Consequently, the principal investigator had to spend more time finding accessible and adequate data to delve deeper into participants' perspectives (Yin, 2011; Shank, 2006; Alase, 2017).

Additionally, the principal investigator had to widen the scope of online library databases to mitigate the paucity of relevant literature. However, time is another limitation that is inherited in most doctoral dissertations; hence, the principal investigator had to balance wisely the procedural steps of the research with the available time and the minimum intended outcomes (Creswell & Poth, 2018; Yin, 2011). Consequently, the sample size was not to exceed thirteen participants. Nevertheless, that sample size was enough to saturate the data (Mason, 2010).

According to the suggestion of Fontenot (2013), the sample size was relatively small; however, that fact was a double-edged sword (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010). The reason is that although it was a limitation, the relatively small sample size enabled the principal investigator to deeply probe the participants' perceptions regarding how their AE affected their abilities to respond to fraud and ICMWs experienced in WEs. Detailed understandings of rich information helped the principal investigator in overcoming the small sample size and the scarcity of data (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010; Marshall et al., 2013).

Delimitations. The principal investigator expanded the study to include occupational fraud and ICMWs. In this context, occupational frauds include asset misappropriation, corruption, and financial statement fraud (ACFE, 2016). In contrast, the principal investigator delimited the research by excluding FE gained from graduate schools and specialized accounting bodies. Thus, the principal investigator studied accountants' perceptions only regarding their undergraduate education. In this regard, another delimiting factor was the sample size of thirteen participants (Mason, 2010; Marshall et al., 2013).

Moreover, the principal investigator delimited the scope of the study to a major mid-Western metropolitan area. Each of the thirteen participants was an accountant who experienced fraud or ICMWs in WEs. Also, each participant should be a CPA and had worked as an accountant in that major mid-Western metropolitan area for at least the past three years. Additionally, the participants were members of AICPA. In this context, the principal investigator selected the participants using purposive snowball sampling to enable a detailed understanding of the information-rich situations (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010; Marshall

et al., 2013). In contrast, the scope of this study excluded educators, internal and external auditors, and managers.

The principal investigator used document review and open-ended questions to probe the accountants' perceptions deeply because this is a qualitative study (Saldaña, 2013; Jacob & Furgerson, 2012; Guest et al., 2006). The principal investigator excluded Likert scales and surveys because they would limit the participants' responses to only certain established choices (Patton, 2002; Yin, 2011; Creswell & Poth, 2018). Also, the scope of this study included reviewing selected documents; for example, studies about how the fraud occurred and the benefits of undergraduate courses in fraud. In this context, the principal investigator used an extended scope of online databases' sources to compensate for the paucity of relevant literature (Butler, 2015; Daher et al., 2017).

The Significance of the Study

This study is directly related to accounting, which is the principal investigator's field of study. Additionally, the purpose of the study is in parallel with biblical instructions. Furthermore, the study will fill specific gaps in the literature. Also, several individuals, professionals, and entities may benefit from the findings; for example, educators, managers, accounting firms, and practitioners. Moreover, future research may benefit from this study by filling part of the existing gap.

Reduction of gaps. Existing literature contains many studies about either internal control weaknesses or fraud. However, the volume of studies about the combination of fraud and internal control weaknesses together is dramatically smaller than the volume of individual topics study. Consequently, there is a gap in the literature about how internal control weaknesses result in accounting fraud. Additionally, there are very few studies in the existing literature about the

accountants' perceptions regarding the effect of their AE on their abilities to respond to fraud appropriately (Carpenter et al., 2011; Ramadhan, 2015; Kassem & Higson, 2012).

More importantly, there are almost no studies about how accountants in major metropolitan areas perceive their undergraduate courses prepared them to respond to internal control weaknesses detected during their accounting works. The principal investigator expects this research to fill the previous gaps by gaining an understanding of accountants' perceptions in the U.S. third most populous city. Furthermore, the primary beneficiaries of this study are educators, organizational managers, accounting practitioners, and future researchers.

Educators. Understanding accountants' perceptions will benefit professors in designing undergraduate courses to prepare students to better prevent and detect fraud during their future works. Moreover, exploring accountants' perceptions will help professors to know which undergraduate topics should be highlighted to prepare students to appropriately respond to internal control weaknesses detected in WEs (Alleyne & Amaria, 2013).

Managers. Organizational managers will benefit from understanding accountants' perceptions of how they dealt with internal control weaknesses that resulted in fraud. In this context, organizational managers will be able to evaluate the adequacy of internal control systems implemented in their organizations. Furthermore, managers need to know how accountants perceive their AE helps or hinders them from appropriately dealing with internal control weaknesses. In this sense, managers will recognize the strengths and deficiencies in AE as implemented in 2018. Consequently, managers will know how to calibrate OJT courses to fill the gap in accountants' knowledge regarding internal control weaknesses (Kassem & Higson, 2012; Al-Hadrami & Hidayat, 2015).

Accounting practitioners. By understanding accountants' perceptions, accounting practitioners will recognize the weaknesses in their AE. Hence, they will seek to learn how to respond to internal control weaknesses and how to prevent and detect fraud (Alleyne & Amaria, 2013; Kassem & Higson, 2012).

Future research. Due to the scarcity of similar studies, the results of this research will inform directions for future research. Additionally, future researchers can benefit from this study by replicating it in other major cities such as New York and Los Angeles. The next step for other future researchers is to conduct quantitative studies to compare the results of this research with that of other major cities to investigate any similarities or correlations in accountants' perceptions across the U.S.

Implications for biblical integration. Fraud is a sin; hence, it contradicts biblical guidance. "Everyone who sins is breaking God's law, for all sin is contrary to the law of God" (John 3:4 NLT). Accounting fraud could distort the fair presentation of financial statements whereas the Bible calls for truth. "Then you will know the truth, and the truth will set you free" (John 8:32 NIV). Also, fraudsters live with the fear of being detected. "Whoever walks in integrity walks securely, but whoever takes crooked paths will be found out" (Proverbs 10 NIV). In contrast, honest employees enjoy the fruits of faithfulness. "But whoever lives by the truth comes into the light, so that it may be seen plainly that what they have done has been done in the sight of God" (John 3:21 NIV).

Fraudsters will do whatever is necessary to bury the truth. Consequently, they will perpetrate a mistake after a mistake. In contrast, God instructs humans to show integrity in every aspect of their lives. "In everything set them an example by doing what is good. In your teaching show integrity ... so that those who oppose you may be ashamed because they have nothing bad

to say about us” (Titus 2:7-8 NIV). As a result, accountants, who do their best to fairly present the financial position of a company and its result of operations, will be conducting their work based on sound biblical guidance. “Anyone who listens to my teaching and follows it is wise, like a person who builds a house on solid rock... it won’t collapse because it is built on bedrock” (Matthew 7:24-25 New Living Translation).

Moreover, FD&P help employees and owners by protecting the company’s resources and best interest; hence, fraud examination constitutes a means to worship God. The implied reason is that helping others is one of the best methods to glorify God (Van Duzer, 2010; Keller & Alsdorf, 2012). "Each of you should use whatever gift you have received to serve others, as faithful stewards of God's grace in its various forms" (Peter 4:10 NIV).

Relationship to the field of study. This study relates directly to accounting, which is the principal investigator’s specific field of study. Fraud topics have become an integral part of accounting-related disciplines such as FA, internal auditing, and external auditing (Bazrafshan, 2016; Lawson et al., 2014). In this context, awareness of how to prevent and detect fraud is preferable when hiring an accountant (Bazrafshan, 2016; Lawson et al., 2014; Popoola et al., 2016; Lail et al., 2017). Also, financial managers are interested in accountants who have the necessary knowledge to respond to ICMWs appropriately (Popoola et al., 2016; Lail et al., 2017).

Some internal accountants perpetrate accounting fraud contrary to the ethics code governing the profession (Chelariu, Horomnea, & Tanasă, 2014). Thus, external auditors should consider the possibility of material fraud in financial statements or financial reporting. In this context, some types of accounting fraud deplete the resources of companies (Donegan et al., 2017; Bao & Lewellyn, 2017). In contrast, there are several types of accounting fraud that are to

the company's short-term advantage such as earnings management (Donegan et al., 2017; Bao & Lewellyn, 2017). However, uncovering such a fraud could result in severe consequences on companies' future.

More importantly, a foundational purpose of accounting is to present financial statements that fairly show the company's financial position and result of operations (Mubako & O'Donnell, 2018; Atağan & Kavak, 2017). In this sense, undetected fraud could materially affect the fair presentation of financial statements; hence, it may jeopardize the credibility of the accounting department (Mubako & O'Donnell, 2018; Atağan & Kavak, 2017; Noviyanti & Winata, 2015). Likewise, companies hire external auditors to submit an opinion about the fair presentation of financial statements (Donelson et al., 2017; Yazid & Suryanto, 2017). In this context, material fraud could affect the external auditor's opinion (Atağan & Kavak, 2017; Noviyanti & Winata, 2015). The foregoing facts assert the relationship between this research and the accounting field (Donelson et al., 2017; Yazid & Suryanto, 2017; Brazel et al., 2014).

Summary of the significance of the study. This study will help in bridging a gap in the literature about how internal control weaknesses result in accounting fraud. Additionally, the study will fill another gap in accountants' perceptions regarding the effect of their AE on their abilities to respond appropriately to fraud. Consequently, the primary beneficiaries of this study are educators, organizational managers, accounting practitioners, and future researchers.

All beneficiaries will better understand how accountants in a major mid-Western metropolitan area perceive their undergraduate courses prepared them to respond to fraud and ICMWs detected during their accounting works. For example, professors will have more knowledge when designing undergraduate courses to prepare students better to prevent and detect fraud. Furthermore, this study adds to the world's efforts in combating fraud, which is a

sin; hence, the study directly helps in furthering God's purpose on earth. Also, because fraud topics have become an integral part of accounting-related disciplines, this study is related to the field study of the principal investigator.

A Review of the Professional and Academic Literature

The question of how to teach fraud effectively has caused much debate in the academic profession during the last twenty years (Burke & Sanney, 2018). In this literature review, the principal investigator contrasted different authors' views on certain issues, grouped authors who draw similar conclusions and criticized aspects of the methodology. Additionally, the principal investigator noted fields in which authors disagree, highlighted exemplary studies, highlighted gaps in research, and showed how the researcher's study relates to previous studies and the literature in general. The principal investigator concentrated the review on studies published during the last five years and concluded by summarizing the literature.

The purposes of the review were to define and limit the problem stated in this study, to place the principal investigator's research in a historical perspective, and to avoid unnecessary duplication. The purpose of the review also included evaluating promising research methods and relating the principal investigator's findings to previous knowledge to suggest further research. Hence, this literature review represents one of the first attempts to explore contemporary education methods regarding internal control and fraud.

Additionally, this literature review highlights the views about how undergraduate courses enhance students' abilities to better respond to red flags (McCabe, 2018). In this sense, the principal investigator reviewed perceptions of accountants, educators, students, and employers that are available in the existing literature. Based on the apparent gaps and ambiguity in the existing literature regarding ICMWs and FE, the core of the literature review was determined. In

this sense, at the time of the review, the principal investigator argued that it is more important to (a) identify the "active ingredients" that predict the effectiveness of undergraduate courses, and (b) to determine the difference in the predictive value of these active ingredients on FE (Burke and Sanney, 2018; Cheng and Flasher, 2018).

This literature review contains three main parts, which the principal investigator divided into subparts as follows:

- Part 1: Undergraduate education related to fraud and internal control
 - Internal control education
 - FA education
 - Ethics education
 - FE
- Part 2: Perspectives of students, professors, managers, and accountants regarding fraud and ICMWs education
 - General perspectives on FE
 - Perspectives on ethics education
 - Perspectives of employers regarding FE
 - Perspectives of students regarding FE
 - Perspectives of educators regarding FE
 - Perspectives of accountants regarding FE
- Part 3: Contemporary trends in accounting courses concerning fraud and ICMWs
 - Nontraditional educational methods
 - Education in a digital world
 - Experiential learning

- Cooperative learning

Part 1: Undergraduate education related to fraud and internal control. The first part is the critical one in the literature review because it directly answers the research questions; hence, it serves the purpose of this study. Also, the comprehensive review of many studies is expected to add to the existing literature (Appiah, 2015; Appiah-Sokye, 2016). Moreover, this part of the literature review is vital because it will uncover gaps and will highlight trends in the literature. Future studies will benefit from finding a foundation to investigate innovative ways to prepare ASs better to respond to fraud and ICMWs (Appiah, 2015; Appiah-Sokye, 2016).

In general, there are few studies of AE related to fraud or internal control (Lehmann, 2010). However, most available studies examine ethics, which is a fundamental element in combating fraud and furthering the internal control system. Nevertheless, there is an emerging trend in FA education in the literature during the last three years. Additionally, there are several attempts in the literature to propose nontraditional or innovative methods to deter or detect fraud (Cheng & Flasher, 2018).

Specifically, there is an apparent gap in the literature regarding the perspectives of ASs and professors about FE (Brewer & Sorensen, 2014). Furthermore, there is a gap between FE and expected competencies of ASs regarding responding appropriately to fraud and ICMWs (Ihendinihu & Robert, 2014). Due to the scarcity of resources and to further the existing literature, the principal investigator reviewed an extended amount of studies in the last five years. Then, the principal investigator sorted the studies about AE as follows:

- Internal control education
- FA education
- Ethics education

- FE

Internal control education. The gap in the literature regarding FE is dramatic in internal control education. There are very few studies in the literature about this critical field. Surprisingly, Daniels et al. (2013) asserted that accounting educators and practitioners selected internal control as the most significant topic for FE. Consequently, there is a need to bridge the gap between theory and practice regarding IC education. In this regard, Lehmann (2010) noticed that the critical role of an effective internal control system is at the core of specific courses such as auditing and accounting information systems. Lehmann (2010) added that internal control education takes on even more importance with the enactment of the Sarbanes-Oxley Act of 2002. The reason is that strong governance, achieving the long-term management goals, and minimizing the possibility of frauds are related directly with the effectiveness of the internal control system (Daniels et al., 2013).

Lehmann (2010) tried to bridge the apparent gap in the literature by presenting six short, open-ended internal control cases. This researcher argued that these cases would enhance students' abilities regarding internal control by addressing the following control issues: (a) procedures to reimburse the employees, (b) deficiencies in credit authorization steps, (c), disaster recovery plans (d) advantages and threats of recent technology and remote access, and (e) hiring procedures. Professors can employ these cases in a small group or individual settings in conventional auditing courses or accounting information systems courses (Lehmann, 2010). However, there is no empirical evidence supports the claims of Lehmann (2010). Moreover, there are no other known studies in the existing literature that propose methods to strengthen students' response to internal control weaknesses. The catastrophic scarcity of studies in the

literature about internal control education validates the purpose of this study. More information about the cases of Lehmann (2010) is in Appendix B.

FA education. In 2006, the National Institute of Justice (NIJ); the research, development, and evaluation agency of the U.S. Department of Justice; supported a project to create fraud and FA courses and curriculum (Kranacher, Morris, Pearson, & Riley Jr., 2008). In this regard, the planning panel and Technical Working Group (TWG) identified the following primary contents for fraud and FA curricula: (a) criminology that is oriented specifically to fraud, financial crimes, the legal environment, and ethical issues; (b) fraud prevention, deterrence, detection, investigation, and remediation; and (c) forensic and litigation advisory services.

The previous second element includes: (a) asset misappropriation, corruption, and false representations; (b) financial statement fraud; and (c) financial crime, fraud, and FA in a digital environment (Kranacher et al., 2008). The latter includes: (a) computer-based tools and techniques for detection and investigation; (b) electronic case management tools; and (c) other issues specific to digital environments. These researchers indicated that there is an interrelationship between the knowledge and skills of auditing, fraud examination, and FA. However, that association is dynamic according to legal, and cultural events. In this context, a successful professional career in this field requires additional specialized training and continuing professional development. The findings of this crucial project included a model curriculum graphical overview: (a) prerequisite knowledge; (b) exposure material /course; and (c) in-depth course material regarding fraud and FA (Kranacher et al., 2008).

Model curriculum guidelines. In addition to Kranacher et al. (2008), Auditor's Report (2006) mentioned that a Technical Working Group (TWG) organized by West Virginia University in Morgantown developed model curriculum guidelines. In this regard, Auditor's

Report (2006) discussed the goals in developing the curriculum guidelines and primary content points for fraud and FA curricula identified by the TWG. However, by comparing the study of Auditor's Report (2006) with that of Kranacher et al. (2008), the principal investigator suggests that the latter is much more in-depth.

Mitrić et al. (2012) agreed with Kranacher et al. (2008) that the correlation between auditing and FA is a dynamic process that keeps changing due to political, social and cultural events. Another concurrence is that forensic scientists need to be familiar with not only financial accounting, but also with tax, business law, criminology, psychology, and accounting. However, Mitrić et al. (2012) added that the auditors should possess, at a minimum, enough knowledge, and skills to recognize a financial fraud. More information about the findings of Kranacher et al. (2008) is available in Appendix C.

An undergraduate certificate program in digital forensics. In addition to the project conducted by the National Institute of Justice (NIJ); Lang, Bashir, Campbell, and DeStefano (2014) planned to develop a new undergraduate certificate program in digital forensics at the University of Illinois at Urbana-Champaign. They planned to include domain experts from the fields of computer science, law, social science, psychology, and accounting and designed the curriculum to distribute it as a self-contained curriculum package with everything needed to teach the course. The program would consist of an introductory and an advanced course in digital forensics, with accompanying hands-on labs (Lang et al., 2014).

In a subsequent study, Bashir et al. (2014) stated that the curriculum on the topic of digital forensics should consist of a four-course sequence, including introductory and advanced lecture courses with parallel laboratory courses, followed by an advanced course. That curriculum was designed to obviate the need for expensive labs or team-teaching by specialized

faculty and could be used as the basis for future academic programs, distance learning, and multidisciplinary, multi-institutional programs (Lang et al., 2014). The following is a summary of the essential focus of the introductory course curriculum: (a) proper data handling; (b) limitations of forensics/techniques/knowledge; (c) scientific analysis; (d) demonstrated ability to communicate findings (written and oral); (e) understanding of the spectrum of available techniques; and (f) awareness of the significant forensic issues (Lang et al., 2014).

Seda and Kramer (2009) explored the related course content, learning activities, educational theories, and assessment methods used to enhance future FA education and related corporate governance. These researchers concurred with Lang et al. (2014); and Bashir et al. (2014) and added that the use of a combined interdisciplinary and “general elective” educational model in partnership with practitioners and professional organizations is necessary for two reasons. The first reason is to adequately cover the entire forensic skill set in fields of interrogation, fraud investigation, cybersecurity, and litigation support. The second reason is to develop ideal future holistic accountants as recommended by critics of accounting education and the accounting profession. Also, these researchers indicated that administrators of accounting programs need to integrate an FA track into their curriculums due to its focus on cross-disciplines, critical thinking, ethics, corporate governance, interpersonal and communication skills.

The results of the vital research of Seda and Kramer (2009) indicated that the following are the U.S. universities that offer FA certificate programs: University of Baltimore, Central Michigan University, California State University-Fullerton, LaSalle University, Northeastern University, Southern New Hampshire University, New York University, St. Thomas University, University of North Carolina-Charlotte, and West Virginia University.

Alternatively, Seda and Kramer (2009) stated that the following are the universities that offer FA major/minor and master's programs: Carlow University, Edinboro University of PA, Franklin University, Florida Atlantic University, Georgia Southern University, Rider University, Tiffin University, Utica College, University of West Florida, University of Wollongong, and Villa Julie College. In addition to these valuable efforts, Seda and Kramer (2009) identified the relevance of FA services, analyzed the perceived benefits of FA education, and discussed the perceived obstacles against integrating FA. All these facts confirm the pivotal role of the study of Seda and Kramer (2009) in the literature. However, the principal investigator highly recommends future researchers to duplicate that study by updating its findings due to the elapse of eight years. More information about the findings of Seda and Kramer (2009) is available in Appendix D.

Other universities. Existing literature suggests that the importance of FA education is increasing. For example, McCabe (2017) indicated that Florida Atlantic University (FAU) launched the Center for FA, which is the only one of its kind in the state. The Center for FA complements FAU's two existing graduate programs in FA and Digital Accounting Forensics and Data Analytics (McCabe, 2017). In this context but another study, McCabe (2017) highlighted the increasing trend of FA education by stating that, in 2017, Florida Tech started offering FA degree. Then, in 2018, McCabe mentioned that SUNY Old Westbury would offer FA degree in Fall 2018. In this regard, McCabe (2018) noticed that the new graduate program at SUNY Old Westbury would be the first of its kind to be offered in Long Island. Moreover, Kramer et al., (2017) concurred with McCabe (2018) and argued that there is a dramatic growth in the number of AIs offering FA education. Thus, as the number of institutions offering FA

education has dramatically increased, the principal investigator encourages future research to delve deeper into existing views of FA educators and practitioners.

Studies in other countries. Several other researchers echoed the findings of Kramer et al. (2017); and McCabe (2018) and asserted that the FA education is growing internationally. For example, Nicolae and Diana (2017) stated that for becoming a forensic accountant in Romania it is necessary, first, to have a bachelor`s degree in accounting or finance, and second, to attain certification, as a chartered accountant, and after that, as a forensic accountant. In this context, Nicolae and Diana (2017) analyzed the curriculum of the main faculties with a goal to determine and connect different courses with different skills. However, that study was limited in scope because it was only about Romania. Furthermore, these researchers did not determine convincingly how the FA education assured the professional accountants all relevant, required skills. In addition to Nicolae and Diana (2017), Bhat (2016) mentioned that, in an effort aimed at combating increasing fraud in the country, the Institute of Chartered Accountants of Sri Lanka launched the Certificate Course in FA. The purpose is to inculcate chartered accountants with valuable knowledge and skills in this specialized field (Bhat, 2016).

Al-Hadrami and Hidayat (2015) concurred with the other views in the literature that FA is considered one of the most important careers in the future; however, they warned that universities in Bahrain were still not offering a separate program or course in FA. In this regard, Al-Hadrami and Hidayat (2015) explored educators` opinion regarding the main obstacles to integrating FA in the accounting curriculum across universities in Bahrain. Curriculum and faculty, which are obstacles related to academic matters, are the most important ones that prevent the universities across Bahrain from offering a program or a course in FA (Al-Hadrami & Hidayat, 2015). However, these researchers found a significant difference among educators as

for the obstacles to integrate FA into the accounting curriculum only when they grouped the educators according to their academic rank. However, there is still a doubt about the generalizability of the findings of that study because it was limited to one country only, which is Bahrain.

In addition to Al-Hadrami and Hidayat (2015); Bhat (2016); and Nicolae and Diana (2017), several other studies confirmed that FA education is prevailing on an international basis. Another overseas study was by Mitrić et al. (2012) who noticed that, in Serbia, FA is an underdeveloped field in education and practice and is often considered to be an audit even in academic courses in which the authors view forensic accountants as auditors. These researchers asserted that the development of FA in education and practice is of utmost importance.

However, the study of Mitrić et al. (2012) was narrow in scope and did not fill any gap in the literature. Furthermore, these researchers agreed partly with other views. For example, Meier et al. (2010) added that critics turned their attention toward universities to know how accounting programs were preparing students to recognize frauds in their future works. Moreover, these researchers added that the AAA encouraged AIs to create courses regarding fraud examination and FA to hone the curricula and prepare students better to work in such critical fields. However, Meier et al. (2010) delved deeper into the literature than Mitrić et al. (2012); and Nicolae and Diana (2017) by reviewing the curricula of AACSB Accredited Accounting programs. In this regard, Meier et al. (2010) tried to understand how certain accounting programs, which are accredited by AACSB, responded to the challenges and whether programs in FA and fraud examination were available. However, these researchers conceded that their study is limited due to time and financial resources constraints.

Like Nicolae and Diana (2017); and Mitrić et al. (2012), Cilliers and de Villiers (2011) were interested in chartered accountants and forensic accountants in South Africa. Their purpose was to explore the factors impacting the career choice of ASs in that country. The findings suggested that CA students' choice is affected substantially by competence in accounting and expected future earnings, and job security and satisfaction, (Cilliers & de Villiers, 2011). Thus, the principal investigator suggests that the results of Cilliers and de Villiers (2011) could be used to create a strategy to affect students' career choice of the FA profession to increase the number of forensic accountants. However, there is a doubt about the generalizability of the findings of Cilliers and de Villiers (2011) because the researchers conducted the study in an overseas country. Moreover, its sample size was relatively small compared with other studies.

The impact on skepticism. One of the unprecedented studies in the literature about FA education is that of Carpenter et al. (2011) who asserted that the FA course raises the students' level of skepticism. The authors investigated how much providing a course that focuses on FA affects fraud-related judgments of the learners. Trained learners showed a significant increase in initial risk assessments when compared with the untrained students (Carpenter et al., 2011). Also, after they were challenged with possible fraud-risk factors, trained learners showed more modified risk assessments post-training than they did pre-training; however, not much different from experts' panel (Carpenter et al., 2011). However, the researchers purported that seven months after the course, the trained students' performance sustained. Thus, these researchers speculated that there are persisted impacts of a fraud-specific FA class. Another claim was by Carpenter et al. (2011) who purported that although training increases the learner's sensitivity to fraud-risk factors, it may not adversely impact their assessment of audit risk.

The principal investigator recommends further research into these claims because SAS No. 99 calls auditors to document the fraud-risks found during an audit and to execute audit procedures as a result of their fraud-risk assessments. Also, the study of Carpenter et al. (2011) has some limitations: (a) any research that occurs in a classroom and during several months suffers from various uncontrolled variables and impacts, and (b) the study is limited by the success of the questionnaire. Despite these limitations, the study of Carpenter et al. (2011) is unprecedented because it proved that a course in FA would enhance learners' capability sustainably to make fraud-risk assessments beyond a regular audit series.

A blueprint for FA education. In addition to the thorough study of Carpenter et al. (2011); Hendi (2013) highlighted the essential attributes of forensic accountants and constructed the forensic accountant "blueprint" as a reference for FA education and training. The researcher studied the FA profession in Indonesia and USA. The "problem-based" nature of FA requires a unique approach in producing forensic accountants compared to ordinary accountants (Hendi, 2013). In this regard, the researcher identified the essential attributes that a forensic accountant needs to possess (mentality, method, and experience) and explained them thoroughly. Nevertheless, the study of Hendi (2013) is limited to two countries with a relatively small number of respondents following time and financial constraints. However, despite the limitations, Hendi (2013) was successful in studying forensic accountant skill development from the "demand" point of view by highlighting what the profession expects from a forensic accountant. Hence, the principal investigator encourages future researchers to study more countries and respondents to gain a clearer picture of what constitutes a forensic accountant.

Ethics education. In the wake of corporate scandals and accounting frauds in the early 2000s, the Sarbanes-Oxley Act of 2002 (SOX) was enacted to restore investor faith and

confidence in the markets. One of the educational impacts of SOX was a demand for the improved teaching of business ethics to students enrolled in undergraduate business programs (Flynn & Buchan, 2016). Surprisingly, most studies in the literature regarding FE are about ethics. This fact confirms that ethics education is vital in the efforts against fraud. However, accounting education should concentrate equally on both sides of the coin; ethics and technical skills. In this context, the education should equip ASs with the skills needed to detect fraud and to respond to the ICMWs appropriately. Also, as a part of ethics education, there is not enough encouragement of ethical decision-making frameworks to prepare students to recognize (ethical sensitivity) and think through ethical issues (ethical judgment) (Martinov-Bennie & Mladenovic, 2015).

Cory and Treviño (2017) noticed that some corporate fraud and unethical business practices were committed by well-educated and knowledgeable accountants who were simply “morally disengaged.” Hence, these researchers measured moral disengagement component levels in accounting majors; however, they discussed the differences between the components of moral disengagement vaguely. Alternatively, Flynn and Buchan (2016) suggested exposure to ethics interventions academically to cause changes in student moral reasoning levels. Flynn and Buchan (2016) measured moral reasoning scores of business students before and after several business ethics interventions. The findings of these researchers suggest that ethics education at business schools has a positive impact on the moral development of business students.

Interestingly, Flynn and Buchan (2016) claimed that male students showed more improvement in moral reasoning scores from pretest to posttest than female students. Nevertheless, male students scored more poorly than female students on both the pretest and the posttest (Flynn & Buchan, 2016). In this context, the principal investigator recommends future

studies to explore the reasons behind these differences between males and females and how to employ the reasons in revising ethics education to improve the males' scores.

The impact on ethical reasoning. In a similar study to that of Flynn and Buchan (2016); Arfaoui, Damak-Ayadi, Ghram, and Bouchekoua (2016) explored the influence of ethics education on ASs' level of ethical reasoning before and after ethics education. Surprisingly, Arfaoui et al. (2016) contradicted with the findings of Flynn and Buchan (2016) because they purported that the progress of moral development was not significant between the pretest and the posttest. However, the study of Arfaoui et al. (2016) suffers from several mistakes; hence, its reliability is not critically solid. Nevertheless, such study questions previous studies that purported to demonstrate the effectiveness of ethical instruction; thus, there is a need to probe the benefits of accounting ethics education. In a related study to that of Flynn and Buchan (2016), Tormo-Carbó, Seguí-Mas, and Oltra (2016) found significant differences in students' perceptions on the importance of accounting ethics depending on their gender and age. Female and older students showed more ethical inclinations than, respectively, male and younger students (Tormo-Carbó et al., 2016). Furthermore, Holmes, Marriott, and Randal (2012) concurred with Flynn and Buchan (2016); and Tormo-Carbó et al. (2016) by stating that female students demonstrated more ethical responses in their behavior than male students. Hence, the principal investigator recommends future researchers to study how to benefit from this fact in FE.

Consequently, some studies explored the relationship indirectly between gender and fraud education through ethics education. Alternatively, some researchers explored the relationship between AI type, national accreditation and regional accreditation to candidate performance on the CPA Exam; for example, Self, Weaver, Proctor, & Hicks (2013). However,

the literature lacks enough research concerning the relationship between AI and candidate performance on the CFE and CFF Exams.

The impact on ethics training. In a surprising study, Cameron and O’Leary (2015) re-evaluated the effectiveness of ethics training after ethical instruction. Ethical attitudes towards legal/moral issues improved, but attitudes towards moral-only issues did not (Cameron & O’Leary, 2015). The apparent contradictions in the literature validate the principal investigator’s concern about whether ethics education does instill core ethical values or mostly answers how ASs should act when confronted with typical ethical dilemmas. An attempt to resolve one of the contradictions is by O’Leary and Stewart (2013) who conducted highly-specialized academic research by exploring the interaction of instructional methodologies and learning styles in ethical courses at accounting colleges.

In general, the teaching methods influenced active learners more than passive ones (O’Leary & Stewart, 2013). Nevertheless, according to these researchers, usefulness was assessed as high when teaching methods matched learning styles; however, when teaching methods and learning styles did not match, usefulness deteriorated dramatically. Therefore, professors should select the teaching methods according to students’ learning styles in ethics education environments (O’Leary & Stewart, 2013).

The findings of O’Leary and Stewart (2013) are robust due to the empirical evidence and relatively large sample size in their study when compared to similar ones. However, the principal investigator recommends future researchers to duplicate such study to investigate whether the elapse of five years could affect the results. In addition to O’Leary and Stewart (2013), Loeb (2015) was interested in active learning strategies such as role-plays, analyzing cases, and guest speakers from practice. However, Loeb (2015) delved deeper into exploring active learning than

O'Leary and Stewart (2013). The willingness of an educator to apply active learning in an accounting ethics course could be affected, partly at a minimum, by that educator's expectations of the benefits and barriers of using active learning (Loeb, 2015).

The advantages of active learning strategies in teaching accounting ethics, according to Loeb (2015), include: (a) realism, (b) durability of learning, (c) opportunity for student input, (d) added appeal, (e) enhanced the educational experience, and (f) supporting instructors. However, this researcher stated that the challenges of using active learning strategies in teaching accounting ethics include: (a) instructional-related risks and difficulties, (b) student discomfort, (c) grading group work, (d) disharmony in a student group, (e) shortcomings to the realism of in-class active learning strategies, (f) student confidentiality issues, and (g) class-size limitations.

The gender and ethics. Wang and Calvano (2015) agreed with Flynn and Buchan (2012) that gender may have an impact on the effectiveness of ethics education; however, they added other possible factors such as personal ethical perspectives and moral judgment. In this context, Wang and Calvano (2015) agreed with Flynn and Buchan (2012) that: (a) gender does have an impact, (b) women are more inclined to act ethically than men, and (c) men are more responsive to business ethics education than women. However, these researchers added new surprising insights when they claimed that females, who received business ethics instruction, are less likely to respond ethically in WEs. In other words, after taking a business ethics class, women's ethical orientations may become more relativistic (Wang & Calvano, 2015).

Other studies were more advanced concerning the practical application. For example, in 2006, the Building Ethical Leaders using an Integrated Ethics Framework (BELIEF) program was introduced at the Northern Illinois University College of Business (Dzurainin, Shortridge, &

Smith, 2013). The BELIEF program appears to enhance students' ability to recognize issues and identify appropriate decision alternatives (Dzuranin et al., 2013).

However, deeper research in this context was done by Martinov-Bennie and Mladenovic (2015) who studied how to stimulate students' ability to identify (ethical sensitivity) vs. to think through ethical issues (ethical judgment). In this context, these researchers investigated the impact of providing ethics decision-making framework on its own and providing it as part of an integrated component of a comprehensive ethics education. Providing a student only with ethical decision-making framework supports their ethical judgment; nevertheless, it does not increase students' ethical sensitivity (Martinov-Bennie & Mladenovic, 2015). However, according to these researchers, the integrated ethics component increases students' ethical sensitivity. Consequently, the principal investigator suggests improving students' ethical sensitivity by integrating the ethics education to expose the student to a range of ethical issues.

Other views in the literature. Interestingly, there are few studies in the literature about accounting and FE research. One attempt was by Apostolou, Hassell, Rebele, and Watson (2010) who researched FE (their study is discussed later in this literature review). Alternatively, Chelariu et al. (2014) grouped authors from the specialty literature that approached ethics education in the accounting profession. There are trends in the literature toward offering models of professional ethical accountants by modifying the curriculum to include more ethical parts (Chelariu et al., 2014).

Conversely, there are entirely different interests regarding ethics in the literature. For example, Poon and Ainuddin (2011) were interested in the perceptions of business school faculty about their ethical behaviors. Put differently; the researchers studied the ethical behaviors of those who teach ethics. Most professors in the study considered manipulation of data, plagiarism,

and taking undeserved authorship credit to be ethically unacceptable (Poon & Ainuddin, 2011). Nevertheless, professors considered practices of misapplying statistical techniques, cutting up research data, and simultaneous submissions to more than one publication outlet at the same time as ethically acceptable (Poon & Ainuddin, 2011). Thus, the principal investigator recommends future studies to explore the consequences of professors' ethical perspectives on the effectiveness of their teaching of ethics. Moreover, contrary to Poon and Ainuddin (2011) who studied the fraud of fraud educators, Burke and Sanney (2018) studied the fraud of fraud learners. The findings of Burke and Sanney (2018) is discussed later in this literature review. The principal investigator recommends future researchers to consolidate the findings of Poon and Ainuddin (2011) with the findings of Burke and Sanney (2018) in one study.

Alternatively, some studies are concerned with the reasons for unethical practices among accountants. For example, Tsegba, Upaa, and Tyoakosu (2015) conducted a quantitative study and asserted that the primary determinants of unethical financial reporting are: (a) weak corporate governance, (b) attempts to conceal deteriorating financial position, and (c) compensation and bonus incentives. Hence, the principal investigator encourages future studies to investigate the impact of incorporating a good corporate governance system on curtailing the incidences of unethical financial reporting. Conversely, Wilhelm and Czyzewski (2012) conducted important research when they studied how to yield significant improvements in student moral reasoning by utilizing specific strategies and instructional materials in non-ethics undergraduate accounting courses taught by professors. However, their study lacks empirical evidence.

The enablers and barriers. In a longitudinal study, Dellaportas, Kanapathippillai, Khan, and Leung (2014) examined the enablers and barriers related to ethics education. These

researchers insisted that the extent of ethics integration is institution-specific, and the attention given to ethics instruction will vary between institutions. Also, the issue of qualified staff is problematic but can be addressed with a commitment to developing and allocating resources to develop ethics professors (Dellaportas et al., 2014).

The most controversial objection to ethics education is that a student's ethical framework is fixed and cannot be modified by ethics education offered when personal values are firmly established (Dellaportas et al., 2014). However, these researchers added that the primary function of ethics education should be to teach ethical systems of analysis, not moral standards of behavior. Nevertheless, because curriculum time in accounting programs is a scarce resource, the integration of ethics in accounting programs is not without opportunity costs (Dellaportas et al., 2014). Additionally, according to these researchers, the lack of depth in ethics education in the accounting curriculum is also linked to the inadequacy of learning resources. These claims and findings confirm the importance of the study of Dellaportas et al. (2014).

In contrast to the longitudinal research of Dellaportas et al. (2014), Apostolou, Dull, and Schleifer (2013) conducted a latitudinal study and designed a framework for the pedagogy of accounting ethics: (a) assess the need for ethics in the curriculum, (b) articulate learning objectives, (c) identify the nature of the content, (d) determine mode(s) of delivery, and (e) conduct learning assessment. In this context, Apostolou et al. (2013) indicated that the modes of delivery include a stand-alone course on ethics specifically or a discipline-specific course with ethics elements. Furthermore, the nature of content could be (a) theoretical, ethical models; (b) professional codes of conduct; (c) discipline-specific content; or (d) social and environmental issues as a context (Apostolou et al., 2013). Moreover, these researchers agreed with several researchers that Auditing is the most popular course to incorporate ethics into it. Also, educators

can integrate ethics into other courses such as Financial Accounting or Tax; for example, a financial accounting course can address the ethics of earnings management (Apostolou et al., 2013).

A stand-alone course is one in which the focus is on ethics exclusively as opposed to ethics with a discipline-specific content like tax or auditing. One of the implied reasons behind the development of stand-alone courses is the requirement in some states for CPA examination readiness (Apostolou et al., 2013). However, according to these researchers, some educators noted that preference exists to include ethics topics in existing courses rather than a stand-alone ethics course. Additionally, the most common classroom pedagogical tool is the use of case studies, typically augmented with reflective writing and class discussion or presentation (Apostolou et al., 2013). This fact confirms the claims of Lehmann (2010) who presented six cases to enhance students' response to ICMWs (the study of Lehmann is discussed earlier in this literature review).

Learning objectives. In a complementary study to that of Apostolou et al. (2013), Kidwell, Fisher, Braun, and Swanson (2013) only tried to develop a set of core knowledge learning objectives for accounting ethics education using Bloom's Taxonomy. Their study was narrower in range; however, the critical findings of Kidwell et al. (2013) is related to criticizing the presumptions of professors. Many accounting educators continue to debate whether ethics can be taught, apparently unaware that a common body of ethics knowledge exists (Kidwell et al., 2013). According to these researchers, this knowledge should be imparted before academic classroom discussions can ensue. Thus, the findings of Kidwell et al. (2013) partially disagree with that of Apostolou et al. (2013). That is because Kidwell et al. (2013) asserted that there is a necessity to move past the debate of whether ethics can be taught; the focus must be on what

material should be covered and on ways of assessing students' learning (Kidwell et al., 2013). Moreover, these researchers speculated without enough explanation or apparent support that accounting instructors should be responsible for whether students are learning indeed. Another critique is that Kidwell et al. (2013) did not discuss how to find agreement regarding the foundational or core knowledge points that students need.

The pedagogy of accounting ethics. In addition to the critical studies of Kidwell et al. (2013) and Apostolou et al. (2013), Dellaportas et al. (2014) probed the ethics education. In this sense, they found seven factors encouraging ethics intervention in the accounting curriculum. They are, (a) to sensitize and deepen students' understanding of ethical issues in accounting; (b) to develop a sense of professional responsibility; (c) to develop problem-solving skills that have ethical implications; (d) to improve students' ethical standards; (e) to develop understanding of the code of professional ethics for accountants; (f) a response to external calls; and (g) to develop one's ethics.

In contrast, Dellaportas et al. (2014) found ten perceptions affecting the inclusion of ethics education. They are, (a) a lack of qualified ethics educators; (b) accounting educators are not motivated to be involved in ethics education; (c) the overcrowded accounting curriculum hinders adding additional courses regarding ethics; (d) students' moral standards are fully developed and unchangeable; (e) there is a lack of books and cases specific to accounting ethics; (f) the incorporation of accounting ethics in education is for the sake of appearances as a result of critics; (g) effective ethics learning is not possible because ethical dilemmas are subjective and lack definitive solutions; (h) ethics is unscientific subject; and (i) ethical problem-solving skills cannot be applied to the business world. It is apparent that Dellaportas et al. (2014) enriched the literature regarding ethics education. Their study relied on empirical evidence and a thorough

explanation. Moreover, their sample size was relatively large when compared to several studies on the same topic. Thus, the principal investigator highly encourages ethics educators to benefit from such an important study.

In a different, yet related, context, Dellaportas et al. (2014) claimed that, in 2012, only 29% of Australian universities offered a dedicated course in ethics, representing a decline in the number of discrete courses in ethics (54% in 2000). In this context, most ethics-dedicated courses are taught mostly in the latter stages of the degree program (Dellaportas et al., 2014). Also, 60% of Australian universities that have an ethics-dedicated course offered the course as an optional one (Dellaportas et al., 2014). The researchers justified that practice as offering an optional course enables the professors to focus more in-depth on specific aspects of ethics. Conversely, only a relatively small number of students are likely to elect to take an optional course, and those students are necessarily the ones to receive the most significant potential benefit (Dellaportas et al., 2014).

Unlike Apostolou et al. (2013) who designed a whole framework for the pedagogy of accounting ethics, Jorge, Peña, and de los Reyes (2015) were interested only in the factors influencing the presence of ethics stand-alone courses. The study of Jorge et al. (2015) was initially out of the scope of this research because they explored accounting master's curricula. However, after reviewing the literature, the principal investigator included also studies about graduate courses due to the insufficient amount of such studies regarding the undergraduate level. Jorge et al. (2015) analyzed the influence exerted by different factors on the extent to which graduate accounting programs are incorporating ethics and corporate social responsibility (CSR) stand-alone courses. These researchers purported that their findings offer a pessimistic outlook on the extent to which top master's programs are offering stand-alone courses related to

ethics and CSR. Moreover, Jorge et al. (2015) speculated that the presence of stand-alone ethics and CSR in accounting and auditing masters is explained partially by the size and cultural influence of geographical locations. However, that study lacks convincing evidence and needs more analysis of the found factors. Thus, the principal investigator highly encourages future researchers to probe the raw field of graduate education regarding fraud and ICMWs.

Specific topics. Unlike Dellaportas et al. (2014); and Apostolou et al. (2013), Miller and Becker (2011) were interested in what ethics is being covered in the accounting curriculum. Prior research to that of Miller and Becker (2011) had been narrowed to how much ethics is covered in the classroom and ignored looking at what mainly is being done. However, Miller and Becker (2011) enriched the literature by providing an update on the level of coverage as it existed at the time of the study in the U.S., and by identifying the specific ethics topics being covered. These researchers noticed that ethics integration efforts on a per-course basis are modest and may be inadequate. Hence, Miller and Becker (2011) suggested that accounting programs, which integrate ethics, should develop a formal ethics integration plan to ensure essential topics are covered and to maximize the impact on students' ethics. However, these researchers did not suggest any viable plan for ethics integration. Thus, future researchers could bridge this gap.

Some scholars in the literature had profound insights regarding ethics education. For example, Kleinsmith, Hewitt, Previti, and Kachur (2016) noticed that at the heart of the corporate scandals problem lies the role of the accountants, considered as the gatekeeper for the integrity and accuracy of financial statements. These researchers contended that the accounting profession should embrace post-conventional moral development and non-mandatory virtues. In this context, the accounting profession must proactively, and not only reactively, address the fundamental failure of integrity and moral foundation through ethics training and moral

development during the undergraduate college experience (Kleinsmith et al., 2016). Furthermore, Klimeck and Wenell (2011) concurred with the views of Kleinsmith et al. (2016) and added that shortly after the corporate scandals in the early 2000s, the National Association of State Boards of Accountancy (NASBA) proposed adding two required ethics courses to the accounting curriculum.

However, Klimeck and Wenell (2011) admitted that conflicting research exists regarding whether requiring a separate ethics course instead of integration has a significant effect on ASs' ethical reasoning abilities. Nevertheless, these researchers contended that their findings asserted that students who took an Ethics in Accounting course before graduation did seem to have higher ethical reasoning abilities than those students who had ethics integrated into their accounting courses. Consequently, these researchers encouraged NASBA to reconsider its decision to eliminate the requirement of a three-hour course on ethics for accounting majors. Put differently, Klimeck and Wenell (2011) concurred with Apostolou et al. (2013), Kleinsmith et al. (2016), and Jorge et al. (2015).

Views about practice. Conversely, Koller, Patterson, and Scalf (2014) were more inclined toward focusing on accountants and other employees in WEs than during undergraduate learning. In this context, Koller et al. (2014) recommended using the routine activities theory to illuminate the significance of an environmental approach to combat white-collar crime. Merely focusing on individuals and ignoring the structures, processes, and social systems that industries and organizations create will not improve individuals' morals (Koller et al., 2014). Hence, these researchers called to un-motivate potential offenders with corporate training and programming, jargon and slogans. Nevertheless, the findings of Koller et al. (2014) are doubtful because the researchers neither empirically test their claims nor provided relevant supporting evidence.

However, part of their claims concurred with other views in the literature, such as Neesham and Gu (2015).

Neesham and Gu (2015) examined the relationship between the appeal to self-perceptions of moral identity and the strengthening of moral judgment among postgraduate business students. The authors recommend the appeal to moral identity as a leverage strategy to be employed in business ethics education to strengthen students' moral judgment (Neesham & Gu, 2015). However, these researchers did not consider important cultural differences in moral judgment intensity across countries. Also, these researchers measured the effects of their teaching only at the end of the twelve-week teaching program; hence, they admitted that these changes should be monitored for a longer period. Thus, the principal investigator recommends that more research should explore the scope and limitations of the potential negative consequences of appeal to moral identity studied by Neesham and Gu (2015).

In addition to Neesham and Gu (2015), Rakestraw (2014) examined how typical business ethics education change the subjects' ethical attitudes. Hence, Rakestraw (2014) assumed that the positive change in attitudes would be greatest for those students who do retain factual knowledge and whose attitudes are such that they attend to ethical issues in their environment. This researcher recommended incorporating ethical topics throughout the curriculum to emphasize the strongly-held belief that ethics should play a central role in everyone's professional life. In this regard, Rakestraw (2014) claimed that the findings support the hypotheses; however, Rakestraw admitted that the support is only partial.

Different research techniques in the literature. Conversely, there are several studies in the literature about ethics education that barely touched the surface. For example, Rossouw (2011) who tried to study business ethics as a field of teaching, training, and research in sub-

Saharan Africa; however, the emerged themes were not explicit. Also, in a non-business study, Schultz (2014) noted that the twenty-first century requires scientists to think about the full ethical implications of their work and to make decisions based on anticipated impacts beyond what may occur in the laboratory. Hence, teaching scientists to consider all sides of a problem and to formulate considered responses is the responsibility of the existing generation of academics (Schultz, 2014). However, this researcher did not adequately detail the strategies to effectively assess science students' understanding of ethics and social responsibility.

Additionally, Trung (2016) studied how to integrate professional ethics into the curricula in Vietnam and tried to highlight some recommendations for improving the contents of courses used for the teaching and learning accounting effectively. However, when comparing to similar studies, it appears that the sample size was relatively small, and the researcher answered vaguely how professional ethics had been taught and learned, which was the central investigation of the study.

Conversely, and in an unprecedented study, Thomas (2012) asserted that academic accounting education has a positive influence on deliberative reasoning, ethical decisions, and the use of post-conventional modes of deliberative reasoning. This researcher justified that assertion by insisting that senior ASs found exhibiting higher deliberative reasoning, making more frequent use of post-conventional modes of deliberative reasoning, and making more ethical decisions than first-year ASs. Moreover, there was no difference between the level of deliberative reasoning and ethical decisions of first-year accounting and first-year business students, but there were differences in their modes of deliberative reasoning (Thomas, 2012). These significant results indicate that first-year accounting and first-year business students may make ethical decisions differently. Consequently, the principal investigator suggests further

research to explore the necessity of another concentration when teaching ethics to these two groups of students.

In addition to the unprecedented study of Thomas (2012), other researchers enriched the literature. For example, Andersen, Zuber, and Hill (2015) investigated the Moral Foundations Theory (MFT) of Haidt, who explored why politics and religion divide good people. Haidt suggests that intuition, rather than reasoning, leads to moral judgment (Andersen et al., 2015). According to these researchers, MFT posits that people rely on five main foundations when making moral judgments: care/harm, fairness/cheating, loyalty/betrayal, respect/authority, and purity/degradation. Their findings suggest that all students in the sample focused substantially on the fairness foundation. The principal investigator encourages ethics educators and researchers to benefit from this important fact by encouraging individuals to consider more moral foundations when judging whether something is right or wrong.

Thomas (2012); Andersen et al. (2015); Kleinsmith et al. (2016); Dellaportas et al. (2014); Apostolou et al. (2013); and Miller and Becker (2011) are not the only researchers who revolutionized the literature regarding ethics education. One of the critical studies in the literature is that of Holland and Albrecht (2013) who conducted an international survey of 211 scholars with expertise in business ethics. According to Holland and Albrecht (2013), the following are the future critical challenges against the business ethics academia: (a) issues relating to business ethics education such as curriculum, pedagogy, faculty, and accreditation; (b) the credibility of the business ethics field; (c) the decline of ethical behavior in society and organizations; and (d) CSR. AIs can sustain the business ethics discipline by benefiting from the significant educational implications of these issues. Nevertheless, the findings of these researchers could be outdated because the study was conducted at the year 2013; hence, there is a

need to replicate such study to provide a fresh glimpse of the existing status and the future direction of business ethics.

Ethics in ethics-unfriendly environments. Surprisingly, some researchers were interested in investigating the importance of accounting ethics in ethics-unfriendly environments, such as Spain, with many recent fraud and corruption scandals. For example, Tormo-Carbó et al. (2016) suggested that learners who already took an ethics course asserted that accounting education should include ethical issues. The principal investigator agrees that these facts should inspire academic business institutions, which work in ethics-unfriendly environments, to integrate more ethics courses into their curricula. However, the study of Tormo-Carbó et al. (2016) should inspire additional research regarding the nuances that explain students' perceptions concerning accounting ethics and the results of incorporating ethics courses into the curriculum. However, future researchers should give attention when replicating that study to the U.S. due to the differences in ethics environments.

It is apparent that ethics education provides an environment to enhance students' existing moral development and provides the accounting industry a pool of entry-level professionals with a standard level of moral competency (Kleinsmith et al., 2016). Moreover, research has started to concentrate on the recent lack of effect that business ethics educations have had on learners. However, there are some contradicting views in the literature. For example, Sigurjonsson, Arnardottir, Vaiman, and Rikhardsson (2015) expressed their apprehensions that training students to have sound business ethics upon graduation had failed.

Conflicting views. Christensen, Cote, and Latham (2016) reported conflicting results with other studies when they studied the Defining Issues Test (DIT) to investigate ASs' levels of moral reasoning. In this context, there are significant relationships between P scores and some

variables (length of professional experience, choice of major, political ideology, gender, GPA, and education level) but not others (age) (Christensen et al., 2016). However, that study has inherited limits due to: (a) the exclusion of some studies that included students enrolled in accounting principles classes in which accounting majors were not specifically identified; (b) the inclusion of only studies available in the English language; and the conduct of meta-analysis required specific unavailable statistical data for calculating effect sizes. However, despite its limitations, the study of Christensen et al. (2016) still can guide future research to develop more efficient and effective research designs.

Few studies in the literature are about analyzing the textbooks. For example, Nigrini (2016) analyzed the effects of using large, round numbers on auditors (the study of Nigrini, 2016 is discussed later in this literature review). Additionally, Gordon (2011) examined a sample of accounting and auditing textbooks to explore the educational content of five key topics: ethics, professional judgment, governance, corporate social responsibility, and fraud. Among several significant findings, Gordon (2011) noticed that the page coverage for topics related to scandals/troubled corporations is not overwhelming when compared to the number of pages in these texts.

Furthermore, according to Gordon (2011), auditing texts contain significantly more pages devoted to topics related to scandals/troubled corporations compared to the financial accounting texts. In this context, universities can enhance their texts either through using stand-alone supplementary ethics texts or instructor-introduced sources. Consequently, the principal investigator encourages relying on the findings of Gordon (2011) when alerting ASs of the ethical dilemmas they will encounter in their WEs. Also, Anzeh and Abed (2015) concurred with Gordon (2011) that Auditing course has the significant coverage of ethics education. In this

regard, these researchers investigated the extent of ethics education for the undergraduate degree in accounting at Jordanian Universities. There was a significant existence of ethics coverage in the undergraduate accounting curriculum especially in auditing courses across most Jordanian Universities (Anzeh & Abed, 2015).

Warinda (2013) studied ethics education for the accounting profession in Zimbabwe and found that offering ethics as a discrete course was the favored option. However, that study suffered from limited sample size and lacked generalizability to faculty in all similar AIs. Moreover, this researcher conceded that another pedagogical aspect not probed in the study is co-lecturing or team teaching that is equally important. However, attention should be given to the studies of Anzeh and Abed (2015); and Warinda (2013) because they were conducted in other countries that may have different ethics environments.

Revolutionizing the literature. The literature also contains studies with the aim of grounding new theories. For example, Holmes et al. (2012) were interested in a vague domain; they measured compliance in a tax experiment among students. There is more compliant behavior among older students and students who have been longer at university (Holmes et al., 2012). However, in contrast to the extant literature, this researcher found a positive relationship between students indicating a preference for compliant behavior in the questionnaire and behavior in the experiment. Such claims suggest that the Defining Issues Tests (or similar instruments that capture moral development intentions) is likely to be an appropriate tool for ethics education research. Nevertheless, Holmes et al. (2012) asserted that their findings are sound and challenged other studies that found gaps between intended and actual behavior. However, the ability to generalize from that research is restricted because the study is an artificial representation of the real world.

In addition to Holmes et al. (2012) who tried to formulate a theory, Lee and Schmidt (2014) probed a relatively raw field. That is, the researchers investigated the determinants of students' intention to major in accounting in pre-recessionary, recessionary, and post-recessionary periods. In this regard, the researchers examined four factors: (a) perceived professional ethics, (b) job market consideration, (c) social influence, and (d) self-efficacy complied with the theory of planned behavior. All four factors have significant structural weights in each period, except for perceived professional ethics in the pre-recessionary period (Lee & Schmidt, 2014). Moreover, according to these researchers, perceived professional ethics, job market consideration, and social influence become factors of greater importance during the recessionary and post-recessionary periods; however, self-efficacy decreases in relative importance.

Sisaye (2011) conducted another grounded theory research and noticed that there is limited research that utilized the consequential-conflictual (CC) approaches. In this context, Sisaye (2011) pointed out that CC approaches utilized radical orientation of the double loop, second order, and reorientation of organizational learning strategies. In this regard, Sisaye (2011) contributed to the managerial auditing education literature by indicating that ethics education can improve the moral and ethical reasoning of auditors. However, to accomplish that goal, Sisaye (2011) asserted the educational processes should incorporate both the functional-institutional (FI) and consequential-conflictual (CC) sociological organizational learning strategies. Thus, ethics education in auditing should use the results of experiential teaching methodologies employed in educational psychology, medicine, and engineering (Sisaye, 2011). However, that study could be criticized because it extended the FI and CC framework to ethics education in managerial

auditing research though sociological approaches are commonly applied in behavioral managerial accounting and control systems research.

Conclusion. To summarize, the literature contains many studies on ethics education. However, very few researchers in the literature delved deeply into ethics education. For example, Cheng and Flasher (2018) designed two cases to help learners recognize how self-interest can impact ethical decision making and inspire them to concentrate on values. The two cases are appropriate for graduate or undergraduate accounting courses in which ethics, auditing, FA, or the professional code of conduct are discussed (Cheng & Flasher, 2018). That study is unique, thorough, and beneficial because the cases are carefully designed, and implementation guidance and teaching notes are provided to aid instructors seeking to motivate in-class discussions of the ethical decisions that students may encounter. In this regard, the learning objectives are to (a) increase student awareness of the role of ethical fading in unethical decision making; (b) develop critical-thinking skills for ethical decision making; and (c) practice applying moral imagination to resolve ethical dilemmas (Cheng & Flasher, 2018). More information about the two cases presented by Cheng and Flasher (2018) is available in Appendix E. However, as was highlighted in the previous section of this literature review, the principal investigator presented several gaps in the literature and suggested specific issues to be probed by future researchers.

FE. In 2015, Chilingierian argued that fraud could be prevented through education. However, there is an increasing demand of competencies required to hire accountants and internal auditors. Zureigat (2015) echoed these findings and added the following as the most required skills in descending order of importance. They are critical reasoning and thinking, problem and decision analysis, oral presentation and communication, team-playing capability, business ethics, time management, negotiation, written communication, computer, planning,

leadership, and, Internet research skills. However, the findings indicated that employers consider leadership, written communication, negotiation, and ethics as more important for auditing jobs than pure accounting jobs (Zureigat, 2015). Nevertheless, care should be given when generalizing those findings because the study was limited to only one country, which is Saudi Arabia.

Siriwardane and Durden (2014) agreed with Zureigat (2015) about the pivotal role of communication skills for accountants. The core aim of the review conducted by Siriwardane and Durden (2014) was to identify skills considered essential and to highlight gaps regarding what was known about desired communication skills in the accounting profession. Surprisingly, according to these researchers, differing views on the importance of communication skills were found between educators and accountants. However, like Zureigat (2015), the validity of the findings of Siriwardane and Durden (2014) is also doubtful because much of their reviewed studies regarding communication skills research are crucially out of date. Due to these limitations and lack of research, the principal investigator suggests that further studies are necessary regarding communication skills for accountants to combat fraud.

In a related context, the AICPA strongly suggests that accounting educators should continually observe existing course offerings regarding relevance and content. To help in achieving that purpose, the AICPA offers a list of various “core competency” skills that are dedicated for future accountants such as FD. Andre and Smith (2014) noticed this fact and reviewed some of these skills and discussed how to integrate them into an elective accounting course at a private liberal arts institution. These researchers contradicted with other researchers, such as Larson (2006), who confirmed the benefits of integrating fraud contents into other courses in addition to a stand-alone course. In this sense, Andre and Smith (2014) found that,

based on student perceptions collected at the beginning and end of the semester, the class was successful in augmenting competencies relating to aspects of research and communication. However, the study of Andre and Smith (2014) lacks a long-term methodology for incorporating the core competencies.

Sustainability or reform. In contrast, Botes, Low, and Chapman (2014) explored whether accounting education is sufficiently sustainable. Hence, the researchers studied education sustainability in the context of ecological economics and the function of society in which accounting education represents the precondition in meeting the challenges successfully. However, the research of Botes et al. (2014) suffers from several weaknesses; for example, they did not study fraud and internal control. In a relatively-similar context, Brewer and Sorensen (2014) were interested in the future of accounting education; however, they were more inclined toward addressing the competency crisis. That is, these researchers studied the gap between what is taught in undergraduate accounting curricula and the accounting skills required for professional success. In this sense, these researchers proposed a framework for accounting education to develop competencies in accounting and management. However, the research of Brewer and Sorensen (2014) also lacks enough discussion of FE.

In addition to Brewer and Sorensen (2014); and Andre and Smith (2014); Chen (2015) explored whether reform in accounting education is needed. However, unlike other researchers, that study was only limited to Russia and China. In this sense, Chen (2015) studied whether China and Russia need accounting education reforms because they had not developed accounting systems as major English-speaking countries had. The researcher added that Russia and China had a different political orientation from English-speaking countries and were at a transition stage from a state-planned economy to a market-driven economy. The two countries had a

desperate need for accounting education change as gradual changes occurred in both countries (Chen, 2015).

Moreover, according to Chen (2015), China is at a more advanced stage of development and is focusing more on the breadth of education than specialization, but Russia is at a preliminary stage having to enhance its financial reporting system. However, the researcher indicated that the available literature on accounting education in Russia and China is limited, particularly in Russia as the Soviet's old system did not offer accounting degrees. Nevertheless, the study of Chen (2015) remains valuable because it provided profound insights into an issue that received relatively little attention previously. Additionally, the researcher found that the Accounting Education Change Commission is the direction that developing countries having the same need for change should consider. However, this researcher did not examine the accounting education regarding fraud.

In the same context, Tran (2015) pointed out that graduate employability had become a controversial issue in Vietnam because many university graduates do not meet employers' expectations. Hence, this researcher contended that universities, students, employers, and other related stakeholders should admit the changes in society, should accept their responsibility and should be aware of the cultural features at work.

Reviewing the literature. The above facts confirm the scarcity of research about accounting education in general and FE particularly. Apostolou et al. (2015) noticed that gap and conducted a comprehensive study in this regard. In this sense, these researchers reviewed the accounting education literature of 256 articles published in six journals during the two years, 2013–2014. The importance of the study of Apostolou et al. (2015) is because they presented suggestions for research on many issues. The previous efforts complement the efforts of

Apostolou, Dorminey, Hassell, and Watson (2013) who reviewed three years of articles, 2010–2012, in six accounting education journals, and organized them by the following themes: curriculum, technology, faculty, and students. They aimed to consolidate the literature to facilitate research and instructional development. Additionally, Apostolou et al. (2010) reviewed the accounting education literature in 330 articles published during four years, 2006–2009, in six journals. These efforts can be traced in the literature to the year 1998 when Apostolou et al. reviewed the accounting education literature during 1991–1997 (Apostolou, Watson, Hassell, & Webber, 2001).

The most recent research in this series of studies is the one conducted by Apostolou, Dorminey, Hassell, and Rebele (2017) who followed the same pattern. In parallel research, Apostolou, Dorminey, Hassell, and Rebele (2014) tried to enrich the literature by reviewing three decades of accounting information systems (AIS) education scholarship in eight accounting journals. However, their effort to consolidate the AIS education literature from 1983 to 2014 was not successful in facilitating future research and instructional development and did not include articles about fraud in such an important field.

In addition to Apostolou et al. (2014); Holderness, Myers, Summers, and Wood (2014) noticed that previous rankings of accounting literature had critically ignored the subtopic of accounting education research. Consequently, the researchers ranked AIs and individual accounting researchers based on their production of accounting education research. In this sense, Holderness et al. (2014) claimed that the correlation between education research rankings and singular, noneducation research rankings is very low (i.e., ranges from 0.20 to 0.31). The researchers interpreted this finding as it emphasized the importance of considering education rankings separately from other topical fields in accounting research. Nevertheless, the

researchers did not provide enough evidence of the institutional factors that contribute to producing accounting education research and when professors produce this type of research in their careers. In addition to that weakness, Holderness et al. (2014) barely studied the subtopic of accounting FE research. Another related study was conducted by Ware (2015) who barely touched the surface of how accounting education is important but did not provide any constructive suggestions to advance the career.

In addition to Ware (2015); Andre, Pennington, and Smith (2014) asserted the significance of FE and tried a module-based approach for all business majors. However, their module is also more theoretical and lacks applicability. Additionally, Kranacher and Stern (2004) concurred with other scholars in the literature and confirmed the significance of education to enhance FD. However, the researchers did not provide applicable techniques for achieving that end.

Fraud of fraud educators and learners. Interestingly, Poon and Ainuddin (2011) studied the fraud of fraud educators; however, Burke and Sanney (2018) studied the fraud of fraud learners. In this context, Burke and Sanney (2018) indicated that education is critical but insisted that AE itself is suffering from fraud. According to these researchers, academic dishonesty, or cheating, includes plagiarism, fabrication, facilitation, and general misconduct. In this sense, plagiarism is representing another's work as one's own. Alternatively, fabrication is falsifying information in an academic exercise. Conversely, facilitation is helping another student to commit academic dishonesty. Finally, general misconduct is using unauthorized materials or engaging in unauthorized communication. (Burke & Sanney, 2018). Thus, there is a need for fraud educators to recognize the existence of academic dishonesty among ASs who are learning how to combat fraud.

Conversely, Larson (2006) conducted dedicated research toward fraud prevention education in the accounting curriculum. In this context, the researcher asserted that education in the prevention and detection of fraud needs to be included in the accounting curriculum at college if students are to be properly prepared for their career as accounting professionals. Moreover, Larson (2006) indicated that this educational strategy could be achieved either by establishing a full course in FA or by including FD&P concepts into one or more existing accounting courses. Nevertheless, that study lacks providing specific contents of what to be taught in either case.

Madsen (2015) contradicted with Apostolou et al. (2015) and Apostolou, Dorminey, Hassell, and Rebele (2014) when they speculated that, for decades, the quality of accounting education is falling. Nevertheless, compared to most other types of AE, accounting education quality had been steady or increasing during the sample period (Madsen, 2015). However, according to the researcher, relative to other business degree programs, the evidence is mixed. Also, although, the quality of students self-selecting non-accounting business degrees had increased, the quality of ASs had not (Madsen, 2015). These findings suggest that the quality of accounting education has not declined rapidly during the last forty years. However, it declined compared to business programs regarding high-quality students. However, the data and tests of Madsen (2015) suffers from some limitations because of using data describing the degree preferences of college first-year students only.

Despite the controversial views of accounting performance, most accounting educators agree that their students need to learn about fraud because they are likely to encounter fraud in their career (Peterson, 2003). Nevertheless, according to the researcher, for a long time, ASs had received very little, if any, FE. Due to the conclusive debate about whether fraud should be

taught to accountants, Peterson (2003) conducted a study to provide suggestions for content and materials that instructors can use to develop a fraud course. Nevertheless, that study did not contain a defined content of fraud course and was not successful in covering possible explanations for limited FE. These facts confirm the need for this study and several complementing studies in the future.

Bad examples. In a unique study, Nigrini (2016) was interested in a different phenomenon than most scholars in the literature. This researcher noticed that ASs learn financial accounting through examples; however, the exam questions and examples in accounting textbooks depend heavily on round numbers. Nevertheless, after graduation, these individuals will be expected to realize that those familiar round numbers have become red flags for fraud during auditing assignments (Nigrini, 2016). In this sense, the researcher highlighted that textbooks frequently use numbers that are both large and round. However, the only weakness of that study is that it did not include enough recommendations aimed at remedying the round-number conundrum. However, fraud educators should benefit from the findings of Nigrini (2016) when writing future textbooks and exam questions.

Other views on the influence of gender. In addition to Lee and Schmidt (2014); Byrne et al. (2014) measured the levels of academic self-efficacy of first-year ASs. Also, they investigated whether there were any gender differences and the extent to which efficacy levels explained variation in academic performance. In this sense, the researchers asserted that they found many students do not participate effectively in academic activities because they lacked the confidence. Particularly, these students avoided seeking help. Moreover, 40% of them were unable to identify the standard needed to do well in the exam (Byrne et al., 2014). The researchers concluded their findings demonstrate that being confident in one's ability to understand the

course content, to attempt questions in advance of tutorials, and to meet deadlines were associated with achieving significantly better results in the accounting modules. However, these researchers contended that very few gender differences were identified. The primary issue in their study is only the lack of analyzing the fraud courses; however, accounting educators should exploit the valuable findings of this research.

By reviewing the literature regarding FE, it is apparent that this field is of international concern. In this context, Ihendinihu and Robert (2014) indicated that considerable evidence of a gap exists between the expectations of financial statements' users and the accountancy profession as to the definitive scope and usefulness of audit function in Nigeria. Consequently, the researchers conducted a study to determine whether the provision of auditing course as part of a third-year business degree curriculum could narrow down this gap. Their findings confirmed that audit education has a significant effect. Hence, broad-based audit education and enlightenment programs should be used to increase financial statement users' knowledge and awareness of the nature and limitations of the audit (Ihendinihu & Robert, 2014).

Some researchers tried to think out of the traditional box regarding FE. For example, Gates et al. (2016) pointed out that there are several ways to raise students' awareness of fraudulent schemes and the pervasiveness of fraud. In this sense, one way is to provide students with real-world data about the following: (a) the cost of financial losses due to fraud, and (b) different types of fraud, perpetrators, and victims. (Gates et al., 2016). However, that study lacks measuring the effects of their educational intervention.

Conversely, several studies had shown that students with knowledge of the fraud triangle committed fewer errors than did students with knowledge of the COSO framework or the audit risk model. Hansen and Peterson (2010) confirmed this fact but extended the previous studies by

comparing these groups with auditors. Results showed that COSO and audit risk trained students committed more type II errors than auditors and that fraud triangle trained students committed fewer type I errors than auditors (Hansen & Peterson, 2010). Consequently, individuals with an understanding of the fraud triangle may benefit by making fewer type I errors when assessing fraud risk. However, there is ambiguity surrounding the statistical procedures used in that study especially that the researchers did not provide a clear explanation of the steps followed in their published article.

The number one topic. However, some researchers conducted highly-specialized, academic studies. For example, Daniels et al. (2013) surveyed two groups of accounting educators and accountants about their views regarding the critical role of fraud and forensic contents in the curriculum. The groups were relatively large when compared to other studies on the same issue. The results of that study showed that most of the academic business institutions do not have a separate course or program in fraud or FA. However, accounting professors agree with accountants that internal control is the most significant topic (Daniels et al., 2013). The principal investigator recommends educators to benefit from that study in the selection of fraud topics to integrate into the curriculum. However, researchers should give careful consideration when generalizing the findings of that study. That attention is because the findings of Daniels et al. (2013) rely on responses received from a survey questionnaire, which may be limited by the subjectivity of the accounting educators and professionals.

In addition to Daniels et al. (2013); Laing (2013) designed a practical audit project to provide students with essential professional auditing competencies. Nevertheless, due to the limited number of participants and the qualitative methodology, the results of Laing (2013) are not generalizable. Unlike Kranacher and Stern (2004); and Laing (2013), Buchholz (2012) was

more successful in combining theory with practice. In this context, this researcher examined some of the pitfalls that auditors sometimes fail to consider when planning their audits. Moreover, the researcher was able to take different viewpoints of the fraud triangle. However, the importance of the study of Buchholz (2012) is that it added to the existing accounting literature. In this sense, that study stressed to academics and practitioners the necessity of educating future auditors in having a heightened sense of professional skepticism during conducting financial statement audits. Furthermore, Buchholz (2012) provided some classroom applications involving the use of the case study method to educate future auditors further. The only limitation of that study is it lacks applications regarding internal control weaknesses.

Part 2: Perspectives of students, professors, managers, and accountants regarding fraud and ICMWs education. This part is the second part of the literature review, and it is directly related to the purpose of the study. In this sense, the principal investigator reviewed 60 studies to formulate this part only. The principal investigator preferred selecting studies published in the last ten years. However, in the final selection, the principal investigator preferred studies published in the last five years to review the most recent perspectives on FE. Then, the principal investigator sorted the 60 studies into main six groups as follows:

- General perspectives on FE
- Perspectives on ethics education
- Perspectives of employers regarding FE
- Perspectives of students regarding FE
- Perspectives of educators regarding FE
- Perspectives of accountants regarding FE

General perspectives on FE. Nwanyanwu (2018) examined the influence of accountants' ethics on fraud control. According to this researcher, the national value system greatly moderates the extent to which ethics, illustrating from the accountants' perspective, minimizes fraud. Furthermore, the people's behavioral pattern and philosophy anchored on ethical considerations should reflect honesty, integrity, and value of knowledge to enhance productivity and governance; hence, fraud will be reduced (Nwanyanwu, 2018). Conversely, Kerr and Krull (2017) claimed that making curricular accommodations to cope with the students' weaknesses is not in the student's best interest. In this sense, these researchers speculated that a competitive advantage for students could be created by addressing the roots of the deficit rather than adjusting the curriculum to work around the problem. However, the study of Kerr and Krull (2017) lacks an appropriate strategy or viable solution.

Other researchers were more inclined to study certain perspectives during an extended period. For example, Wilson (2013) discussed how perspectives about governmental accounting education had changed during the past 35 years. However, this researcher did not examine thoroughly the key factors affecting perspectives regarding governmental accounting practice and education. Furthermore, the literature contains studies regarding specific perspectives in certain countries. For example, Kawasaki (2010) was interested in two perspectives of financial crime in Japan; that is, investment fraud and Yakuza money crime. In this context, this researcher concluded that more comprehensive legislation that applies to all forms of investment fraud is needed to stem the tide of white-collar crime in Japanese society. However, that study lacks any analysis regarding FE. Like Kawasaki (2010), Gupta and Gupta (2015) were interested in certain perceptions and emerging issues about corporate frauds in India. The researchers found that the Indian regulatory system is weak and there is a need to redefine the role of auditors.

Moreover, these researchers asserted that perspectives agree that there is a need for a mandatory application of fraud prevention policy and true adoption of International Financial Reporting Standards (IFRS). However, researchers should note that the findings of Gupta and Gupta (2015) relied heavily on the honesty of the respondents during the sample collection and recorded semi-structured interviews.

Conversely, the literature contains more advanced studies that delved deeper into perceptions. For example, Trompeter, Carpenter, Jones, and Riley Jr. (2014) provided insights for research and practice by studying how fraud examiners and educators can learn about fraud from other disciplines. In this context, the researchers surveyed academic literature from non-accounting publications related to fraud and financial crimes to better understand the nature and extent of fraud acts from the perspective of non-accounting research. Additionally, the researchers shared, with accounting researchers and practitioners, perspectives used in other fields that might inform anti-fraud research and actions in accounting. However, the Trompeter et al. (2014) admitted that their study was narrow due to lack of resources.

Alternatively, Al-Hadrami and Hidayat (2015) studied perspectives regarding obstacles to integrating FA into the accounting curriculum in Bahrain. Educators perspectives suggest that the importance of FA is increasing steadily around the world; hence, it is considered one of the most important careers in the coming years (Al-Hadrami & Hidayat, 2015). Nevertheless, according to the researchers, obstacles related to academic matters (curriculum and faculty) are the most significant obstacles that prevent universities across Bahrain from offering a program or a course in FA. However, Al-Hadrami and Hidayat (2015) claimed they found a significant difference among respondents as for the obstacles to integrate FA into the accounting curriculum only when they grouped respondents according to their academic rank.

Like Al-Hadrami and Hidayat (2015), Holland and Albrecht (2013) were also interested in obstacles against education. However, unlike Al-Hadrami and Hidayat (2015), who focused on FA, Holland and Albrecht (2013) studied scholars' views regarding the significant issues in business ethics education across borders. In this sense, the researchers found eight essential issues facing business ethics academia. They are issues related to (a) business ethics instruction, (b) the incorporation of ethics into business, (c) environment, (d) research about business ethics, (e) the fall of ethical degrees of society and businesses, (f) CSR, (g) globalization, and (h) reliability of the business ethics field. It is apparent that Holland and Albrecht (2013) concurred with Al-Hadrami and Hidayat (2015) when they determined the first obstacle to be the issues related to business ethics education such as curriculum, pedagogy, faculty, and accreditation.

Perspectives on ethics education. Interestingly, few researchers in the literature explored the perceptions regarding ethics education. In addition to Holland and Albrecht (2013); there are Warinda (2013); Vaiman and Rikhardsson (2015); and Tsegba and Upaa (2015) who probed the same field. However, the researchers differed in methods and purposes. For example, Holland and Albrecht (2013), studied scholars' views on critical issues in business ethics education across countries. Alternatively, Warinda (2013) determined that offering ethics as a discrete course was the most desired option. Also, Warinda (2013) insisted that the respondents consider the development of abilities needed to deal with ethical dilemmas as the most significant issue. The researchers should give attention when generalizing these findings because the study was about educators in Zimbabwe only.

Contrary to Warinda (2013); and Holland and Albrecht (2013) who were interested in educators' perceptions, Vaiman and Rikhardsson (2015) studied managers' views on ethics education in business schools. In this sense, these researchers speculated that the dramatic

increase in business scandals suggest that educating the learners to possess high business ethics upon graduation has not succeeded. Therefore, the researchers claimed that research should concentrate on the recent lack of effect of business ethics education on students.

In addition to Vaiman and Rikhardsson (2015), Tsegba and Upaa (2015) were interested in perceptions about ethics due to financial statement fraud. In this context, Tsegba and Upaa (2015) explored whether there are critical differences in participants' opinions on what they consider as the significant results of financial statement fraud. However, the researchers purported that their findings revealed significant differences in the rankings of the consequences of financial statement fraud by professional and academic accountants. Like the study of Warinda (2013), the researchers should give attention when generalizing the findings of Tsegba and Upaa (2015) because the study was limited to Nigeria.

Perspectives of employers regarding FE. There are about ten studies in the literature in which authors found a need to probe the perspectives of employers and other stakeholders. For example, Vaiman and Rikhardsson (2015) claimed that the increased numbers of corporate scandals suggest that ethics education has failed. Hence, the researchers pointed out that researchers should study the recent lack of influence of business ethics instruction on students. However, these researchers were successful in noticing that the voice of managers was not heard enough regarding this issue although they are among the most appropriate ones to evaluate graduates' potentials to respond to ethical dilemmas appropriately. In this sense, Vaiman and Rikhardsson (2015) found that managers are quite disappointed with the lack of improvement in the ethics of graduating students. Hence, the principal investigator encourages future researchers to explore innovative ideas from employers for business schools to work on due to the need for closer collaboration between industry and business schools.

In a similar context to that of Vaiman and Rikhardsson (2015), Ball (2009) was interested in market and regulatory perspectives on the contemporary accounting scandals. Also, this researcher asked who killed Arthur Andersen—the Securities and Exchange Commission, or the market. Furthermore, the researcher asked whether fraudulent accounting did kill Enron, or just kept it alive for too long. Nevertheless, not all answers provided by that researcher were convincing. Therefore, the principal investigator finds a need for future researchers to revisit the same questions posited by Ball (2009).

Conversely, Kourilova and Stejskalova (2015) concluded that some managers, and especially shareholders, mistakenly and frequently cause unrealistic expectations of positive economic outcomes. Alternatively, DiGabriele (2016) was interested in exploring the expectation differences among stakeholders in the financial valuation fitness of auditors. Complicated reporting standards and market forecasts could result in differences between what third-party users consider to be the responsibilities of the auditor and what auditors believe to be their responsibilities (DiGabriele, 2016). The researcher speculated that the implications of that study could impact the accounting educational institutions when they teach students following emerging market expectations.

However, the most critical finding of DiGabriele (2016) is that accounting educators have not responded significantly to teaching the fair value issues. Consequently, the principal investigator agrees with DiGabriele (2016) to encourage accounting professors to harmonize the educational contents with market expectations. Nevertheless, that study suffered from a narrow range. Additionally, the researcher admitted that there is non-response bias; however, the researcher justified that as an inherent attribute of survey research.

Employers and auditing. Alternatively, Mitrendu (2015) attempted to identify issues that positively or negatively affect statutory auditors' independence in their professional engagement. Thus, this researcher collected and analyzed the opinion of statutory auditors and selected groups of respondents from other related occupations. However, the researcher identified only a few issues; hence, the principal investigator recommends future researchers to explore more issues in this regard.

Like Mitrendu (2015); Tahir, Idris, and Ariffin (2014) were also interested in measuring stakeholders' perceptions of auditor independence. However, their study was limited to Nigeria. The only finding of that study is the claim that perceived audit independence can be measured by assessing how auditors use safeguards to manage audit independence threats to acceptable levels that may no longer compromise audit independence. Moreover, Tahir et al. (2014) did not provide enough explanation to justify their claim. Contrary to Mitrendu (2015); and Tahir et al. (2014); Nicolaescu, David, and Farcas (2017) explored whether employers' expectations fit students' perceptions. Thus, these researchers analyzed the perceptions that accounting graduates have regarding the importance of the professional and transversal competencies when they get hired. Also, the researchers explored employers' perceptions in the same context. Furthermore, these researchers claimed that their findings constitute a vital reference mark for the university instruction of the young people who are about to enter the accounting profession. However, attention should be given regarding the generalizability of the findings of Nicolaescu et al. (2017) because their study was limited to Romania.

Like Nicolaescu et al. (2017), but in a more important study, Ahadiat and Martin (2015) were interested in attributes, preparations, and skills accounting professionals seek in college graduates for entry-level positions vs. promotion. In this context, these researchers found that the

top five most important attributes for hiring entry-level accountants are personal attributes such as trustworthiness, dependability, oral communication skills, cleanliness, and punctuality.

Therefore, the principal investigator concurs with Ahadiat and Martin (2015) by calling accounting programs to prepare graduates so that their qualities go beyond technical accounting skills and include attributes that prepare students as ethical citizens.

Employers and emerging trends. Some researchers tried to explore perceptions to identify emerging trends among employers regarding education. For example, Osmani et al. (2015) reviewed the literature to determine the trends and impact of graduate attributes on employability. In this sense, the researchers noticed that graduate employability had become an issue because there are critical mismatches between the acquired graduate skills from university and the required skills by employers. These researchers asserted that Australia emerged as the most active country in researching the field. However, in addition to other limitations, the study of Osmani et al. (2015) lacks suggesting viable solutions.

In a similar context, Jackson (2014) noticed that although the development of employability skills is firmly entrenched in higher education's strategic agenda worldwide, recent graduates' standards in certain skills are not meeting industry expectations. However, contrary to Osmani et al. (2015) who only reviewed the literature, Jackson (2014) presented a model of undergraduate competence in employability skills. In this context, this researcher claimed that the model would highlight factors that affect competence in employability skills and will identify ways in which stakeholders can adjust curricula and pedagogy to enhance graduate skill outcomes. Hence, the model of Jackson (2014) relies on stakeholders' shared responsibility for ensuring undergraduate employability skills are being developed according to the required

industry standards. However, there are doubts about the applicability of that model because an unbiased party did not test it.

Perspectives of students regarding FE. There are about fifteen studies in the literature in this field. Researchers are giving more attention to exploring the perceptions of students concerning FE to increase their employability. For example, Tower-Clark (2015) explored whether undergraduate ASs are prepared for the workplace. Consequently, this researcher explored students' views regarding which skills accountants should possess and how their program of study developed these skills. In this sense, the researcher identified certain points requiring further development within the program to meet the perceived skills needed of accountants. They are the team-playing capability, oral communication, interpersonal, career planning, and interviewing skills (Tower-Clark, 2015). Moreover, according to the researcher, further skills including leadership, entrepreneurship, and conflict management were skills perceived by students as crucial for their employment. It is apparent that there is almost a consensus in the literature about the significance of those skills. For example, Seda and Kramer (2009); Zureigat (2015); Siriwardane and Durden (2014); Ahadiat and Martin (2015); and Tower-Clark (2015) all agree that oral communication and team-playing capability are fundamental dynamics.

The educational challenge. Alternatively, some scholars were interested in exploring students' perceptions and their educational challenge regarding accounting ethics in unfriendly environments. In this sense, Tormo-Carbo, Segui-Mas, and Oltra (2016) noticed that public debate on business ethics has intensified in many countries, and particularly in ethics-unfriendly environments, such as Spain. Furthermore, these researchers purported that they found that students who have already taken an ethics course are more likely to confirm that accounting

education should include ethical issues. Additionally, Tormo-Carbo et al. (2016) concurred with several researchers, such as Flynn and Buchan (2016), that there are significant differences in students' views on the role of accounting ethics according to their gender and age. Put differently, in line with other research findings, Tormo-Carbo et al. (2016) confirmed that female and older students show higher ethical inclinations than male and younger students respectively.

In a related context, but from a different perspective, Lee and Schmidt (2014) also noticed the emergence of a professional ethics perception but were inclined toward analyzing students' intention to major in accounting before, during, and after the recession. Therefore, the researchers examined four factors: (a) perceived professional ethics, (b) job market consideration, (c) social influence, (d) and self-efficacy per the theory of planned behavior. In this sense, the researchers claimed that all four factors have significant structural weights in each period, except for perceived professional ethics in the pre-recessionary period. Furthermore, the researchers purported that although perceived professional ethics, job market consideration, and social influence became factors of greater importance during the recessionary and post-recessionary periods, self-efficacy decreases in relative importance.

Comparing the views. However, there are very few researchers in the literature who contrasted students' perceptions to add more insights. For example, Jooste (2017) compared ethical perceptions of ASs. In this sense, the researcher indicated that, since 1990, there is relatively little evidence that business schools and the profession are properly educating accountants about earnings management practices. Nevertheless, the aim of that study was limited to only determining whether there are changes in responses to earnings management practices. Thus, the principal investigator recommends future researchers to delve deeper into such an important comparison.

In a different context, Teixeira, Gomes, and Borges (2015) examined Portuguese introductory accounting learners' expectations, preparedness for AE, and motives. However, the researchers presented several controversial views. For example, these researchers claimed that Portuguese students of introductory accounting prefer a combination of stimuli regarding career focus, self-development aspects, and intellectual growth. Additionally, the researchers purported that ASs realize the importance of accounting education more than non-ASs; however, they are less prepared to work independently than other students. Another controversial view presented by these researchers is their speculation that female learners are more prepared to meet the AE's requirements than the male learners. Nevertheless, such controversial claims necessitate future researchers to test the findings of Teixeira et al. (2015). However, attention should be given because that study was limited to Portuguese; hence, there is a doubt concerning its generalizability.

In addition to Teixeira et al. (2015); Costa, Pinheiro, and Ribeiro (2016) also studied the ethical perceptions of accounting learners in Portugal. Their purpose was to investigate empirically whether gender, age, work experience, and attendance of ethics influence the ethical decision-making of the learners. These researchers concluded that attendance of such courses impacted the level of significance related to independence. However, the researchers admitted that for each of the studied factors, the impact was not significant statistically regarding decision-making. Interestingly, these researchers asserted that they recognized several reservations concerning attitudes the students' peers might have when they believe their colleagues suffer from lower ethical standards. However, like the study of Teixeira et al. (2015) that was limited to Portuguese; attention should be given when generalizing the findings of Costa et al. (2015) for the same reason.

Unstudied fields. Conversely, some researchers probed new fields in the literature. For example, Bailey (2017) studied psychopathy and ASs' attitudes towards unethical professional practices. In this context, using a sample of ASs, this researcher documented the levels of psychopathy, the correlations with certain attitudes about unethical professional practices, and the potential trend across an academic class level. Consequently, Bailey (2017) purported that psychopathy has severe implications for fraud and unethical behavior by accountants and auditors—arguably more so than other dark personality traits. However, the principal investigator recommends future researchers to delve deeper into the responses of individuals high on the scale to offer insight into the attitudes and beliefs of those individuals. That recommendation is because Bailey (2017) did not discuss the implications for accounting education thoroughly.

In a different context, Abbott and Palatnik (2018) conducted an important study and explored students' perceptions of their first accounting class. Their focus was about the students' knowledge and practice of critical thinking and about which classroom experiences engaged their attention and enhanced learning. Abbott and Palatnik (2018) found that learners need to know the connection between their first accounting course, other classes, and WEs. Additionally, these researchers pointed out that students were unsure about when and how they practiced critical thinking. Alternatively, these researchers asserted that students needed guidance about how to learn accounting and the best way to use the study resources (e.g., integrated accounting software).

It is apparent that there is a gap in accounting education between students' perspectives and those of educators. Consequently, such gap validates the purpose of the principal investigator's study. In a related context, Cernuşca, Gomoi, Almasi, and Matica (2016) explored

the accounting specialized students' perceptions on the hard skills and the soft skills to get a job in the accounting field. In this sense, these researchers purported that more than half of ASs that work in accounting fields believe that soft skills are more important than hard skills to enter the accounting work market. Interestingly, these researchers insisted that ASs who do not work in accounting fields stated that hard skills are the more critical ones. The principal investigator finds a need for future researchers to test the claims of Cernuşca et al. (2016) and recommends educators to consider these controversial findings in accounting education.

Self-assessment. In an unprecedented study, Hill (2016) explored the perceptions of ASs about the self-assessment process after exposure to the process on three occasions in a facilitated environment created by their lecturers. This researcher found that most students did not self-assess unless encouraged to do so. However, after students were exposed to self-assessment in an environment supportive of such assessment, students became positive about the process. The researcher added that, after the facilitated process, students stated that self-assessment would enhance their learning performance and pointed out, in the future, that they would use self-assessment. Consequently, the principal investigator highly encourages educators to benefit from the findings of Hill (2016) in FE.

Like (2016); Healy, McCutcheon, and Doran (2014) explored ASs' views on assessment activities. The researchers pointed out that there was strong support for traditional activities and that four distinct perspectives emerged, focusing on: grades, activities, subject mastery, or skills development. These researchers indicated that students emphasized either subject or skills; however, they did not emphasize both. Hence, according to these researchers, educators should encourage students to adopt the entire curriculum. Additionally, these researchers suggested that students with a shorter-term outlook reported views on assessment activities consistent with

surface learning. The principal investigator encourages future researchers and fraud educators to test the findings of Healy et al. (2014) regarding the potential benefits of assessment activities to encourage deeper engagement by the ASs.

Conversely, some studies in the literature barely touched the surface of perceptions regarding accounting education. For example, Hall, Pierce, Tunnell, and Walther (2014) tried to study the heterogeneous students' perceptions of accounting course importance and their implications. However, they did not present any empirical evidence and did not explain the steps followed in their study. Also, Khalil (2015) assessed students' experiences with the business internship program at their university. In this sense, this researcher stated that the analysis revealed five internship impact points: (a) adaptability to the workplace, (b) team-playing capability, (c) professionalism, (d) computer & communication skills, and (e) career potential. Moreover, the researcher asserted that most interns were satisfied with the program. However, this researcher purported that interns who are majoring in accounting, finance, and management information systems were happier with their experiential learning than the others. The principal investigator encourages educators to benefit from the study of Khalil (2015); however, there is a doubt regarding its generalizability because the study was limited to one university and in Kuwait only.

Additionally, Van Zyl and de Villiers (2011) explored why some students choose to become chartered accountants (CA) and others do not. The researchers found that CA students' choice is affected essentially by competence in accounting and expected future earnings, and job security and satisfaction. Conversely, non-CA students justified their decision due to job satisfaction and the strenuous nature of this field. However, like the study of Khalil (2015),

attention should be given regarding the generalizability of the findings of Van Zyl and de Villiers (2011) because their research was limited to South Africa.

Comparison with others. Surprisingly, there are few studies in the literature that contain a comparison of the perceptions of students with others. One of these studies is that of Bazrafshan (2016) who explored the expectation gap between independent auditors' point of view and university students about the importance of fraud risk components. To conduct the study, the researcher classified the fraud components into four groups according to their occurrence conditions: (a) management characteristics, (b) industry conditions, (c) operating characteristics including financial stability, and (e) misappropriation of assets. This researcher found that the most important fraud risk components according to both groups are dependence on salaries and benefits of managers on the operations results, and weak managers' supervision of critical internal controls. Also, the researcher claimed that the most important fraud risk components based on auditors' views are related to misappropriation of assets. However, based on university students' views, the researcher purported that fraud risk components related to management characteristics are more important than the other three groups of fraud components.

Nevertheless, there is a doubt about the generalizability of the findings of Bazrafshan (2016) because that study was limited to Iran. Another limitation is the lack of information regarding the content and validity of data gathering tools employed in that study. In addition to Bazrafshan (2016), Gbadago (2015) was interested in exploring the audit expectation gap and MBA ASs' knowledge of auditors' responsibilities. In this sense, the audit expectation gap means that some users of financial statements and the public do not have accurate knowledge about auditors' responsibilities. Surprisingly, Gbadago (2015) claimed that only 25% of the final year MBA (Accounting) students know for sure what auditors' responsibilities are. Thus, the

researcher encouraged universities to review their syllabi on auditing courses and to include the responsibilities, duties, and roles of auditors. However, it should be noted that the study of Gbadago (2015) was limited to universities in Ghana only.

Perspectives of educators regarding FE. There are about twelve studies in the existing literature about the perceptions of educators who teach accounting and fraud. An essential study is by Daniels et al. (2013) who explored accounting educators and practitioners' perspectives on fraud and forensic topics in the accounting curriculum. These researchers concluded that educators and students agree that internal control is the most critical topic. This fact validates the principal investigator's purpose in this study. These researchers identified twenty-one topics to assist students in preventing, investigating, and detecting financial statement fraud. More information about those topics are available at Appendix F. Generally, the study of Daniels et al. (2013) is solid with clear statistical procedures and relatively large sample size when compared to similar studies. Thus, the principal investigator highly encourages educators to consider adopting the topics identified by Daniels et al. (2013) in FE.

In addition to Daniels et al. (2013), and in an unprecedented study, Kramer et al. (2017) explored opinions of educators and practitioners in FA education. In this sense, Kramer et al. (2017) asserted that there are several significant differences between educators' and practitioners' opinions on FA content and preferred teaching techniques. In this context, the researchers found that accountants believe nontraditional accounting topics are more critical for FA education and highly recommend education techniques that contain an experiential learning method. Particularly, according to Kramer et al. (2017), practitioners give more value to forensic technology and interviewing than academics. These facts suggest that accounting educators may need to develop interdisciplinary approaches to FA education. Also, the principal investigator

recommends more research about the views of FA educators and practitioners because the number of institutions offering FA education has dramatically increased.

Educators' problems. Conversely, there are studies in the literature about educators' perceptions regarding their problems during teaching. For example, Pop-Vasileva, Baird, and Blair (2014) surveyed 350 accounting academics to analyze the factors related to the dissatisfaction and stress of educators. Particularly, these researchers specified the lower level of satisfaction and propensity to remain a member of Associate Lecturers and Senior Lecturers and the significant research pressures placed on these emerging academics. The principal investigator suggests that the findings of Pop-Vasileva et al. (2014) have important implications for university management regarding the retention and recruitment of quality academics to enhance FE. Nevertheless, it should be noted that the study was limited to Australia.

In another study about Australia, but a different field, Howieson et al. (2014) explored views about universities' roles and practice regarding accounting education. In this context, universities and employers have comparative advantages for the development of different types of professional skills and knowledge. These researchers indicated that some employers recognized that AIs are not 'all things to all people.' In other words, there was a propensity to expect these institutions to play the critical role in providing accounting graduates with knowledge and skills, which are technical and non-technical. Hence, the researchers suggested such perceptions tend to understate the responsibilities and comparative advantage of employers and result in unrealistic expectations about the outcomes of a university education. Thus, the principal investigator agrees with Howieson et al. (2014) that employers should recognize the scarcity of resources and other limitations in university programs and should create innovative methods for learning and reflection in WEs. Conversely, there are some studies in the literature

about educators' perceptions concerning educational techniques. For example, Humphrey and Beard (2014) investigated accounting educators' opinions regarding Online Homework Software (OHS). However, the researchers did not study matters related to FE.

Specific contents. Some researchers delved deeper into exploring educators' perspectives such as Armitage and Poyzer (2010) who studied educators' and practitioners' perspectives regarding the significance of the content in the first auditing course. In this context, the researchers found that the five significant topics, as ranked by professors, are (a) audit risk, (b) understanding internal control, (c) evidence, (d) financial statement assertions, and (e) fraud awareness. Also, in this unprecedented study, Armitage and Poyzer (2010) found that the five critical topics, as ranked by accountants, are (a) audit risk, (b) ethics, (c) documentation, (d) understanding IC, (e) analytical procedures. Consequently, the principal investigator encourages educators to benefit from the findings of Armitage and Poyzer (2010) to recognize the existence of these controversial views in FE.

Like Armitage and Poyzer (2010), Fogarty and Black (2014) explored the differences in perceptions of accounting academics and accounting practitioners. In this context, the researchers highlighted that academics become less likely to share practice credentials designation with accounting practitioners. Therefore, these researchers suggested that practice credential differences might indicate divergent values and priorities that will pose an obstacle to the cooperation desired between accounting academics and accounting practitioners. Despite the significant findings of Fogarty and Black (2014), the researchers did not present viable suggestions for reform to benefit the accounting education. In a related context, Lord (2010) explored what academics should do to address the problem regarding the prevalence of fraud. Nevertheless, the researcher did not provide innovative solutions. In this context, the conclusions

were limited to highlighting some resources to assist accounting academics in the preparation of additional lecture material about fraud. Also, the only main suggestion of Lord (2010) was limited to encouraging accounting academics to increase the quantity and quality of discussions in classrooms to enable students to understand fraud issues better.

Contrary to Lord (2010) but like Armitage and Poyzer (2010), Miller, Proctor, and Fulton, (2013) conducted a significant study to explore the perception gaps between accounting and management professors regarding teaching managerial responsibilities for internal controls. In this context, Miller et al. (2013) indicated that managers could not support a control environment they do not understand. The researchers added that this misunderstanding generates a perception gap between corporate managers and auditors concerning internal control responsibilities, which may extend to academia as well.

Surprisingly, Miller et al. (2013) found many management professors believe that internal auditors, not management, are the ones responsible for establishing and maintaining internal controls over financial reporting. These unexpected findings indicate management professors may not be fully aware of the responsibilities placed on managers of publicly traded companies for internal controls over financial reporting by the Sarbanes–Oxley Act of 2002. Additionally, Miller et al. (2013) presented a surprising conclusion when they found a statistically significant difference in the perceptions of accounting and management professors concerning course in which the topic of internal controls should be taught and who is most qualified to teach internal controls to non-accounting business majors. In addition to Lehmann (2010); Daniels et al. (2013); the valuable findings of Miller et al. (2013) validate the purpose of the principal investigator's study concerning the gap in internal control education.

It is apparent that there is a gap in the literature regarding exploring the perceptions of educators regarding fraud and accounting education. In this context, Bernardi, Zamojcin, and Delande (2016); and Zamojcin and Bernardi (2013) noticed that during the 46 years from 1966 through 2011, only 13 journals published accounting education papers. Surprisingly, these researchers asserted that only 31.4% of accounting's 4855 doctoral faculties who teach at schools in North America have one or more publications in these 13 journals. Thus, the principal investigator suggests that many educators are blamed for not loudly reflecting their voice regarding how to enhance accounting and FE.

Perspectives of accountants regarding FE. This section of the literature review relates directly to the purpose of this study. In this sense, the principal investigator finds an urgent need to explore the perceptions of accountants who practically experienced fraud and ICMWs in their WEs. There are only about fifteen studies in the existing literature about this field. However, most of them were not successful in understanding the perceptions of accountants regarding the connection between their AE and practical experiences. For example, Akkeren and Buckby (2017) indicated that accountants suggest that strain, anomie, and inadequate corporate governance mechanisms can result in fraud. These researchers added that accountants alert that inadequate corporate governance mechanisms allow the execution and of fraudulent activities and remaining undetected. However, Akkeren and Buckby (2017) ignored exploring accountants' perceptions regarding their education.

Alternatively, Odar, Jerman, Jamnik, and Kavčič (2017) explored ethical perceptions among internal accountants and those working in companies operating as providers of external accounting services. Surprisingly, the researchers speculated that accountants working in external accounting service companies are more lenient to ethically-sensitive scenarios.

Additionally, the researchers purported that accountants who have a professional certificate are harsher towards ethically-sensitive scenarios. However, there is a critical limitation regarding the generalizability of these claims because the study of Odar et al. (2017) was limited to Slovenia. Like Akkeren and Buckby (2017); and Odar et al. (2017); Shah (2017) was not inclined toward exploring the impact of AE on accountants' response to fraud and ICMWs. In this sense, the researcher studied accountants' perceptions about the effect of various responsibilities of the auditors in the context of independence and impartiality.

Furthermore, like Odar et al. (2017); Pusti (2017) was interested in ethics. In this context, Pusti (2017) compared the perceptions regarding ethics among accounting professionals, accounting educators, and ASs. This researcher claimed there are significant differences among ASs, teachers, and professionals regarding their perception of accounting ethics. However, like the study of Odar et al. (2017) that lacked generalizability because it was limited to Slovenia, the study of Pusti (2017) was limited to India. In addition to those researchers, Bui and Porter (2010) conducted a study that was limited to New Zealand. In this context, the researchers noticed a gap between the competencies that employers expect—and perceive—accounting graduates to possess. However, Bui and Porter (2010) did not identify the applicable ways in which the gap may be narrowed. Similarly, Saeidi (2012) tried to explore the audit expectations gap and corporate fraud. However, that study was limited to Iran only and was not successful in presenting empirical evidence, which the researcher claimed to be the purpose of the study.

Education techniques for future auditors. Conversely, Chaffey, Van Peurse, and Low (2011) delved deeply into exploring the perceptions about audit education for future professionals. Particularly, the researchers evaluated teaching practices, subjects, and techniques that might be of value to future audit professionals. In this sense, these researchers found that

auditors are concerned with communication, small business engagements, and the relationships between, for example, risk and planning and independence and ethics. Additionally, these researchers confirmed the value of experiential and practice-informed learning and directed educators to a few topics that may accommodate non-traditional teaching methods. It can be considered that Chaffey et al. (2011) are among the first to probe the perceptions of accountants regarding fraud-related education. Alternatively, there are almost only two doctoral dissertations in the existing literature regarding students' perceptions. The first study was conducted by Appiah (2015) who explored the perceptions of Northern Virginia accountants on internal control weaknesses resulting in accounting fraud. That study is the first one of its kind; however, the researcher did not explore the impact of accountants' AE on fraud and ICMWs. Contrary to Appiah (2015), Appiah-Sokye (2016) was interested in exploring accountants' perceptions regarding their academic preparedness concerning fraud. Nevertheless, Appiah-Sokye (2016) did not explore ICMWs, which the principal investigator considered a vital dynamic in understanding how AE can combat fraud. Moreover, both researchers did not establish strict eligibility criteria concerning the participants. Specifically, the researchers did not concentrate on selecting only accountants who have practical experience resulting from encountering a fraud scheme or ICMWs in WEs. Furthermore, the researchers were not interested in selecting only accountants who hold the CPA certification. Despite these weaknesses, the studies of Appiah (2015) and Appiah-Sokye (2016) remain unprecedented due to the exploration of such a raw field in human knowledge.

Other researchers explored different issues. For example, Morgan and Nix (2011) studied perceptions regarding the value of the Certified Fraud Examiner (CFE) designation based upon a survey of CPAs in public practice. In this context, these researchers suggested that CPAs agree

that the CFE certification is marketable, provides career enhancements, and affords presumptions of quality services. However, that study lacks any innovative suggestions to market the CFE designation. Conversely, Othman, Aris, and Mardziah (2015) studied FD&P methods in the Malaysian public sector. In this context, these researchers claimed that the most effective FD&P mechanisms employed in the public sector are operational audits, enhanced audit committees, improved internal controls, implementation of fraud reporting policy, staff rotation, fraud hotlines, and forensic accountants. However, it should be noted that the study of Othman et al. (2015) was limited to the public sector and was conducted at Malaysia.

Like Othman et al. (2015), Sengur (2012) studied auditors' perceptions of fraud prevention measures. In this sense, the researcher claimed to find important differences for the following fraud prevention measures concerning auditors' ranking of fraudulent financial statements, corruption, and misappropriation of assets: establishing a corporate code of conducts, effective audit committee, and external auditors. However, like the study of Othman et al. (2015) that was limited to Malaysia, the survey of Sengur (2012) was limited to Turkey. Additionally, like Othman et al. (2015), Uyar and Gungormus (2011) were interested in exploring the views of external auditors regarding professional skills and knowledge needed for ASs who plan to be auditors. However, Uyar and Gungormus (2011) did not add robust findings and did not provide any empirical evidence.

All reviewed studies confirm that there is a gap in the literature regarding accountants' perceptions about ICMWs and FE. This fact validates the purpose of the principal investigator's study. Exploring these perceptions will help in bridging the gap and will benefit employers, accountants, students, and fraud educators.

Part 3: Contemporary trends in accounting courses concerning fraud and ICMWs.

In this part of the literature review, the principal investigator sought to explore the contemporary trends and methods in FE. Consequently, the principal investigator carefully selected 57 peer-reviewed articles that were published in the last five years starting in 2013. Additionally, the principal investigator included in this part of the literature review only four unique articles published before the year 2013. Moreover, the principal investigator grouped those 61 articles as follows:

- Nontraditional educational methods
- Education in a digital world
- Experiential learning
- Cooperative learning

The goal was to highlight the existing accounting teaching methods that will help in understanding accountants' perceptions about ICMWs and FE. Furthermore, there was a goal of identifying perceptions regarding which fraud teaching methods are effective and which are not. Also, the principal investigator sought to explore perspectives about what factors influence the fraud learning methods positively.

Nontraditional educational methods. Although effective learning techniques have been applied to accounting education, unconventional teaching methods have rarely been explored within broader theoretical and practical contexts. For example, Phillips and Nagy (2014) investigated whether reading case responses and using graphic organizers can help learners in enhancing case analysis skills; for example, selecting supporting arguments and counterarguments in analyses of financial accounting policy choices. These researchers found that learners who studied an exemplary case response selected more supporting arguments in

subsequent case analysis. In contrast, the researchers indicated that learners who relied on a graphic organizer to visualize elements of the exemplary case response recognized better the absence of counterarguments in subsequent case analysis. More importantly, the impacts of these educational methods were evident not only when learners assessed other students' case analyses, but also in their own exploration of a subsequent case (Phillips & Nagy, 2014). Therefore, these results are significant because they suggest that short (eleven-minutes) instructional interventions lead learners to use two essential sides of critical thinking: identifying and generating relevant arguments and counterarguments. However, these results were not contrasted with that of other researchers who applied different teaching techniques.

Alternatively, Grimm (2015) noticed that writing across the curriculum movement advocates using Writing-to-Learn (WTL) assignments to facilitate learning. In this context, the researcher confirmed that the basis of WTL assignments is that learners understand concepts deeper when they write about them. Thus, the researcher explored pedagogical theories regarding how to create learning logs in financial accounting courses. In this sense, learning logs are two-page papers requiring students to interpret and apply accounting concepts. For example, one learning log assignment requires students to prepare a whistleblower letter reporting a fraud that they have observed (Grimm, 2015). Other learning log assignments are based on events such as a dividend announcement by Apple and a stock split proposal by Google. The researcher asserted that a regression analysis of exam scores on learning log indicator variables suggested learning logs increase content comprehension. However, the researcher did not explain clearly the steps followed in that regression analysis. Nevertheless, the principal investigator highly encourages professors to consider using WTL assignments when teaching fraud and ICMWs.

Another example of the contemporary trends in the nontraditional education of accounting is that of Ekmekjian et al. (2008). These researchers indicated that the IRS and accounting practitioners approached the Christos M. Cotsakos College of Business regarding the incorporation of fraud and FA courses. The researchers explained that approach as an emerging trend to expand and enhance the accounting education.

Other views. Contrary to most studies in the literature, few researchers asserted that accounting traditional teaching methods are the most effective. For example, Sangster, Franklin, Alwis, Abdul-Rahim, and Stoner (2014) recommended a 20-hour element of the intro financial accounting course using Pacioli's pedagogy. In this context, Luca Pacioli is referred to as "the Father of Accounting and Bookkeeping" following the invention of the revolutionary accounting system that is based on double-entry (Pisano, 2016). To justify the recommendation, Sangster et al. (2014) claimed that it requires only minimal additional costs to faculty. Additionally, the researchers asserted that students learn better than those using 'normal' modern-day pedagogy. Alternatively, Chiang, Nouri, and Samanta (2014) investigated the influence of the two different teaching methods in the first accounting course on student performance in the following course in finance. In this context, the researchers contrasted accounting and finance learners who took introductory financial accounting by either a user method or a conventional preparer method to explore their academic performance in a future course in finance.

Interestingly, Chiang et al. (2014) purported that there is no significant difference between the two groups. Therefore, these researchers confirmed the following as the factors that impact future performance in an introductory finance course: grades in macroeconomics, statistics, and GPA before the finance class. Nevertheless, the researchers did not examine any effect on other courses other than finance. Thus, the principal investigator encourages future

researchers to study the impact of user approach and traditional preparer approach to examine their academic performance on a subsequent fraud course.

In addition to Franklin, Alwis et al. (2014); and Chiang et al. (2014) who presented different interests than many other researchers; Colon, Badua, and Torres (2016) focused on how to close the loop in the accounting pedagogy. In this context, closing the loop is the process of using assessment data to implement actions that improve student learning (Colon et al., 2016). The researchers asserted that there is not yet any handbook or resource presenting a one-size-fits-all technique for closing the loop. Consequently, the researchers warned that how to close the loop has become a priority for assessment committees, faculty, and administrators, particularly for institutions subject to the requirements to meet accreditation standards. However, the study of Colon et al. (2016) was limited to only exploring existing techniques employed by some universities, and it lacked providing any innovative solution.

Problems and fraud of accountants and students. Few researchers, such as Walker and Holtfreter (2015), suggested that FE itself should be diagnosed with fraud. Alternatively, some researchers tried to modernize the traditional educational methods. For example, Griffiths (2015) proposed a combined coaching-learning model. Conversely, Epps, Epps, and Campbell (2015) tried to design a framework for steps needed regarding an education program at a satellite campus. However, in a parallel context to Walker and Holtfreter (2015), Scott (2017) indicated that plagiarism in accounting case assignments is a major issue that hinders their purposes. In this sense, the core objectives of accounting case assignments are (a) development of students' critical thinking skills, and (b) the advancement of their written communication skills. After testing some alternatives, the researcher found the best solution is to employ a case refreshing strategy to make cases appear unique to each group of learners. When this solution was used in

an intermediate accounting course, the plagiarism declined significantly accompanied with a corresponding improvement in the academic integrity environment of that course (Scott, 2017).

Contrary to Walker and Holtfreter (2015), and Scott (2017), Reinstein and Taylor (2017) suggested concentrating on accountants' rationalizations. In this sense, companies often focus on the incentive/pressure and opportunity legs of the fraud triangle, perhaps believing that rationalization is beyond their control (Reinstein & Taylor, 2017). Hence, these researchers argued that rationalization reduction is necessary to minimize occupational fraud. Thus, to reduce rationalization, they proposed that accountants and professors should use fences as controls. In this sense, fences are non-negotiable because they concentrate on compliance and risk avoidance; thus, fences are related to Myers Briggs personalities and conventional level of moral development (Reinstein & Taylor, 2017). If these findings are reliable, the principal investigator encourages instructors to teach fences to learners particularly about how they can strengthen new professionals to encounter pressures and illegal opportunities. Therefore, the principal investigator recommends further testing of the findings of Reinstein and Taylor (2017) because, by adding fences to existing professional guidance, accountants can reduce the likelihood that they will be a party to fraud.

Online learning environments. Khanlarian and Singh (2014) noticed that although Web-Based Homework (WBH) is an increasingly important phenomenon, there is relatively minimal research about its impact on student performance. Surprisingly, the researchers demonstrated that frustration with IT use is a component of the learning environment, and as a construct, has a more substantial impact than usefulness on student performance at the end of a course. In this sense, to mitigate the level of frustration with the software in the WBH learning environment, the researchers recommended that professors should engage students in cooperative learning

assignments. When compared to similar studies, it appears that the sample size of Khanlarian and Singh (2014) was relatively large, and the researchers explained their findings thoroughly; hence, the principal investigator encourages fraud educators to utilize the findings of that study. In a different, yet related, context, Fajardo (2014) identified best practices for teaching accounting courses online. In this context, the principal investigator suggests that the study of Fajardo (2014) enhances the education process in the global virtual classrooms. Thus, the principal investigator encourages future researchers to explore that field deeper.

In addition to Khanlarian and Singh (2014); and Fajardo (2014); Massoudi, Koh, Hancock, and Fung (2017) investigated the effectiveness of an online learning resource for introductory financial ASs using online multiple-choice questions (MCQ). In this sense, the researchers claimed that the availability and use of an online resource resulted in improved examination performance for students. However, the researchers did not clearly explain the comparative procedures they followed; hence, attention should be given when generalizing these findings. In a parallel context, Humphrey and Beard (2014) explored faculty perceptions of online homework software (OHS) in accounting education. According to these researchers, faculty indicated that OHS is helpful when teaching in the online format and that OHS saves faculty time by reducing the time spent grading and processing student work. However, the researchers noticed that users of OHS raised concerns about whether and how the tool helps students learn, how the students view the tool, and what is the cost of OHS. The literature lacks studies about using OHS in fraud and FA education. Thus, the principal investigator encourages future researchers to study the positive and negative consequences of using OHS in these specific fields.

Social media and FE. Few researchers in the existing literature noticed the importance of social media in the efforts against fraud. For example, Chynoweth and Wentz (2017) studied the FA industry and the growing use of digital technology platforms such as Google and Facebook in it. Hence, these researchers discussed the growth of social media and accounting software, the decline in the use of filing cabinets, and the views of a certain forensic accountant on it. However, their study was limited to studying a few issues. In a parallel context, Stone, Fiedler, and Kandunias (2014) proposed principles to guide ASs' and accounting educators' use of Facebook as an educational resource to engage students with their learning. Additionally, the researchers suggested that the concept of digital citizenship confirms the responsible use of Facebook by ASs. Thus, the researchers recommended the development of online practices and behaviors that enhance students' appeal to the accounting profession. However, the researchers noticed that Facebook's pedagogical affordances are a generally overlooked field of inquiry in accounting education research.

Chynoweth and Wentz (2017), and Stone et al. (2014) explored Facebook; however, Osgerby and Rush (2015) examined undergraduate ASs' perceptions of using Twitter as a learning support tool. In this context, those researchers claimed that the use of Twitter supports a range of communication functions and pedagogic functions. However, the researchers alerted that there is emerging non-educational literature about the operational aspects of Twitter; hence, there are potential limitations to its educational use. Consequently, educators should expect some unpredictability in students' motivation and varying support for Twitter's use (Osgerby & Rush, 2015).

Additionally, Khan, Kend, and Robertson (2016) explored the use of social media by ASs and its effect on learning outcomes. In this context, the researchers noticed that, with many AIs

providing educational resources in formats suitable for digital devices such as mobile phones, there is an increase in the use of social media for educational purposes. More importantly, the researchers insisted that they found the use of social media is highly related to students' grades. Thus, Khan et al. (2016) agreed with Chynoweth and Wentz (2017), Stone et al. (2014), and Osgerby and Rush (2015) that university ASs should use social media for educational purposes. However, all these studies lack identifying specific instructional techniques. Therefore, the principal investigator encourages future researchers to delve deeper in that field.

The use of television and videos. Contrary to the use of social media in FE, Diagle, Hayes, and Morris (2014) recommended applying the ACFE's report to daytime television talk show confessions. In this context, the students use concepts in the ACFE's RNOFA to two daytime television talk show episodes in which the hosts interview individuals convicted of occupational fraud. The researchers asserted that students' knowledge was increased concerning how occupational fraud is committed and detected and about traits of victim organizations and characteristics of fraud perpetrators. Students reported it was a valuable educational experience and thought they would benefit from more cases like this one (Diagle et al., 2014).

Alternatively, Gates, Lee, and Sullivan, (2011) recommended the incorporation of fraud videos into the business and accounting curricula. According to the researchers, videos can be used to complement textbook and lecture coverage of ethics, accounting, and fraud throughout the business curriculum. However, the researchers defended a controversial issue when they purported that placement of these resources in many different business courses provides a more thorough learning experience that can complement or replace developing one accounting course in fraud or FA. However, the researchers admitted that the integration process should be very careful and should be evaluated frequently.

Education in a digital world. Kearns (2015) noticed that digital attacks on organizations are becoming more common and sophisticated. The researcher added that some ASs take courses in FA, but few colleges offer a course in computer forensics for accountants. More importantly, the researcher claimed that educators wishing to develop such a course might find developing the curriculum daunting because a major element of such a course is the use of the forensic software. Thus, Kearns (2015) presented a set of exercises to introduce obtaining and analyzing data with forensics software that is available free online. The principal investigator encourages educators to benefit from the unprecedented study of Kearns (2015) when developing learning goals and curriculum of a course in computer forensics for accountants.

The digital world for educators. Some researchers investigated how to employ digital technology for the benefits of educators. For example, Bertheussen (2014) was interested in the automatic grading of problem-solving tasks in a spreadsheet. The researcher justified that because a spreadsheet template enables a professor to develop individualized problem-solving tasks; hence, tasks are marked automatically and provide students with tailored feedback. In this sense, feedback will focus both on the problem-solving outcome and the problem-solving process (Bertheussen, 2014). Consequently, the researcher concluded that the assessment load on professors would be reduced substantially following an automatic grading of assignments, and exams. However, the principal investigator suggests that there is a gap in the literature regarding the potential adverse impacts of automatic grading. Therefore, the principal investigator finds an urgent need for universities to weigh the long-term educational advantages and disadvantages of such a controversial teaching method.

In addition to Bertheussen (2014), Nnadi and Rosser (2014) studied using Excel to generate quantitative exercises for relatively large classes with unique individual answers. In this

sense, the researchers indicated that the "individualized accounting questions" (IAQ) technique encourages independent active learning. Additionally, this technique enables tutors to set individualized accounting questions and construct an answer grid for any number of learners with numerical values for each student's answers based on their student enrolment number (Nnadi & Rosser, 2014). Furthermore, the researchers insisted that the individualized questions reduce the risk of collusion; thus, allow tutors to set accounting coursework assessments that contribute to final grades in a manner that incentivizes students to do them in their own time, drawing on teaching materials and helping them to develop competency. By reviewing the findings of Bertheussen (2014), and Nnadi and Rosser (2014), the principal investigator finds a need for future researchers to investigate all implications of the IAQ.

The digital world for students. Contrary to Bertheussen (2014), and Nnadi and Rosser (2014) who only investigated how to employ Excel to the educators' benefit, Elrod et al. (2015) focused on the students' side. In this context, the researchers stated that the use of computer spreadsheets for financial analysis, data analysis, and calculations, is tested on the CPA examination. The findings of Elrod et al. (2015) confirm that emphasis on the use of spreadsheets may be helpful in meeting student learning outcomes related to stakeholder demands for graduates to effectively leverage technology for data analysis, calculations, and financial analysis. However, the study of Elrod et al. (2015) was limited to only the benefits of Excel education and did not suggest any techniques to further the impact of Excel learning. Hence, more research is necessary for this field.

Data mining. Many studies in the literature reported on specific uses of the important data mining paradigm in accounting, but research that takes a holistic view of these uses is lacking. However, in an unprecedented study, Amani and Fadlalla (2017) reviewed the literature

and presented a framework for data mining applications in accounting. The researchers asserted that the framework offers a holistic view of the literature and systematically organizes it in a structurally logical and thematically coherent manner. In this context, the researchers combined the two well-known accounting reporting perspectives (retrospection and prospection), and the three well-accepted goals of data mining (description, prediction, and prescription). Therefore, the framework contains four categories (retrospective-descriptive, retrospective-prescriptive, prospective-prescriptive, and prospective-predictive) of data mining applications in accounting.

Amani and Fadlalla (2017) insisted that the field of accounting that benefited the most from data mining is assurance and compliance, including FD, business health, and FA. However, the findings suggest that there is a gap in the two prescriptive application categories (retrospective-prescriptive and prospective-prescriptive). Hence, the principal investigator recommends future researchers to explore opportunities for benefiting from data mining in these application categories.

There are some studies about Big Data and FA education. In addition to Amani and Fadlalla (2017), Rezaee and Jim (2017) noticed the significance of teaching data mining to FA students. However, Rezaee and Jim (2017) attempted to improve the educational and practical skills of forensic accountants and their audit efficacy in discovering financial statement fraud by using Big Data and data analytics and algorithms. In this context, the researchers found that Big Data and data analytics should be incorporated at both undergraduate and graduate levels because the demand for Big Data and data analytics will continue to increase. However, unlike Amani and Fadlalla (2017), Rezaee and Jim (2017) did not present any framework for data analytics education.

There are some studies about auditing education and SQL. Ken and Wei (2017) warned that internal auditors need to develop technical skills beyond data analysis, such as the use of specialized audit software packages or a general spreadsheet application. According to these researchers, universities should teach auditing students the Structured Query Language (SQL), which is a programming language to manage data held in database management systems that support enterprise resource planning systems. By reviewing the literature, the principal investigator found several researchers that echoed the recommendation of Ken and Wei (2017). However, there is a lack of studies about the mechanism, real advantages, and opportunity costs of SQL education; hence, the principal investigator encourages future researchers to explore this field.

There are some studies about FA education and ACL. There are several studies in the literature about the importance of teaching ACL to FA students. For example, Weirich, Tschakert, and Kozlowski (2017) presented a case for teaching data analytics skills in auditing and FA classes using ACL Analytics. In this sense, the researchers introduced fraudulent transactions into an existing dataset and then asked students to use ACL Analytics to identify these fraudulent transactions. According to the researchers, the case provides students with an opportunity to participate in active learning exercises that require independent study and the use of analytics software. However, there are still several gaps in the existing literature regarding the strategic education of ACL to fraud and FA students.

There are some studies about analytical procedures and metacognition. Few researchers explored how to employ the skills of metacognition in FE. For example, in an unprecedented study, Plumlee, Rixom, and Rosman (2015) investigated how to train auditors to perform analytical procedures (APs) using metacognitive skills. In this context, the researchers taught

auditors to use a sequential thought process comprised of two metacognitive skills: divergent thinking, by which they generate explanations for unusual evidence, followed by convergent thinking, by which they evaluate explanations generated and eliminate those judged infeasible. The critical findings of Plumlee et al. (2015) indicate that training auditors in only divergent thinking will increase both the number and quality of explanations generated for an unusual situation. However, the combination of divergent and convergent thinking training results in a more enhanced explanation generation than divergent thinking alone and results in a higher likelihood of generating and selecting the correct explanation (Plumlee et al., 2015). However, the principal investigator found a gap in the literature about how FE can benefit from metacognition skills; hence, future studies in this significant field are highly recommended.

There are some studies about Benford's Law. Kruger and Yadavalli (2017) insisted that fraud students should learn the Benford's Law. The concept of Benford's Law, also known as the first-digit phenomenon, has been known to mathematicians since 1881 (Kruger & Yadavalli, 2017). The researchers added that Benford's Law is counter-intuitive, difficult to explain in simple terms, and has suffered from being described variously as a numerical aberration, an oddity, a mystery, but also as a mathematical gem. However, the researchers confirmed that the Benford's Law was developed into a recognized statistical technique with several practical applications, of which the most notable is an FD mechanism in FA. Nevertheless, the principal investigator finds an apparent gap in the literature in this regard; hence, further research is highly recommended.

Experiential learning. One of the unprecedented studies in the literature about internal control education is that of Liew and Harrison (2017). These researchers noticed that understanding internal control topics in accounting information systems (AIS) requires students

to have a basic understanding of accounting processes; however, most students lack accounting work experience. To address that problem, Liew and Harrison (2017) developed learning tools situated in real-world examples that could be used by students outside the traditional classroom environment. After the use of the learning tools, the researchers asserted that the most significant improvement in students' knowledge was found regarding document flows and internal controls. Consequently, the principal investigator agrees with the researchers that the use of learning tools based on real-world examples increases students' understanding of accounting business processes outside the traditional classroom setting.

However, the principal investigator encourages future researchers to contrast the effectiveness of learning tools created by Liew and Harrison (2017) with other education methods. Moreover, future researchers are recommended to modify the learning tools of Liew and Harrison (2017) to include other critical contents in addition to internal control. However, that study remains one of the few ones in the literature that offered practical methods to teach internal control to students who do not have work experience. Contrary to the important study of Liew and Harrison (2017); Dai, Yunsen, and Vasarhelyi, (2017) conducted a study that is smaller in sample size about security aspect in accounting information system as per the ACFE. However, these researchers did not delve deep into that field because they focused only on the role of blockchain accounting method for the prevention of fraud in companies.

New certificates and educational contents. Some researchers, such as Gaynor and Askew (2017), and Maksy (2012), suggested that introducing new professional certificates helps in bridging the gap between theory and experience at fraud students. In this regard, McCabe (2018) noticed that the AICPA announced new FA certificates. In this context, the researcher confirmed that the core and specialized programs would offer more in-depth topics for the growing field of

FA. In the same context, but contrary to McCabe (2018), Huber (2015) recommended due diligence in choosing an FA credential. However, like McCabe (2018), Mishra and Singh (2017) confirmed the significant role of FA. In this sense, the researchers pointed out that existing rules and regulations were not enough to curb the trend of frauds and the new concept, which is FA, has taken over to fill the void. Additionally, the researchers indicated that few countries adopted the concept of FA and other countries like India are yet to follow.

Furthermore, like McCabe (2018), and Mishra and Singh (2017), Nicolae and Diana (2017) confirmed the benefits of creating professional certificates in FA. In this sense, the researchers conducted a study to determine how the FA education, offered to the professional accountants, assures them, all the relevant skills that are necessary for the profession. However, the studies of Mishra and Singh (2017), and Nicolae and Diana (2017) were conducted in India, and Romania respectively.

There are some studies about a real-world class. Kern and Weber (2016) asserted the significance of experiential learning and indicated that The Justice for Fraud Victims Project class is an innovative program developed at Gonzaga University. This program is a partnership between the university, local law enforcement, local and federal prosecutors, and the local chapter of the ACFE (Kern & Weber, 2016). The researchers insisted that these real-world classes enable students to use their professional experience to help the community and to learn FA through hands-on experience. More importantly, the researchers noticed that this course addresses the injustice arising from the inability of victims to pursue fraudsters due to lack of resources to pay for an examination. The importance of the study of Kern and Weber (2016) is evident because the researchers explained how to implement the class, including presenting

solutions for possible problems. However, that study lacks enough interpretation of the results of participants surveys regarding their experiences.

Like Kern and Weber (2016); Dombrowski, Smith, and Wood (2013) highlighted the critical benefits of the Auditing Internship Program at Salisbury University. The Program, which has grown during more than 20 years, was founded on the purported benefits of experiential learning and calls for curricular change to enhance the core competencies of accounting graduates (Dombrowski et al., 2013). The researchers noticed that this internship is organized and run as an actual accounting practice in which the instructor serves as the Executive Partner and maintains professional liability insurance through the AICPA carrier. Furthermore, the researchers indicated that students, working in teams ranging in size from three to seven, serve as the professional staff. Moreover, the client base consists of not-for-profit organizations that vary in size and complexity. Additionally, the services range from limited scope consulting engagements to operational and financial audits.

More importantly, Dombrowski et al. (2013) asserted that, as evidence of program quality, in 2011 the practice completed an AICPA mandatory peer review for quality of accounting, auditing, and attestation services performed by AICPA members in public practice. However, the study of Dombrowski et al. (2013) lacks a complete discussion of how other institutions can implement practically this program. Nevertheless, the principal investigator highly encourages universities to benefit from the successful programs presented in the studies of Kern and Weber (2016); and Dombrowski et al. (2013) due to the significance of experiential learning.

There are some studies concerning open distance learning. Most researchers did not explore thoroughly how to teach FA practically to students. For example, Abell (2016) was more

interested in improving customer experience in the FA industry. Conversely, some researchers confirmed the crisis in AE regarding the lack of expertise. However, not all of them had a holistic view concerning a revolutionary solution to the root cause of the problem. For instance, Shuttleworth and Reyneke (2017) focused only on how to hone the vocational skills of students at open distance learning (ODL) institutions. Specifically, these researchers studied whether case studies are the best effective method in this regard. However, according to the findings of Shuttleworth and Reyneke (2017), participants felt this method would be more challenging in an ODL institution than at a contact-based university. To solve this problem, these researchers claimed that vocational skills embedded in case studies could be efficiently taught using electronic education. In this sense, the researchers purported that the participants stated that myUnisa, which is an electronic institutional learning management system, is a potential method in case studies to hone the vocational skills.

Nevertheless, when compared to similar studies, the study of Shuttleworth and Reyneke (2017) appears to lack empirical evidence and suffers from a relatively small sample size; however, it remains one of the few studies in that field. In addition to Shuttleworth and Reyneke (2017), Laing (2013) confirmed there is a growing demand in higher education for universities to introduce teaching methods that achieve the learning outcomes of vocational education. However, contrary to Shuttleworth and Reyneke (2017), Laing (2013) was more successful in meeting the need for vocational educational outcomes by recommending specifically to involve a service learning activity designed to provide essential professional auditing competencies.

There are some studies about a long-term view and the use of industry professionals. Some researchers agreed that the best way for universities to fill the gap of experiential learning is to use industry professionals. For example, Gentelli (2015) studied undergraduate teaching by

industry professionals and its impact on student learning. However, this study was not directed toward accounting fields. Conversely, other researchers had more strategic views; for example, Lawson et al. (2014) encouraged universities to focus accounting curriculum on students' long-run careers. In this context, the researchers indicated that, in 2010, the IMA and the AAA formed a task force to address issues related to long-term career requirements by making curriculum recommendations for all accounting majors. Moreover, the researchers concluded that the focus of accounting education should include organizational settings beyond the existing focus on public accounting or auditing. More importantly, Lawson et al. (2014) were successful in designing a competency-based educational Framework. However, that framework was intended to be applied to a variety of career paths including, but not limited to, public accounting. Nevertheless, Lawson et al. (2015) expended the study of Lawson et al. (2014) by examining possibilities for integrating foundational competencies and broad management competencies into the accounting curriculum. However, the study of Lawson et al. (2015) still lacks enough resources for instructors to support curricular-integration initiatives in accounting

Cooperative learning. Some researchers suggested that there is an urgent need to revolutionize the accounting and FE through enhancing certain skills regarding students' communication. For example, Asare, McKay-Nesbitt, and LeMaster-Merrick (2014) studied how to integrate business disciplines using a team-based approach. However, they did not add new suggestions in this regard. Similarly, Stone, Lightbody, and Whait (2013) investigated how to develop ASs' listening skills. Contrary to Asare et al. (2014), Stone et al. (2013) enriched their study by exploring the barriers and opportunities in this field and presented an integrated stakeholder approach. However, these researchers did not fully study how to enhance the shared contributions by ASs, the profession, and educators to hone students' skills outcomes.

In addition to Asare et al. (2014), Reinig, Horowitz, and Whittenburg (2014) were interested in teams. However, Reinig et al. (2014) focused only on the determinants of student attitudes toward team exams. Alternatively, Goldstein, Sauer, and O'Donnell (2014) claimed that they are the first researchers who studied the factors leading to participation in supplemental instruction (SI) programs in introductory accounting courses. Using the Theory of Planned Behavior, these researchers purported that students' views of their magnitude of personal control over attending SI sessions do not affect their participation in the sessions. However, Goldstein et al. (2014) agreed with other researchers that SI programs could have positive effects in introductory accounting courses; nevertheless, they warned that these programs experience low participation rates. Thus, the principal investigator finds a gap regarding how to employ SI in FE.

Contrary to Asare et al. (2014); Stone et al. (2014); and Goldstein et al. (2014); Fredin, Fuchsteiner, and Portz (2015) explored deeper how to engage ASs more to increase success among them. In this context, prior research indicated that student engagement is the key to student success, as measured by college grades, degree completion, and graduate school enrollment (Fredin et al., 2015). Utilizing a balanced scorecard framework, these researchers insisted that if students can see that their successful completion of coursework will lead to successful interactions with business professionals (i.e., potential employers), they will be more likely to work hard in their endeavors.

However, the study of Fredin et al. (2015) was not limited to accounting only but to business students in general. Consequently, there might be a need to test their findings to ascertain there is no significant difference regarding fraud students. Additionally, Inuwa, Abdullah, and Hassan (2017) agreed with Fredin et al. (2015) and added that the cooperative learning approach effectively enhances the financial accounting achievement of the students.

However, it should be noted that Loeb (2015) suggested that the willingness of an instructor to use active learning may be influenced, at least in part, by that instructor's assessment of the advantages and challenges of using active learning.

There are some studies about the discussion and use of the Report. Diagle et al. (2014) recommended applying the ACFE report (RNOFA) to daytime television talks show confessions; however, Gates et al. (2016) encouraged using the report to stimulate discussion of fraud in accounting and business classes. In this sense, professors should use the RNOFA to provide topics for discussion regarding real-world data about the following: (a) the cost of financial losses due to fraud different, and (b) types of fraud, perpetrators, and victims.

Conversely, some researchers did not focus on the contents of discussions but on the discussion itself. For example, Shauki and Benzie (2017) explored the development of student self-management skills through an oral presentation task. In this sense, the researchers encouraged assigning tasks for students to prepare a group presentation using action learning. According to the researchers, students indicated that they were more confident and comfortable in preparing and presenting the oral presentations as compared with their previous experiences. Shauki and Benzie (2017) justified these results as students will understand the expected standard better when they have another opportunity to modify their presentations. Thus, the principal investigator recommends future researchers to replicate the study of Shauki and Benzie (2017) on fraud and FA students due to the lack of similar studies in these fields.

In addition to Shauki and Benzie (2017), McComb et al. (2012) called to enhance learning through an interprofessional project competition. However, the study of McComb et al. (2012) was not in a business field and was limited to only studying the significance of the suggested learning method. Furthermore, like McComb et al. (2012), Akpinar, del Campo, and

Eryarsoy (2013) called for learning through co-operation and competition. In this context, the collaboration involved a simultaneously organized group competition project with an analysis of real-life business problems among students. Interestingly, the results of Akpinar et al. (2013) support other studies on the positive impacts of group collaboration on learning performance but deny any adverse repercussions of competition. The principal investigator recommends future researchers to expand the research of Akpinar et al. (2013), which was limited to statistics, and to apply it to FE.

Summary of the literature review. The principal investigator infers from the reviewed studies that prevention of fraud has become an issue of global importance. Major corporate frauds have been discovered in the U.S. and other countries; for example, France (Vivendi Universal), Italy (Parmalat), India (Satyam Computer Services) (Tormo-Carbó et al., 2016; Flynn & Buchan, 2016; Kleinsmith et al., 2016). Consequently, accounting educators need to address the issue of fraud in accounting classes so that students will know how to respond appropriately to fraud, corruption, and ICMWs (Nicolae & Diana, 2017; Cory & Treviño, 2017). Also, new accounting graduates should realize how they can assist in fraud prevention and deterrence in their WEs (Jooste, 2017; Tormo-Carbo et al., 2016). Furthermore, there is a growing demand for universities to introduce modern teaching methods that achieve the learning outcomes of vocational education (Khalil, 2015).

The results of the literature review show that most of the business schools do not offer a separate course or program in fraud or FA (Al-Hadrami & Hidayat, 2015; Daniels et al., 2013), and this fact validates the purpose of this study. Additionally, it is apparent that there are few studies about the chronological progression of FE. These gaps exist despite that the public debate on FE, particularly, business ethics has intensified worldwide (Flynn & Buchan, 2016; Buchan,

2016; Wang & Calvano, 2015; Kleinsmith et al., 2016). Conversely, research on perceptions has considered the attitudes of students, educators, accountants, and employers to general contents in education (Trung, 2016; Dellaportas et al., 2014; Kranacher et al., 2008; Seda & Kramer, 2009; Apostolou et al., 2013; Lehmann, 2010). However, specific concerns underlying fraud and ICMWs have not been fully explored (Appiah, 2015; Appiah-Sokye, 2016). Moreover, since the mid-1980s, professional accounting bodies, employers, and professionals have lamented the failure of universities to equip accounting graduates with the competencies required for responding appropriately to fraud and ICMWs (Kleinsmith et al., 2016; Sigurjonsson et al., 2015; Rikhardsson, 2015).

This literature review confirms the scarcity of studies about what specific content should be incorporated into the curriculum regarding fraud and ICMWs. Also, few researchers studied what competencies should ASs possess. Ahadiat and Martin (2015) asserted that the top five most important attributes for hiring entry-level accountants are personal attributes such as trustworthiness, dependability, oral communication skills, cleanliness, and punctuality. Hence, Ahadiat and Martin (2015) agreed with Ahadiat and Martin (2015) that accounting programs should prepare ASs to be ethical citizens. However, Tower-Clark (2015) identified the following educational points to meet the required skills of accountants: the team-playing capability, oral communication, interpersonal, career planning, and interviewing skills. However, students are attracted to the importance of leadership, entrepreneurship, and conflict management (Zureigat, 2015; Tower-Clark, 2015). Additionally, Khalil (2015) identified five critical points: (a) adaptability to the workplace, (b) team-playing capability, (c) professionalism, (d) computer & communication skills, and (e) career potential. Alternatively, Daniels et al. (2013) identified

twenty-one topics to assist students in preventing, investigating, and detecting financial statement fraud.

Transition and Summary of Section 1

The gaps in the literature are apparent regarding internal control and FE. One gap is related to accountants' perceptions about how their AE prepared them to respond to fraud and ICMWs appropriately. Another gap is related to the contradicting views of educators and students regarding the most critical topics that should be incorporated into the curricula. Moreover, there is an apparent gap in FA education. Additionally, there is a critical gap concerning internal control education although it was ranked by many students as the number one topic to be taught. Alternatively, there are disagreements among the researchers about the purported benefits and repercussions of the contemporary methods to teach accounting, fraud, and internal control.

Surprisingly, some accountants believe nontraditional accounting topics are more critical for FA education and highly recommend education techniques that contain an experiential learning method (Kramer et al., 2017). In a related context, Armitage and Poyzer (2010) ranked the five critical topics in the first auditing course. In this context, the professors ranked the topics as the following: (a) audit risk, (b) understanding internal control, (c) evidence, (d) financial statement assertions, and (e) fraud awareness. Conversely, the accountants ranked the topics as the following: (a) audit risk, (b) ethics, (c) documentation, (d) understanding IC, (e) analytical procedures.

To bridge the gaps, some researchers, such as Lord (2010), encouraged academics to increase the quantity and quality of discussions in classrooms to enable students to understand fraud issues better. Conversely, some researchers, such as Abbott and Palatnik (2018); and

Spiceland, Spiceland, and Schaeffer (2015) recommended concentrating on teaching critical thinking to students. Conversely, some researchers such as Kramer et al. (2017), confirmed the importance of teaching integrated accounting software. However, other researchers, such as Jooste (2017), suggested that professors should focus on specific topics; for example, earnings management practices. In this context, Bazrafshan (2016) confirmed that the most significant fraud risk components are a dependence of managers' benefits on operations results, and weak managers' supervision of critical internal controls. In this sense, most accounting educators and practitioners agreed on internal control as the number one topic for FE (Daniels et al., 2013).

Nevertheless, there are contradicting views in the literature about internal control education. For example, Miller et al. (2013) found many management professors believe that internal auditors, not management, are the ones responsible for establishing and maintaining internal controls over financial reporting. These findings suggest management professors may not be fully aware of the responsibilities placed on managers of publicly traded companies for internal controls over financial reporting. Conversely, there is a consensus in the literature that female and older students show higher ethical inclinations than male and younger students respectively (Tormo-Carbo et al., 2016).

By reviewing the literature, the principal investigator showed evidence that accountants who studied fraud during their AE outperformed their peers (McCabe, 2018; Burke & Sanney, 2018). In this context, there are two different philosophies, but not necessarily opposites of how to teach fraud. Particularly, there has been an inconclusive debate about whether fraud should be taught as a stand-alone course or as a part of other courses (Apostolou et al., 2013; Jorge et al., 2015; Gordon, 2011). Additionally, in the last seven years, fraud research has provided ample

support for the assertion that accounting education does suffer from an apparent gap regarding internal control (Daniels et al., 2013).

There is insufficient research on internal control education to draw any firm conclusions about the impacts of undergraduate courses in this regard (Appiah, 2015). ICMWs education can be a critical factor affecting the overall performance of FE. This fact acknowledges that there is yet more to come to enhance how accountants respond to fraud and ICMWs (Bazrafshan, 2016; Daniels et al., 2013; Miller et al., 2013). Consequently, this research is one of the first studies accompanying the ICMWs and FE longitudinally and capturing an integrative understanding of their dynamics. These goals do not all have to be achieved simultaneously; however, they can be targeted in parallel. That conclusion is because educations of fraud and ICMWs are not necessarily dependent on each other unless there is evidence to the contrary. Future researchers are encouraged to study how ICMWs and FEs substitute, complement, or conflict with each other. Furthermore, this comprehensive literature review can serve as conceptual lenses for understanding what is missing in the AE; and then, ASs can be equipped with a sustainable competitive advantage (Carpenter et al., 2011; Holland & Albrecht, 2013; Botes et al., 2014).

The principal investigator recommends future research to identify the internal and external factors that are favorable and unfavorable to achieve the intended strategic objectives of ICMWs and FE (Chelariu et al., 2014; Lehmann, 2010; Flynn & Buchan, 2016). Alternatively, future research should investigate the effectiveness of introducing students to fraud and FA through not only traditional classrooms but also seminars and webinars (Kramer et al., 2017). Moreover, because fraud is an international issue, future researchers should contrast FE on a worldwide basis (Holland & Albrecht; 2013; Tormo-Carbo et al., 2016). Conducting studies

about the knowledge and lived experiences of worldwide accountants will help in discovering innovative methods to teach internal control and integrate fraud into the accounting curricula.

Section 2: The Project

Section 2 concentrates on the project. It includes, among other elements, the role of the researcher, the participants, the population and sampling, data collection and analysis, the reliability and validity. In this context, data collection includes the instruments, techniques for data collection, and organization. Additionally, data analysis includes mainly the anticipated themes or perceptions. Conversely, two small contents exist in both Sections 1 and 2. They are the purpose statement, and the research method and design.

Business organizations lose about 5% of their revenues annually due to fraud, which can exceed 3.5 trillion (USD) worldwide (Elder, 2018; Rezaee & Jim, 2017). In this sense, most scandals that included fraud and questionable accounting practices during 2000-2008 are due to ineffective internal controls (Kanagaretnam, Lobo, Ma, & Zhou, 2016). Consequently, several professional organizations encouraged professors to develop courses in FA and fraud examination to teach students how to respond to ICMWs encountered in their WEs (Meier, Kamath, & Yihong, 2010; Alabdullah, Alfadhi, Yahya, & Rabi, 2014). Nevertheless, only about 10% of universities include fraud and FA courses in the curriculum (Ekmekjian, Drucker et al., 2008; Daniels et al., 2013). Furthermore, some researchers asserted that internal control is the number one topic requested by ASs (Daniels et al., 2013).

The general problem addressed in this research is that there is a continuing academic and intrinsic motivational need for additional study about accountants' lived experiences regarding how they detected and dealt with fraud and ICMWs (Burke & Sanney, 2018; Nwanyanwu, 2018; Cheng & Flasher, 2018; Daniels et al., 2013; Arce, 2017). The specific problem addressed is that little is known about how accountants, who work in major metropolitan areas, use their undergraduate education to respond to fraud and ICMWs appropriately (Byrne et al., 2014;

Appiah, 2015). Additionally, there is a lack of understanding of how accountants perceive their undergraduate courses prepared them to detect fraud and respond to ICMWs (Lawson et al., 2014; Appiah-Sokye, 2016; Nwanyanwu, 2018).

Purpose Statement

The purpose of this qualitative multiple case study is to understand the professional experiences of accountants who work in a major mid-Western metropolitan area in companies that have occurrences of fraud or ICMWs. In this context, the purpose is to explore how accountants in a major mid-Western metropolitan area perceived their undergraduate courses prepared them to prevent and detect fraud and to respond to internal control weaknesses detected in their WEs. In this sense, the principal investigator will seek answers to the research questions by exploring the perceptions of accountants who work in companies that have experienced fraud or ICMWs. This research will help educators and professional accountants to realize the effect of integrating undergraduate courses or topics about fraud and internal control. Moreover, accountants in other major metropolitan areas will benefit from understanding how the participating accountants perceive their AE prepared them to respond to ICMWs. Also, the research will help organizational managers to customize OJT to meet accountants' expectations based on their perceptions and concerns.

Role of the Researcher

The principal investigator identified and contacted the participants, conducted interviews, and analyzed the data. According to Creswell and Poth (2018), the researcher plays a critical role as the data collection instrument in qualitative studies. Specifically, Stake (2006) asserted that the researcher assumes, in qualitative research, an active, significant role through conducting semi-structured, in-depth interviews. In such interviews, the researcher's goal is discovering the

meaning of the participants' lived experiences by eliciting insight and detailed information. This method for data collection was appropriate for both the design of this study and the interview questions (Zucker, 2009; Stake, 2006). Consequently, the role of the principal investigator aligns with the purpose of the study concerning understanding accountants' views about FE.

The principal investigator designed the interview questions to elicit answers to the research questions, which were devised to serve the purpose of the study. The purpose was to provide insights into how well accountants perceived that their undergraduate courses prepared them to prevent and detect fraud. The principal investigator developed further insights into how those accountants perceive their preparation to respond to ICMWs detected in their WEs. Thus, the researcher planned and conducted all the in-person interviews with the participants. Then, the principal investigator analyzed the collected data to understand the professional experiences of accountants who work in a major mid-Western metropolitan area in companies that have occurrences of fraud or ICMWs.

The principal investigator conducted the interviews in reserved rooms at public libraries and assured privacy and confidentiality to interviewees to the extent of the law. The participants had the choice to select any library near their works or homes to encourage the participation and to avoid barriers concerning travel and time for the convenience of the participants. The principal investigator expected this technique would help in letting the participants provide more in-depth insights regarding their lived experiences. The principal investigator planned each interview to last about 30-60 minutes. Moreover, the principal investigator presented the participants with an opportunity to verify the collected data by allowing them to review the transcripts.

Alase (2017), and Yin (2011) indicated that the role of the researcher could extend beyond conducting the interviews. In this sense, the principal investigator supplemented the

interview process with document reviews to enrich collecting the data and for triangulation purposes. Consequently, the principal investigator spent extended time on finding accessible and adequate data to delve deeper into participants' perspectives (Yin, 2011; Shank, 2006; Alase, 2017). Additionally, the principal investigator widened the scope of online library databases to mitigate the paucity of relevant literature. Moreover, the role of the researcher included using a digital voice recorder to record the semi-structured interviews. Then, the researcher transcribed verbatim the recordings for further analysis.

To avoid participants' bias, the principal investigator had to let the participants confirm the accuracy of their responses by several techniques. For example, asking the question in different wording or by reading the responses back to them and carefully noticing their body languages (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010). Moreover, the principal investigator had to write accurate notes regarding how interviewees responded when they heard each question. Conversely, the principal investigator avoided unintended personal bias because the researcher's interpretations in qualitative studies are not separate from the researcher's backgrounds and previous experiences (Zucker, 2009; Patton, 2002; Yin, 2011; Creswell & Poth, 2018).

Participants

The principal investigator determined that each participant should be knowledgeable about the interview questions (Creswell & Poth 2018; Yin, 2011). Additionally, each interviewee should be willing voluntarily to share pertinent information that helps the principal investigator to explore and understand accountants' specific perceptions. Therefore, the principal investigator chose to study accountants who work in a major mid-Western metropolitan area. All interviewees met particular criteria. In this context, each participant should have been a CPA and

had worked as an accountant in a major mid-Western metropolitan area for at least the past three years. Moreover, each participant should have experienced accounting fraud or material internal control weakness during his/her work.

The principal investigator identified some potential participants through a search on Google, Facebook, and LinkedIn. Many accountants promote themselves on social media in which they indicate their professional certifications, residence, years of experience, and email. Hence, it was easy for the principal investigator to find qualified accountants who meet the three eligibility criteria to participate in the study. Additionally, the principal investigator recruited additional participants using the purposeful snowball sampling. In this sense, the principal investigator provided the selected participants with the needed information about the study to forward it to their colleagues who could provide valuable insights into the research questions. Initially, the principal investigator sent an email (see Appendix G) to each participant.

The email included certain requirements of the study, its purpose, an invitation to participate in the study, and an attached consent form. Then, the interested participants filled and emailed back the completed consent form to the principal investigator. Before conducting the interviews, the principal investigator carefully contrasted the interested participants to select those who best had the potential to provide the data needed to accomplish the purpose of the study. Furthermore, the principal investigator recruited a purposive snowball sampling technique.

The next step was selecting the final thirteen participants and contacting them by emails to inform them about being chosen for the study. In the email, the principal investigator started to establish a rapport with each participant. Moreover, the email reconfirmed that each participant could withdraw from the study at any time and for any reason without any penalty or adverse

consequences. Additionally, to develop a working relationship with each candidate before the interview, the principal investigator encouraged the participants to communicate and to ask clarifying questions about the interview process to address any concern such as privacy.

Some other arrangements strengthened the rapport and the confidence between the principal investigator and the interviewees; for example, the email indicated that each participant would receive a verbatim transcript after the interview. Member-checking at the end of each interview ensured ethical relationships and reinforced collaboration and rapport between participants and the principal investigator (Saldaña, 2013; Creswell & Poth 2018; Yin, 2011). Furthermore, to preserve anonymity and confidentiality, the principal investigator pointed out to the participants that their names would be confidential by using pseudonyms.

The principal investigator took certain measures to ensure that the participants' ethical protection is adequate. For example, the principal investigator refrained from asking personal or proprietary questions. Moreover, because of confidentiality assurances, participants were expected to provide honest descriptions of their experiences more liberally especially that the principal investigator is also an educator and a CFE (Mason, 2010; Dworkin, 2012). Also, certain measures were applied due to the sensitivity of the studied topics because accountants avoid disclosing their academic weaknesses publicly (Marshall et al., 2013).

For example, in addition to using pseudonyms, the principal investigator conducted the interviews in reserved rooms at public libraries for privacy. Before performing the interviews, the principal investigator obtained informed consent from each participant to ensure that accountants understood the benefits and risks pertinent to participation in the study. Also, several techniques were used to assure the interviewees that participation's risks are minimal. For example, to decrease the related exposure from participation, the principal investigator informed

the interviewees of using pseudonyms and took their permissions before sharing parts of their responses with others when presenting the findings of the study.

Specific strict procedures were required to verify that the principal investigator was taking the appropriate steps to guarantee the participants' rights. In this context, at the beginning of the first phase of the doctoral dissertation, the principal investigator was required to complete mandatory courses conducted by the Collaborative Institutional Training Initiative (CITI) on research ethics. Also, the principal investigator was not allowed to contact any participant until completing the second phase of the doctoral dissertation and receiving authorization from the DBA Program Director to begin the field study. Thus, the principal investigator started contacting the potential participants only after obtaining the approval from Liberty University's Institutional Review Board (IRB). The IRB approval was a critical requirement to ensure that the study was undertaken according to research protocols because ethical assurances are part of qualitative studies. The approval is available at Appendix J.

Before conducting the interviews, the principal investigator re-informed the participants of their protection rights and reminded them of the voluntary nature of their participation. Moreover, the principal investigator described how the data collected would be secured and stored. Then, the principal investigator obtained permission from each accountant before the recording of their voices. In contrast, debriefing occurred at the end of the study to verify critical points and guarantee the absence of any deception or misunderstanding; hence, the principal investigator ensured the ethical protection of participants adequately.

Research Method and Design

This study relied on words and open-ended questions; thus, the research is a qualitative one. Conversely, quantitative methods rely on numbers and statistics. The principal investigator

determined that a qualitative method is appropriate in this study to explore accountants' perceptions regarding their AE and encountered fraud. In this sense, there is a lack of studies in the existing literature about accountants' lived experiences concerning how they detected and dealt with fraud and ICMWs. Specifically, little is known about how accountants, who work in major metropolitan areas, use their undergraduate education to respond to fraud and ICMWs appropriately (Byrne et al., 2014; Appiah, 2015).

In this study, each accountant was a case. Thus, a multiple case design was appropriate to understand the perceptions of each case and to contrast emerged themes with each other. In this sense, the design relied on a within-case analysis and a cross-case analysis to answer the research questions (the interview guide is available in Appendix H).

Discussion of the method. This study is qualitative research. In this sense, the principal investigator examined participants in their natural settings to understand or interpret phenomena by exploring individual participants' conceptions (Creswell & Poth 2018; Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Denzin & Lincoln, 2011). In this context, occupational fraud has become a global phenomenon because 70% of businesses reported at least one fraud (McCabe, 2018; Gates et al., 2016). Moreover, the concept of ICMWs has become a crucial concern for businesses due to the strong association between internal control and fraud revelation. Consequently, the qualitative method was the best one to investigate accountants' perceptions regarding their AE and preparedness to respond to fraud and ICMWs.

The qualitative method enabled the principal investigator to use subjectivity and interpersonal skills by applying them to the research processes (Alase, 2017). Hence, the qualitative method helped the principal investigator to seek answers to the research questions by exploring the perceptions of accountants who work in companies that have experienced fraud or

ICMWs. Paradoxically, although the AAA called on professors to develop undergraduate courses in FA, fraud examination, and ICMWs (Meier et al., 2010), most AIs do not have a separate course or program in these fields (Daniels et al., 2013). Consequently, the qualitative method was appropriate to understand how accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or ICMWs within their organizations.

The relevance of experience and meaning is a common ground for qualitative studies (Daher et al., 2017; Montgomery, 2011; Creswell & Poth, 2018). Therefore, the qualitative method was appropriate to understand the professional experiences of accountants who work in a major mid-Western metropolitan area in companies that have occurrences of fraud or ICMWs. Specifically, the qualitative method helped the principal investigator to explore how accountants in such field perceive the effect that their individual education has had on their preparedness to detect and respond to fraud and ICMWs.

Several researchers asserted that the qualitative method helped them to explore perceptions of accountants. For example, Akkeren and Buckby (2017), Odar et al. (2017), Shah (2017), and Pusti (2017). Conversely, a quantitative method was not appropriate because it relies on numerical measurements. Thus, numerical statistics do not help in understanding the lived experiences of accountants regarding how they perceive their academic courses prepared them to respond to fraud or ICMWs.

Discussion of the design. This qualitative research was an exploratory multiple case study. Due to the limited scholarship on accountants' perceptions, little was known on the topic. Therefore, the study was exploratory because previous researchers did little work regarding the problem of the study (Yin, 2011). In this sense, the case study design can be used to test a theory

or to provide a description (Creswell & Poth 2018). Moreover, the case study enables researchers to understand and explore individuals' experiences and stories (Yin, 2011). Thus, in a qualitative case study research, the researcher designs descriptive questions to explore a specific phenomenon or more. In this study, the principal investigator conducted semi-structured, face-to-face interviews with each participant in the focused sample. In this context, the principal investigator employed the qualitative method to have a holistic view of accountants' perceptions regarding certain points.

The qualitative nature enabled the principal investigator to understand what was observed and said in the semi-structured interviews. Additionally, the principal investigator gained valuable information by reviewing the literature and certain documents. Consequently, the principal investigator immersed himself in each situation to gather the needed data in this interpretive and naturalistic study. Documents review and conducting semi-structured interviews provided a rich variety of methodological combinations (Yin, 2011; Creswell & Poth 2018). These qualitative techniques enabled the principal investigator to understand pertinent perceptions of accountants; and hence, to accomplish the purpose of this qualitative multiple case study.

The principal investigator developed in-depth descriptions and understandings of multiple cases by replicating the procedures for each case (Creswell & Poth, 2018; Yin, 2009; Zucker, 2009; Stake, 2006). Thus, the qualitative method was the most appropriate one to answer the research questions (the interview guide is available in Appendix H). Furthermore, the principal investigator was careful to select cases that are expected to provide similar and contrasting results regarding how accountants perceive their AE prepared them to respond to fraud and ICMWs (Yin, 2011). In this study, each participant was a case because each one had

an exclusive perception. Put differently, each accountant held unique lived experience regarding his/her AE and encountered fraud or ICMWs.

The principal investigator capped the maximum number of participants at twenty-five following the suggestion of Fontenot (2013). However, the principal investigator planned to exceed the minimum requirement in similar qualitative multiple case studies, which is twelve according to Mason (2010). Thus, the principal investigator planned to study a sample of thirteen participants. In this sense, Mason (2010) stated that, in a multiple case study, the researcher could saturate the data by a sample size of twelve. Additionally, in this multiple case study, the principal investigator replicated the research procedures among the participants (Yin, 2011). Moreover, the principal investigator selected the cases in a deliberate manner called purposive sampling. Therefore, the principal investigator sought only information-rich cases to gain in-depth understanding concerning the purpose of this qualitative study (Yin, 2011; Creswell & Poth, 2018; Yin, 2014).

The principal investigator rejected the other four designs of the qualitative method in this study. For example, because the principal investigator did not intend to explore the life of an accountant, the narrative design was not appropriate for this study (Butler, 2015; Yin, 2014; Creswell & Poth, 2018). Similarly, because the study aims at understanding accountants' perceptions regarding how their AE prepared them to respond to fraud or ICMWs, the phenomenological design was not chosen. In this context, the principal investigator was not trying to understand the essence of accountants' experience or their feelings (Alase, 2017; Creswell & Poth, 2018; Cazan, 2012).

Additionally, the principal investigator did not seek to develop a theory grounded in data from the field; thus, the grounded theory design was not the right one to answer the research

questions (Marshall et al., 2013; Daher et al., 2017; Creswell & Poth, 2018). Finally, the ethnographic design was not helpful in this study because the research questions were not about describing or interpreting a culture-sharing group (Saldaña, 2013; Creswell & Poth, 2018; Yin, 2014). In this sense, the participants in this study were accountants from multiple backgrounds and ethnicities and were not working in the same organization. Additionally, by reviewing the existing literature, there was no argument that the accounting discipline constitutes a stand-alone culture.

In this collective case study (or multiple case study), the principal investigator analyzed and compared multiple cases that illustrate the same issue to show different perspectives on the issue (Creswell & Poth, 2018; Yin, 2009; Zucker, 2009; Stake, 2006). Thus, the multiple case design enabled the principal investigator to explore how accountants in a major mid-Western metropolitan area perceived their undergraduate courses prepared them to prevent and detect fraud and to respond to ICMWs detected in their WEs. To understand these perceptions deeply, the principal investigator employed both a within-case analysis and a cross-case analysis.

By using the multiple case design, the principal investigator provided a detailed description of each case and theme within the case (a within-case analysis) (Creswell & Poth, 2018; Yin, 2009). In this sense, there is a lack of understanding of how accountants perceive their undergraduate courses prepared them to detect fraud and respond to ICMWs (Lawson et al., 2014; Appiah-Sokye, 2016; Nwanyanwu, 2018).

The cross-case analysis helped the principal investigator to provide a thematic analysis across the cases and assertions or an interpretation of the meaning of the case (Creswell & Poth, 2018; Yin, 2009). Hence, the multiple case design helped in accomplishing the purpose of the study by understanding how the participants perceive their undergraduate education prepared

them to detect fraud and ICMWs. Additionally, both the within-case analysis and cross-case analysis helped in bridging the gap between accounting practice and demand. In this context, analyzing the multiple cases enriched the literature by understanding how universities can enhance AE to prepare better accountants to respond to critical work challenges (Apostolou et al., 2015).

Summary of the research method and design. The principal investigator determined that the qualitative method is the appropriate one to explore certain life experiences of accountants. Furthermore, the design is a multiple case study because it helped in understanding accountants' perceptions regarding how undergraduate courses enhanced their preparedness to respond to fraud and ICMWs appropriately.

Using a collective case study (or a multiple case study), the principal investigator explored and contrasted multiple cases that illustrate the same issue to understand different perspectives on the issue. Consequently, a qualitative method and multiple case study design enabled the principal investigator to examine accountants in their natural settings to understand and interpret their conceptions. Hence, the chosen method and design helped the principal investigator to provide valuable insights into the problem of the study.

Population and Sampling

The chosen population enabled the principal investigator to understand the lived experiences of accountants and to understand their perceptions; thus, to accomplish the purpose of this study. The focus of the research was on accountants who work in major metropolitan areas. Moreover, the principal investigator was careful to select only accountants who experienced fraud or ICMWs in their WEs. Therefore, there were three eligibility criteria to

participate in the study. Additionally, the principal investigator chose the sampling method appropriately to accomplish data saturation and triangulation.

Discussion of the population. Little is known about how accountants, who work in major metropolitan areas, use their undergraduate education to respond to fraud and ICMWs appropriately (Byrne et al., 2014; Appiah, 2015). Therefore, the principal investigator decided to study accountants who work in a major mid-Western metropolitan area. The major mid-Western metropolitan area was chosen for the convenience of both participants and the principal investigator to allow for availability and flexibility in the conduct of face-to-face interviews from the focused sample.

To accomplish the purpose of this study, each participant should meet the following criteria: (a) should be a CPA, (b) has worked as an accountant in a major mid-Western metropolitan area for at least the past three years, and (c) has experienced accounting fraud or ICMW in WEs. In this context, Nix and Morgan (2013) pointed out that employees commit 97% of organizations' fraud; hence, accountants interact routinely with fraudsters in their scope of work. Thus, accountants who work in a major mid-Western metropolitan area were an appropriate population to accomplish the purpose of this study by exploring their perceptions concerning AE and encountered fraud.

For this study, the largest population of employed accountants and auditors in the U.S. as of May 2017 was 1,241,000. Of that number, there were 51,250 accountants and auditors employed in the State of Illinois. Of the latter number, there were 36,280 accountants and auditors employed in a certain major Midwestern Metropolitan area. These numbers are according to the U.S. Bureau of Labor Statistics (2018). Of those 36,280 accountants, there were about 24,000 who are members of the Illinois CPA Society according to ICPAS (2018).

Specifically, of the 24,000 members, there were 710 active CPAs in that certain major Midwestern Metropolitan area.

Names, phones, and emails of many accountants were available publicly on social media such as Facebook and LinkedIn. Additionally, the principal investigator recruited additional participants using the purposeful snowball sampling. The principal investigator determined to contact the accountants through emails. The recruitment email is available in Appendix G.

According to DiGabriele (2016), participants' non-response is an inherent attribute of research. Therefore, due to the relatively small population of active CPAs registered in a certain major Midwestern Metropolitan area, the principal investigator deemed to extend the population. That is, the principal investigator anticipated the numerically increased population would compensate for a potential non-response from CPAs. The backup participants were to search for CFEs also. According to the ACFE (2018), there were 20,960 members live in the State of Illinois. Specifically, there were about 8,000 members of the ACFE who live in a certain major Midwestern Metropolitan area.

The principal investigator planned to obtain data by interviewing the selected participants to understand their perceptions (the interview guide is available in Appendix H). Furthermore, the principal investigator examined selected documents in the form of studies about how the fraud occurred and the benefits of undergraduate courses in fraud. These sources enabled the principal investigator to understand the accountants' lived experiences and to understand their perceptions; and thereby, to accomplish the purpose of the study.

Discussion of sampling. The principal investigator used a combination of purposive snowball sampling and criterion sampling techniques. In qualitative studies, the fewer the participants interviewed in the study, the deeper the inquiry per individual (Creswell & Poth

2018; Yin, 2011). However, there are no standard rules that determine the sample size firmly in qualitative research (Alase, 2017; Montgomery, 2011; Creswell & Poth, 2018). In this sense, there is no specific formula for sample size the principal investigator can employ in this exploratory multiple case study. Yin (2011) justified the variability in sample size in qualitative studies as due to the depth of data collection and the complexity of the studied topic.

Surprisingly, few researchers, such as Dworkin (2012), claimed that a sample size of five participants is acceptable in qualitative research. Conversely, Fontenot (2013) insisted that fifteen to twenty-five participants is the acceptable range for qualitative case studies. Nevertheless, several research methodologists suggested that the exploration of perceptions in a homogeneous group requires to interview twelve participants for data saturation to occur (Creswell & Poth 2018; Yin, 2011; Creswell, 2009; Cazan, 2012; Hagan, 2014).

Each participant was a case in this study because each one had exclusive perceptions. Put differently; each accountant held unique lived experiences regarding his/her AE and encountered fraud or ICMWs. Mason (2010) stated that, in qualitative studies, researchers could saturate the data by a sample size of twelve. Thus, the principal investigator planned to study a sample of about ten participants with a maximum of twenty-five. In this sense, Yin (2011) confirmed that in multiple case studies, the researcher is recommended to replicate the research procedures among the participants.

To accomplish the purpose of this study, each participant had to meet, in minimum, three eligibility criteria: a CPA, with three years' experience in accounting, and has experienced accounting fraud or ICMW in WEs. These selection criteria were expected to provide a homogeneous sample from diverse groups of accountants. Therefore, by replicating the interviewing process of the thirteen qualified participants, saturation of data was guaranteed to be

reached when there were neither new themes nor any further information that could provide additional insights into the research questions (Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Creswell, 2009). Additionally, that sampling technique helped in verifying the purposes of triangulation (Cazan, 2012; Hagan, 2014; Denzin & Lincoln, 2011; Alase, 2017).

Sampling procedures included two phases in this study. In the first phase, the principal investigator started to recruit the thirteen participants in the study using social media. The principal investigator identified some potential participants through a search on Google, Facebook, and LinkedIn. Many accountants promote themselves on social media in which they indicate their professional certifications, residence, years of experience, and email. Hence, it was easy for the principal investigator to find qualified accountants who meet the three eligibility criteria to participate in the study. The principal investigator obtained the participants' email addresses and then contacted them to elicit participation in this qualitative study.

Initially, the principal investigator sent an email (see Appendix G) to each participant. The email included certain requirements of the study, its purpose, an invitation to participate in the study, and an attached consent form (Consent Form is available in Appendix I). Also, in that invitation letter, the principal investigator encouraged the participant to contact him by email to learn more about the study before the interview.

In the second phase of the sampling procedures, the principal investigator kept adding additional participants using purposive snowball sampling until reaching data saturation. Creswell and Poth (2018) indicated that researcher could select the sample in qualitative studies in a deliberate manner called purposive sampling in which the researcher selects only information-rich cases to gain in-depth understanding concerning the purpose of the qualitative study. Additionally, Yin (2011) pointed out that the researcher in purposive snowball sampling

asks participants of the study to recommend other useful candidates who would add value to the study. In this sense, the principal investigator asked the selected participants from the first phase to refer their colleagues who were expected to meet the selection criteria best particularly those who experienced fraud.

Snowball sampling is also called chain sampling, chain-referral sampling, or referral sampling (Yin, 2011). The use of purposeful snowball sampling allowed the principal investigator to benefit from the social networks among members of the accountancy fraternity. Thus, the principal investigator provided the selected participants with the needed information about the study to forward it to their colleagues who could provide valuable insights into the research questions.

Finally, the principal investigator selected thirteen participants from the preceding two phases who were deemed to serve the purpose of the study to the highest degree. In this context, in addition to meeting the three eligibility criteria for selection, there was a tendency to choose participants who hold other certifications such as CFE, CIA, or CFF by AICPA. The goal was to have only participants with in-depth perceptions and knowledge about AE and fraud. Furthermore, there was a preference to select participants who had training in FA or a doctoral degree in internal auditing, fraud, FA, or internal control.

However, a significant selection factor was choosing accountants who recognized the gap between their AE and subsequent preparedness deeply when they encountered fraud or ICMWs in WEs. Furthermore, another critical factor in determining the appropriate sample size was the amount of pertinent information reflected by the sample (Butler, 2015; Yin, 2014). Therefore, if more than thirteen participants were required, additional accountants would have been recruited using purposive snowball sampling. The recruiting process would not stop until achieving data

saturation; that is, the principal investigator would no longer discover new theme or information (Creswell & Poth 2018; Yin, 2011; Creswell, 2009).

Summary of population and sampling. The purpose of the study includes exploring how accountants, who work in a major metropolitan area, use their undergraduate education to respond to fraud and ICMWs appropriately. Thus, each participant in this study should meet the following criteria: (a) should be a CPA, (b) has worked as an accountant in a major mid-Western metropolitan area for at least the past three years, and (c) has experienced accounting fraud or ICMW in WEs. According to the Illinois CPA Society (ICPAS) (2018), there were 710 active CPAs in a certain major mid-Western metropolitan area. Names, phones, and emails of many accountants were available publicly on social media such as Facebook and LinkedIn. Additionally, the principal investigator recruited additional participants using the purposeful snowball sampling.

The principal investigator planned to study a sample of twelve participants because the exploration of perceptions requires interviewing twelve participants for data saturation to occur (Creswell & Poth 2018; Yin, 2011; Creswell, 2009; Cazan, 2012; Hagan, 2014). The principal investigator contacted the potential participants randomly using emails. The recruitment email is available in Appendix G. All participants should meet the three eligibility criteria for selection; however, there was a tendency to choose participants who held unique experience or knowledge. The principal investigator added some participants using purposive snowball sampling until reaching data saturation. In this sense, the principal investigator asked participants to recommend other useful candidates that would benefit the study (Yin, 2011).

Data Collection

Data collection did not begin until after obtaining the approval (see Appendix J) from the Liberty University' Institutional Review Board (IRB). Data was collected by exploring multiple sources of information. Mainly, the principal investigator conducted semi-structured, face-to-face (in-person) interviews with each participant in the focused sample (Yin, 2011; Creswell & Poth 2018). One of the richest forms of data collection, according to Yin (2011), is interview-based data. Exploring carefully-selected multiple cases enabled the principal investigator to collect in-depth, detailed data. In this sense, the process of data collection was designed to answer the research questions; and thereby, to accomplish the purpose of the study.

Effective data collection includes the following: (a) relying on several sources of evidence, (b), maintaining a chain of evidence, and (c) building a case study database (Creswell & Poth 2018; Yin, 2011). The use of several sources of evidence helped the principal investigator to triangulate the data through the converging lines of emerging facts. Consequently, the data collection process was argued to result in more accurate and convincing findings (Andrew, Richards, & Hemphill, 2018; Renz, Carrington, & Badger, 2018).

Instruments. The actual researcher is usually the instrument for data collection in most qualitative studies (Yin, 2011; Creswell & Poth 2018). The principal investigator was the core instrument to collect data through in-person interviews and document review. In the first source of information, the principal investigator conducted interviews with thirteen participants to saturate the data. The interviews were semi-structured, face-to-face. The interview questions were open-ended.

Document review. In addition to collecting data through interviews, the principal investigator employed a document review technique. The reasons for using documents review as a second source of information included its characteristics such as non-reactiveness, richness,

availability, legality, and stability (Saldaña, 2013; Creswell & Poth 2018; Yin, 2011). The two sources of information enriched the data collection process (Andrew et al., 2018). The principal investigator had the ultimate responsibility of interpreting the data collected from the two sources.

In-person interviews. The principal investigator collected most data through semi-structured, face-to-face interviews that relied on open-ended questions. The study considered two primary research questions and four sub-questions to shed light on the topic of FE. Very few studies explored the accountants' perceptions about their professional preparedness to respond to fraud and ICMWs following their AE. Consequently, the principal investigator deemed that the semi-structured, face-to-face (in-person) interview is the best instrument to gather information. The interviews' semi-structured questions guided the accountants to consider certain questions concerning FE but allowed for open responses (Creswell & Poth 2018).

Open-ended questions. Within 40-minute timeframe, the principal investigator asked the interview questions set that included 40 open-ended questions. Additionally, all interview questions were phrased carefully to allow for easy understanding by the accountants. In this context, the principal investigator relied on clear question wording articulated directly at ICMWs and FE. The principal investigator audio recorded all interviews after obtaining consent from each accountant (Consent Form is available in Appendix I). Then, each recorded interview was transcribed verbatim for further analysis. The principal investigator transcribed the interviews data manually and saved the transcripts as Microsoft Word files.

Open-ended questions encourage the interviewees to provide their personal answers by not suggesting options out of their thoughts, which could guide them unintentionally to provide false responses (Shank, 2006; Saldaña, 2013; Creswell & Poth 2018; Yin, 2011). Consequently,

the principal investigator decided that the open-ended question is the appropriate type of interview questions to gain greater clarity into the two primary research questions and the four sub-questions.

The principal investigator afforded an opportunity to the participants to familiarize themselves with the interview protocols before the interviews. Conversely, if the principal investigator employed a scale or close-ended questions, responses could not be personalized to fit the purpose of this qualitative study. In addition to enhancing the validity of responses, the principal investigator built all questions on each other to encourage the accountants to describe their views about their AE and professional preparedness.

The first primary research question was designed to understand how accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or ICMWs within their organizations. Alternatively, the second primary research question was articulated to explore how these accountants perceive the effect of their education on their preparedness to detect and respond to fraud and ICMWs. Moreover, the participants responded to questions about how they perceived their preparedness before encountering fraud or ICMW. In contrast, the participants responded to questions regarding how they perceived their academic preparedness after they encountered fraud or ICMW in WEs. The principal investigator articulated some questions to probe accountants' views regarding the most valuable fraud training they received from their employers.

Additionally, the principal investigator asked the participants to recommend which fraud topics or courses educators should teach at universities. These last sets of questions were created to verify the answers to other questions. Finally, the principal investigator was careful to explore the participants' perceptions concerning internal control deeply. In this sense, prior studies found

that most accounting educators and practitioners agreed on internal control as the number one topic for FE (Daniels et al., 2013). Nevertheless, there are contradicting views in the literature about internal control education. Also, other researchers asserted that AIs rarely teach internal control topics (Appiah, 2015).

Structuring the interview questions in this manner were expected to result in the saturation of the topic of ICMWs and FE. The interview questions set is contained in Appendix H to allow future researchers to replicate this study. However, the principal investigator conducted a comprehensive literature review before interviewing the participants to gather additional information as a secondary source.

The secondary source of information. There were three major steps for collecting the information from the literature. First, the principal investigator conducted a library search in research databases by defining parameters about ICMWs and FE. Second, the search field was condensed if specific keywords returned results. Third, if the search did not return results, then a Google search was conducted.

Interview guide. The principal investigator created interview guide after reviewing the literature and studies about face-to-face, semi-structured interviews. The principal investigator used the interview guide to direct probing opportunities and follow-up questions (Yin, 2011; Shank, 2006; Alase, 2017). The components of the interview guide were designed to break down the research topic into smaller parts; and thereby, accountants' responses were not difficult to capture (Creswell & Poth 2018; Yin, 2011). The interview guide is available in Appendix H.

The set of research questions was expected to shed lights on the problem stated. In this sense, the problem is two-fold. The first side of the problem is that there is a lack of studies in the existing literature about accountants' lived experiences regarding how they detected and dealt

with fraud and ICMWs. The second side of the problem is that little is known about how accountants use their undergraduate education to respond to fraud and ICMWs appropriately (Byrne et al., 2014; Appiah, 2015). Specifically, there is a lack of understanding of how accountants perceive their undergraduate courses prepared them to detect fraud and respond to ICMWs (Lawson et al., 2014; Appiah-Sokye, 2016; Nwanyanwu, 2018). Therefore, all interview questions were articulated directly toward accomplishing the purpose of the study.

The principal investigator deemed that answering the research questions would benefit accounting educators to design more effective academic courses. Also, employers would benefit from the study by understating the strengths and weaknesses of their accountants' AE concerning fraud and ICMWs. Other potential beneficiaries included accounting practitioners and students.

The principal investigator employed several techniques to foster the reliability and validity of the interviews as an instrument for data collection. In this sense, the principal investigator developed the research questions before beginning the data collection process. Also, the research questions were articulated to accomplish the purpose of the study. Moreover, the principal investigator standardized the research questions. Another technique was submitting the research questions to Liberty University (LU)' IRB to gain approval before conducting the interviews. The principal investigator compared the accountants' responses to triangulate the data. An additional level of triangulation included contrasting participants' perceptions with prior views in the literature. Personal views can differ among participants; however, interviewing thirteen accountants helped the principal investigator to limit potential bias. Finally, the principal investigator encouraged the accountants to verify their responses for accuracy. In this sense, the principal investigator presented the participants with an opportunity to verify the collected data by allowing them to review the transcripts.

Field test. The principal investigator conducted a field test to ensure dependability and validity of the research questions. In this sense, three experts provided feedback about the wording of research questions. All experts were known personally to the principal investigator. One expert was an accounting educator, one expert was an accounting practitioner, and one expert was the principal investigator's dissertation chair who was an accounting professor and a CFE. The three experts were involved in the field test but not as participants. The feedback from the experts was used to enhance the research questions regarding wording, clarity, potential weaknesses, limitations, understandability, and appropriate terminology.

Data collection techniques. The principal investigator applied two data collection techniques for this study: (a) document review, and (b) interviews. Document review included reviewing any document that is expected to benefit the purpose of the study directly. Document review is one of the vital tools to collect data in qualitative case study research (Creswell & Poth 2018). Moreover, the researcher can employ document review to augment evidence from other sources in qualitative studies (Yin, 2011; Shank, 2006; Alase, 2017; Creswell & Poth 2018). Hence, the principal investigator reviewed specific books and articles that are related directly to the research questions. Consequently, the document review helped the principal investigator to triangulate and confirm specific findings emerged during the interviews.

Additionally, the principal investigator widened the scope of online library databases to mitigate the lack of relevant literature. Consequently, the documents reviewed included mainly ICMWs and fraud-related documents published by certain professional organizations such as AICPA, ACFE, and IIA. For example, documents reviewed included the existing literature, AICPA's Accounting Trends, ACFE Global fraud reports, and IIA's Global Internal Audit Surveys.

The critical data collection technique used was interviewing selected qualified participants. The principal investigator conducted semi-structured, face-to-face interviews with each participant in the focused sample (Yin, 2011; Creswell & Poth 2018). A pivotal rich form of data collection is interview-based data (Yin, 2011). Exploring carefully-selected multiple cases enabled the principal investigator to collect in-depth, detailed data. In this sense, each participating accountant was a case because each one had exclusive perceptions. Also, Yin (2011) confirmed that in multiple case studies, the researcher is recommended to replicate the research procedures among the participants. The principal investigator planned to study a sample of about ten participants because Mason (2010) stated that researchers could saturate the data by a sample size of twelve.

The interviews were face-to-face because Yin (2011), Shank (2006), and Alase (2017) confirmed that in-person interviews are more effective than telephone interviews in qualitative research. Additionally, interviews technique is used extensively in qualitative case study research (Yin, 2011). In this context, the principal investigator conducted interviews with accountants to explore their perceptions regarding their AE and professional preparedness to respond to fraud and ICMWs.

Each interview was in a conversational tone for a planned 45 minutes and according to pre-designed questions. Yin (2011) called such technique as focused interviews. The questions were open-ended questions to personalize the answers; and thereby, to fit the purpose of this qualitative study. All participants were selected carefully through a search on Google, Facebook, and LinkedIn and by using a combination of purposive snowball sampling and criterion sampling techniques. Many accountants promote themselves on social media in which they indicate their professional certifications, residence, years of experience, and email. The principal investigator

obtained the participants' email addresses and then contacted them to elicit participation in this qualitative study. Also, the principal investigator provided the selected participants with the needed information about the study to forward it to their colleagues who could provide valuable insights into the research questions.

After the completion of all protocols contained in the study based on LU' IRB approval (see Appendix J), the principal investigator sent an email (see Appendix G) to each participant. The principal investigator sent the emails (invitation letters) via LU email address. The email included certain requirements of the study, its purpose, an invitation to participate in the study (see Appendix G), and an attached consent form (see Appendix I). Then, the principal investigator conducted the interviews in reserved rooms at public libraries and assured privacy and confidentiality to interviewees to the extent of the law.

The principal investigator planned each interview to last about 30-60 minutes. The interviews techniques included using a digital voice recorder to audio record the semi-structured interviews. Then, the researcher transcribed verbatim the recordings within two days for further analysis. However, to preserve anonymity and confidentiality, the principal investigator pointed out to the participants that their names would be confidential (anonymous to people other than the principal investigator) by using pseudonyms.

Data organization techniques. The principal investigator adopted a system to organize the data since the beginning of the study (Merriam, 2009). The system was designed to serve several purposes that enhance effective data compilation and retrieval. For example, the system allowed the principal investigator to access any information or data whenever it is needed. Also, the system ensured data security.

Database components. The principal investigator generated mainly the data by interviewing thirteen participants and by reviewing certain documents. These two sources resulted in a vast amount of data that the principal investigator had to organize appropriately. The database in this multiple case study research included the following components: (a) narratives, (b) case study documents, (c) case study notes, and (d) tabular materials (Yin, 2011).

Narratives. The principal investigator created narratives from the transcripts of the interviews. The principal investigator recorded the face-to-face, semi-structured interviews with the thirteen participants using a digital voice recorder. Then, the principal investigator transcribed verbatim the recordings for further data analysis.

Case study documents. Case study documents were organized by using several techniques. The fundamental method was to use an annotated bibliography to summarize the significant points accompanied by notations of the numbers of paragraphs and pages to keep track of the hidden information. Additionally, the principal investigator used a cross-reference technique in the bibliography to support the triangulation. For example, “the third paragraph on page 7 contradicts with the comments made by accountant XZ concerning sub-question 4; however, it supports comments made by accountant KH regarding the second primary question.”

Case study notes. There were notes taken by the principal investigator during the interviews with the thirteen participants. Also, there were notes written during reviewing the interviews transcripts. Moreover, the principal investigator took some notes during reviewing certain documents. The principal investigator utilized colored post-it notes when it was appropriate to correspond to each emerging theme. The use of a digital audio recorder for research interviews did not eliminate the need for notes taking (Yin, 2011). Therefore, the principal investigator took enough notes using the researchers transcribing language that allowed

for minimal trust in memory (Creswell & Poth 2018; Yin, 2011). Additionally, the principal investigator compared the interview notes with the digital-audio recordings to resolve any possible differences (Yin, 2011; Shank, 2006; Alase, 2017).

Tabular materials. Tabular materials can include any data from the following: (a) archival data, (b) observational counts, or (c) surveys (Yin, 2011). However, the principal investigator utilized the tabular materials only to create a table of notes. The goal from the table was to help the principal investigator in categorizing and locating the notes taken during the study.

Privacy and data security. There were specific steps to protect the privacy of the participants. Also, there were other measures to secure the data. Some steps and measures were per the IRB protocols.

Privacy and anonymity. The principal investigator took specific steps to protect the privacy of the participants. The principal investigator conducted all interviews at public libraries in reserved rooms for privacy. Interviews were recorded by a digital voice recorder that is used only by the principal investigator. Then, the principal investigator transcribed verbatim the recordings within two days for further analysis. However, to preserve anonymity and confidentiality, participants' names were confidential by using pseudonyms. Additionally, all electronic files and paper documents related to the study were secured using strict measures.

Data organization included preserving the confidentiality, privacy, and anonymity of participants. In this sense, the principal investigator pointed out to the participants that their names would be confidential (anonymous to people other than the principal investigator) by using pseudonyms. Therefore, by assigning each participant a pseudonym, the documents did not contain participants identities. The principal investigator was still able to link individuals to

identifiable data; however, pseudonyms concealed their identities. Specifically, each participant was assigned a unique alphanumeric code.

The principal investigator maintained a list linking pseudonyms to participant identities. In this sense, the principal investigator stored the master list of pseudonyms under stricter security measures than other files related to the study. For example, it was also a password-protected file; however, it was accessible solely by the principal investigator. Moreover, the principal investigator did not store them with other data related to the study. In this sense, the principal investigator stored the master list of pseudonyms in a different locked cabinet inside the residence of the principal investigator who was the only person that has the key to the cabinet.

The risk to participants is minimal. There are no physical, psychological, economic, social, or legal risks. However, some participants might prefer to stay anonymous. Names of all participants were anonymous by using pseudonyms. Consequently, the only potential risk would be a breach of confidentiality if the master list of pseudonyms is lost or stolen. As a result, the principal investigator applied strict security measures to minimize this risk. In this sense, the principal investigator utilized a three-factor authentication system to secure the master list of pseudonyms. The first factor of authentication was storing the list on a Microsoft Word file that had a strong password. Second, the principal investigator stored the Word file on a portable USB thumb drive that had another strong password. Third, the USB thumb drive was stored in a different locked cabinet inside the residence of the principal investigator who was the only person that had the key to the cabinet. Consequently, the principal investigator maintained the data files and the master list of pseudonyms in two different locations.

Also, the principal investigator informed the interviewees that he would not share their responses with others without their explicit consent. Then, the principal investigator obtained

permission from each accountant before the recording of their voices. However, debriefing occurred at the end of the study to verify critical points. Before conducting the interviews, the principal investigator re-informed the accountants of how data collected would be secured and stored.

Data security. Data organization included also securing it through multiple precautions. The principal investigator coded most electronic data related to this study in Microsoft Word files and stored them on his personal laptop. The principal investigator utilized a two-factor authentication system to secure the data (Akram, Misbahuddin, & Varaprasad, 2012). The first factor of authentication was using a strong password for the laptop. The second factor was using a different strong password for all Microsoft Word files that contain data of the study.

Additionally, the principal investigator was the only one who had access to the laptop that contains the electronic files related to the study. Moreover, all passwords were being changed every three months to enhance confidentiality and security. In contrast, there were hard copy documents that were maintained using a different technique. Such documents were kept in a designated drawer in the desk of the principal investigator. The drawer had a lock, and its key was only in possession of the principal investigator. Alternatively, there was a backup of all electronic files contained in the laptop. The backup existed on a portable USB thumb drive that was stored securely in the designated drawer along with the hard copy documents. According to federal regulations and LU' IRB protocol, the principal investigator planned to maintain all research-related data for a minimum of three years after completion of the study.

Summary of data collection. The principal investigator collected the data through interviews and document review. However, conducting semi-structured, face-to-face interviews was the main instrument. The principal investigator was the core instrument in data collection

results interpretation. During the in-person interviews, the principal investigator asked open-ended questions to thirteen participants. The accountants were selected using a combination of purposive snowball sampling and criterion sampling techniques. There were strict measures to organize and secure the data to maintain credibility and confidentiality such as utilizing a two-factor authentication system.

Data Analysis

After collecting the data from the interviews and document review, the principal investigator started the data analysis process. The principal investigator had the ultimate responsibility of interpreting the data collected from the two sources. Generally, data analysis of case study research includes any of the following four methods: (a) examining rival explanations, (b) developing a case study descriptive framework, (c) using both qualitative and quantitative data, and (d) theoretical propositions (Creswell & Poth 2018; Yin, 2011). Also, Yin (2011) recommended the following five-phase approach to analyze the data: (a) compiling, (b) disassembling, (c) reassembling or arraying, (d) interpreting, and (e) concluding. The five-phase approach was adopted to analyze data of this study.

Data analysis approach was consistent with the purpose of this study, underlying conceptual framework, nature of the study, and all research questions (Yin, 2011; Shank, 2006; Alase, 2017; Creswell & Poth 2018). Also, the principal investigator relied on specific software (NVivo) to analyze and code the data. However, before the beginning of data analysis, the principal investigator set a detailed plan to ensure the effectiveness and efficiency of the process. Nevertheless, data analysis plan was created only after considering the following five techniques for data analysis: (a) cross-case synthesis, (b) time series analysis, (c) pattern matching, (d) logic models, and (e) explanation building (Creswell & Poth 2018; Yin, 2011).

The principal investigator used cross-case synthesis as the main technique for data analysis along with utilizing a combination of pattern matching and explanation building. In this context, cross-case synthesis technique was relied upon because this study is a multiple case study. Thus, there was a necessity to aggregate the findings among the multiple cases. Moreover, the principal investigator was trying to identify the causal links that explain how and why certain participants' perceptions changed before and after encountering ICMWs or fraud. 1

First step. The first step in data analysis was the transcription. All in-person interviews were audio recorded using a digital voice recorder. Then, the principal investigator transcribed verbatim the recordings within two days of conducting the interviews. Each transcript was provided to the respective participant to confirm the facts. By using member-checking, each participant had the opportunity to confirm or correct the responses at the end of the interview. Also, member-checking at the end of the whole research enabled the participants to validate their responses.

Second step. The second step in data analysis was comparing the interview notes with the recordings. Recording the interviews did not eliminate the need for notes taking (Yin, 2011). In this sense, there were notes generated from two sources to allow for minimal trust in memory (Creswell & Poth 2018; Yin, 2011): during the interviews, and from document review. Therefore, the principal investigator compared the notes with the digital-audio recordings to resolve any possible differences (Yin, 2011; Shank, 2006; Alase, 2017).

Third step. The third step was identifying the central themes of each participant. In this sense, Coding is classifying or sorting the qualitative information into themes or topics significant to the study (Creswell & Poth 2018). Therefore, the coding system enabled the principal investigator to categorize interview transcripts into several buckets based on keywords

or phrases (Yin, 2011). A comprehensive reading of each transcript included open coding with the purpose of identifying central themes (Merriam, 2009).

Coding and NVivo. The open coding technique enabled the principal investigator to ground the ideas from the data through an open-mind approach based on a strategy of keeping all thematic possibilities open when reading the data (Shank, 2006; Saldaña, 2013). However, open coding required several readings of each transcript to identify data needed to build and contrast the themes. Also, this step required analyzing and coding the data through a qualitative text analysis software tool, NVivo.

NVivo is an appropriate software for virtually all qualitative studies (Shank, 2006; Saldaña, 2013). Because it can provide metaphors, symbols, and imagery, the principal investigator used NVivo to extract words, phrases, or terms from the thirteen participants; and thereby, to build themes and concepts (Saldaña, 2013). In this sense, “crystallization” and “condensation” were expected to bring meaning to vital participants’ words (Saldaña, 2013, p. 92).

The principal investigator planned to study a sample of about ten participants with a maximum of twenty-five. This sample size was relatively large when compared to the findings of Dworkin (2012) who claimed that data saturation could happen by interviewing only five participants. Thus, the principal investigator utilized NVivo for the coding process during data analysis due to the relatively large number of participants and the semi-structured nature of the in-person interviews. In this context, the principal investigator was exploring the perceptions of each participant using NVivo. Additionally, the principal investigator used NVivo to obtain simple frequencies and percentages according to the emerging themes (Creswell & Poth 2018; Yin, 2011). Exploring the perceptions was the cornerstone to find the themes in the interview

transcripts of each participant. Moreover, the principal investigator sought to understand the reasoning behind each perception.

In the first-cycle coding, short words and phrases were placed in quotation marks to track participant-inspired codes rather than principal investigator-generated codes. In the second-cycle coding, the principal investigator developed the central themes from the first-cycle coding through pattern coding or meta-code. Pattern coding and matching also helped the principal investigator in triangulating the data. Therefore, a combination of content analysis technique and a cross-case synthesis enabled the principal investigator to conduct the second-cycle coding.

Triangulation. Triangulation is an analytic technique to corroborate a finding with evidence from two or more different sources (Creswell & Poth 2018; Yin, 2011). Additionally, triangulation included cross-referencing and checking the data among interviews and reviewed documents to find corroborative evidence to confirm or disconfirm the results of the study (Creswell & Poth 2018; Yin, 2011). The principal investigator cross-checked the interviews among participants.

As an example of coding, the literature review identified the practical application as one of the most effective educational methods to teach fraud and ICMWs to undergraduate students. Thus, the principal investigator mined through the participants' responses to identify those texts containing the associated keywords and synonyms captured in the literature.

Axial coding. The third step also included using axial coding to relate sub-themes and central themes to each other; and thereby, to narrow the number of themes (Creswell & Poth 2018; Yin, 2011). In this context, the principal investigator was providing a code number to each theme as they emerged. Additionally, each text related to a theme was marked using the code number of the respective theme. Simultaneously, the principal investigator was copying the

associated text to a summary table in which the principal investigator positioned the text under the appropriate heading. Also, in the summary table, the principal investigator noted anonymous identification of the accountant who provided the text.

As an example of axial coding, the principal investigator coded the perceptions related to internal control as “IC,” and marked each text found in the interview transcripts related to internal control with IC. Moreover, the principal investigator copied these texts to the data summary table under the heading, “IC – Internal Control.” The principal investigator replicated the axial coding process for each of the thirteen cases separately. The axial coding was a continuation of the initial coding work by gathering “fractured” data to create significant codes (Saldaña, 2013).

Fourth step. The fourth step was a cross-case analysis by comparing the themes among the participants. The unit of analysis is each entity the researcher is analyzing (Patton, 2002). Therefore, the principal investigator had thirteen units of analysis in addition to the documents reviewed. After identifying the central themes of each participant, the principal investigator contrasted each participant’s perceptions with those of other participants. The fourth step resulted in a master data summary table that aggregated the findings from each of the thirteen cases. Creating the master data summary table helped the principal investigator to prepare for the fifth step by summarizing the data to identify consistent and contradictory findings.

Data Saturation. Mason (2010) stated that, in a multiple case study, the researcher could saturate the data by a sample size of twelve. Thus, a guarantee of data saturation appeared when there were neither new themes nor any further information that could provide additional insights into the research questions (Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Creswell, 2009).

Goals. The fundamental goal of the fourth step was discovering the main themes and the sub-themes. Another goal was determining the differences in perceptions among the accountants. Moreover, the comparison was expected to help in understanding better the reasoning behind the themes. This review of the central themes resulted in developing a comprehensive narrative that was supposed to serve the purpose of the study.

The principal investigator sought to understand how participants perceived that their AE prepared them to respond to ICMWs and fraud encountered in WEs. However, that exploration was two-fold. First, the principal investigator was trying to explore the perceptions before encountering ICMWs or fraud. Second, the study included tracking the accountants' perceptions after encountering the ICMWs or fraud.

Additionally, there was an attempt to understand how and why the perceptions changed before and after such an encounter. In contrast, the principal investigator sought to find themes regarding which academic courses or topics were perceived as effective to prepare students for professional practice. Furthermore, there was a need to understand which educational topics or courses accountants perceived them as ineffective; and thereby, should be eliminated or receive less emphasis in the curricula.

Conversely, data analysis included determining which academic or courses were missing entirely in their AE. To serve this end, the principal investigator tried to identify specific themes about how OJT filled the gap in the participants' knowledge. Also, there was an exploration of how accountants think their employers perceive the effectiveness and weaknesses of AE concerning ICMWs and fraud.

The principal investigator was identifying some sub-themes regarding specific internal control topics perceived crucial to revolutionize the AE. In this context, prior studies found that

most accounting educators and practitioners agreed on internal control as the number one topic for FE (Daniels et al., 2013). Nevertheless, very little AIs had incorporated internal control into the curricula (Appiah, 2015). Consequently, all efforts behind themes identification were expected to serve the purpose of this study directly.

Fifth step. The fifth step in data analysis included an interpretation of data related to the research questions and the underlying conceptual framework. Data mining based on repeated keywords and phrases constituted the platform for the principal investigator to interpret interviews transcripts and to analyze the results of the study. In this context, the principal investigator reviewed the data summary table several times to determine the results of the study. Specifically, the principal investigator honed the efforts toward identifying the views most often and most significantly mentioned by the accountants.

To determine the universality of perceptions about AE, the principal investigator explored the relative consistency across the accountants. Themes were coded and interpreted according to the four elements of the conceptual framework of this study: (a) the Agency Theory, (b) the Fraud Triangle Theory, (c) the COSO Model, and (d) the Experiential Learning Model (ELM).

Summary of the data analysis. The principal investigator applied the five-phase approach recommended by Yin (2011) to analyze the data: (a) compiling, (b) disassembling, (c) reassembling or arraying, (d) interpreting, and (e) concluding. Also, the principal investigator used cross-case synthesis as the primary technique for data analysis along with utilizing a combination of pattern matching and explanation building. Additionally, the principal investigator used content analysis, which is a technique used to identify patterns in texts (Yin, 2011; Patton, 2002).

The first step in data analysis was the transcription. After recording the interviews, the principal investigator transcribed verbatim the recordings within two days of conducting the interviews. The second step in data analysis was comparing the interview notes with the recordings. The third step was identifying the central themes of each participant. In the third step, the principal investigator coded the data through a qualitative text analysis software tool, NVivo. The fourth step was a cross-case analysis by comparing the themes among the participants. The fifth step was an interpretation of data related to the research questions and the underlying conceptual framework.

Reliability and Validity

Yin (2001) asserted that the following are tests of quality in empirical research: (a) reliability, (b) internal validity (credibility), (c) external validity (generalizability or transferability), and (d) validity construct. Reliability means the research approach is consistent among different researchers, whereas validity means the research findings are accurate based on the data (Creswell & Poth, 2018; Paton, 2001; Yin, 2011). The principal investigator embedded the reliability and validity in every corner of this qualitative multiple case study research.

In this part of the study, the principal investigator evaluated the standards of research quality through a description of the significant steps and techniques followed to ensure the reliability and validity of the study. Reliability and validity are two measures of research rigor. They are ways to demonstrate the rigor and trustworthiness of quantitative and qualitative research (Roberts, Priest, & Traynor, 2006). Therefore, to draw valid conclusions from empirical studies, it is necessary to use assessment instruments that many researchers had previously tested them for validity and reliability (Ouzouni & Nakakis, 2011). However, reliability and validity are approached differently in qualitative and quantitative studies. The description here also includes

an explanation of strategies that resulted in the consistency of the findings of the study.

Furthermore, there are highlights of how data were saturated and triangulated.

Reliability. In qualitative research, reliability means the research approach is consistent among different researchers (Patton, 2001; Yin, 2011). Thus, reliability means that other researchers can repeat the study with the same findings with the same participants (Yin, 2011). That is, another researcher would arrive at the same results applying the same research approach. Hence, reliability is the stability of responses to multiple coders of data sets. Therefore, researchers can enhance the reliability by detailed field notes and open-ended questions (Creswell & Poth, 2018).

In contrast, in quantitative research, reliability refers to the consistency, stability, and repeatability of results; consequently, testing for reliability ensures that researchers would obtain consistent results in identical situations on different occasions (Twycross & Shields, 2004). Put differently, reliability in quantitative studies refers to the repeatability and reproducibility of measurements in producing a consistent result, the homogeneity of the quantitative instrument, and the degree to which it is free from random error (Ouzouni & Nakakis, 2011).

To enhance reliability in this qualitative study, the principal investigator documented the procedures for the collection, organization, and interpretation of the data. In addition to collecting data from popular qualitative sources of information (in-person interviews and document review), data were coded and analyzed using NVivo software, which can be used by other researchers.

Additionally, the principal investigator enhanced the reliability through several techniques. One technique was detailing the field notes through transcribing the digital files that

were recorded by a good-quality recording device. Another technique was recording and analyzing the data by computer programs. A third reliability technique was interpreting the findings carefully (Yin, 2011; Creswell & Poth, 2018).

Replication. Data interpretation and analysis were conducted in a way to foster credibility, trustworthiness, and transparency; and hence, the ability to replicate the study (Creswell & Poth 2018; Yin, 2011). Following the suggestions of Patton (2002) and Shank (2006) regarding ensuring the transparency, the principal investigator described and documented the research procedures to enable others to understand the procedures performed and how evidence supports the findings. The principal investigator rigorously documented the research procedures. Documentation enhanced the stability and integrity of the study (Yin, 2011; Patton, 2002).

Validity. In qualitative studies, validity means the research findings are accurate based on the data (Patton, 2001; Yin, 2011). Hence, several factors influence the validity; for example, the time spent in the field, the detailed description, and the closeness of the researcher to the participants (Creswell & Poth, 2018). Consequently, validation is more required in a case study, grounded theory, and ethnography than in narrative research (Creswell & Poth, 2018).

According to Creswell and Poth (2018), and Yin (2011), there are three lenses for validation strategies:

- Researcher's lens, which includes triangulation of multiple data sources, discovering disconfirming evidence, and clarifying researcher bias
- Participant's lens, which includes seeking participant feedback, prolonged engagement in the field, and collaborating with participants

- Reviewer's lens, which includes enabling external audits, generating a rich description, and peer review

In contrast, in quantitative studies, there are several measures of validity that provide evidence of the quality of a study; for example, internal and external validity relates to the overall study design (Twycross & Shields, 2004). Internal validity refers to the extent to which the design of a quantitative study is a good test of the hypothesis or is appropriate for the research question, whereas external validity relates to whether quantitative research findings can be generalized beyond the immediate study sample and setting (Twycross & Shields, 2004).

In this qualitative research, the principal investigator applied several validity constructs; for example, (a) corroborating evidence through triangulation of multiple data sources, (b) clarifying principal investigator's bias, (c) seeking participant feedback, and (d) generating a rich, thick description. Consequently, the principal investigator used at least one validation strategy from each lens category recommended by Creswell and Poth (2018), and Yin (2011). However, the principal investigator's chosen methods of validation were still cost-effective (Creswell & Poth, 2018). Additionally, the principal investigator ensured the validity of the findings and rigor of the research method by applying content analysis technique and cross-case synthesis method (Creswell & Poth 2018; Yin, 2011).

Credibility. Credibility means the findings are believable from the perspectives of the participants of the study (Patton, 2002; Shank, 2006). Internal validity, in quantitative research, is related to whether researchers measure what they claim to measure; however, in qualitative research, this is known as credibility (Creswell & Poth 2018; Yin, 2011). Credibility accompanied by consistency in the findings ensured that the participants' perceptions were believable (Yin, 2011; Patton, 2002).

One way to build credibility was to collect data only from trusted sources of information, which were interviewing selected qualified accountants, and reviewing certain documents. Selecting only participants who had rich experiences enhanced the credibility and authenticity of the results of the study. Moreover, the principal investigator maintained the credibility through the utilization of only well-designed research methods (Creswell & Poth 2018; Yin, 2011).

Member-checking. Member checks technique is the degree to which participants can confirm the results (Yin, 2011). The findings along with an interview transcript were provided to each respective participant to confirm the facts. By using member-checking, each participant had the opportunity to confirm or correct the responses; and thus, the accuracy of the study was improved. Member-checking enabled the participants to validate their answers; and thereby, the credibility and authenticity of the findings were enhanced. Additionally, member-checking ensured ethical relationships, and reinforced collaboration and rapport between participants and the principal investigator (Saldaña, 2013; Creswell & Poth 2018; Yin, 2011).

Field test. A field test was conducted to ensure dependability and validity of the research questions. In this sense, three experts provided feedback about the wording of research questions. The experts were an accounting educator, an accounting practitioner, and the principal investigator's dissertation chair. The three experts were involved in the field test but not as participants. The feedback from the experts was used to enhance the research questions.

Ethical protection. At the beginning of the first phase of the doctoral dissertation, the principal investigator was required to complete mandatory courses conducted by CITI. Also, the principal investigator started contacting the potential participants only after obtaining the approval from LU' IRB (see Appendix J). The IRB reviews all research involving human

participants to ensure the privacy, confidentiality, and safety of participants. The federal government regulates the human subjects research through the Department of Health and Human Services' Office for Human Research Protections. Thus, LU' IRB works to ensure that each research is per federal regulations and university policy. Consequently, the principal investigator recruited and consented all participants according to the protocol approved by the IRB.

Before performing the interviews, the principal investigator obtained informed consent from each participant to ensure that accountants understood the benefits and risks pertinent to participation in the study. The principal investigator took certain measures to assure that the participants' ethical protection is adequate. For example, the principal investigator refrained from asking personal or proprietary questions. Also, the principal investigator obtained permission from each accountant before recording their voices. Privacy and confidentiality to interviewees were ensured using several measures.

In contrast, before conducting the interviews, the principal investigator re-informed the participants of their protection rights and reminded them of the voluntary nature of their participation. At any time during the interview, if a participant chooses to leave the study, pertinent data will be withdrawn from the study. The principal investigator will destroy the related data permanently and will add a note to the master list of pseudonyms indicating the leave. Thus, the principal investigator will delete all related recordings, notes, transcripts, and findings.

Generalizability. External validity is the degree to which the findings generalize to other populations (Yin, 2011; Patton, 2002). In this sense, generalization is the degree to which the findings are valid for members of the population excluded from the sample (Patton, 2002;

Shank, 2006). Additionally, relying on two different popular sources of information (interviews and document review) augmented the credibility and transferability of the findings by providing more robust data (Saldaña, 2013).

Trustworthiness. To enhance trustworthiness, the principal investigator took cognizance of diversified views and different realities in a balanced, conscientious, and fair manner (Yin, 2011; Patton, 2002; Creswell & Poth 2018; Shank, 2006). Therefore, the principal investigator applied all criteria that measure trustworthiness: applicability, consistency, neutrality, and truth-value (Shank, 2006; Patton, 2002). Also, Yin (2011) and Shank (2006) indicated that researchers could reflect trustworthiness through dependability, confirmability, transferability, and credibility. Dependability is evident because the principal investigator left an audit trail to enable the readers to assess the extent to which appropriate research techniques were applied (Yin, 2011; Patton, 2002).

Data saturation. Each participant was a case because each accountant had exclusive perceptions. Several research methodologists, such as Mason (2010), stated that, in a homogeneous group in a qualitative study, researchers could saturate the data by a sample size of twelve. Thus, the principal investigator was ready to study a sample of thirteen participants to exceed the minimum requirement in similar qualitative multiple case studies. However, the principal investigator's goal was the richness of the data because richness is more critical for data saturation than quantity (Patton, 2002; Shank, 2006).

During the sampling process, the principal investigator was adding more qualified participants using purposive snowball sampling until reaching data saturation. In this sense, the principal investigator planned not to stop the recruiting process if he was still discovering new theme or information (Creswell & Poth 2018; Yin, 2011; Creswell, 2009). Thus, the principal

investigator kept replicating the interviewing process of the qualified participants until data saturation occurred. When reviewing the thirteenth participant, the principal investigator was sure that no further information would appear that could provide additional insights into the research questions (Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Creswell, 2009).

Triangulation. Triangulation is an analytic technique to corroborate a finding with evidence from two or more different sources (Creswell & Poth 2018; Yin, 2011). Pattern coding and matching helped the principal investigator in triangulating the data. Triangulation helped the principal investigator to validate the findings by ensuring the data obtained from multiple cases is consistent among themes, perceptions, and documents. Additionally, triangulation included cross-referencing and checking the data among interviews and reviewed documents to find corroborative evidence to confirm or disconfirm the results of the study (Creswell & Poth 2018; Yin, 2011).

Triangulation subjected the study findings to scrutiny with evidence from different sources (Saldaña, 2013). In this sense, the principal investigator cross-checked participants' interviews with documents reviewed. Also, the principal investigator cross-checked the interviews among participants. Because of these two phases for cross-checking, triangulation led to the emergence of converging lines of evidence that made the findings robust and consistent; and thereby, the research rigor (Saldaña, 2013; Creswell & Poth 2018; Yin, 2011).

In addition to cross-checking, another technique was member-checking. By using member-checking, each participant had the opportunity to confirm or correct the responses at the end of each interview; and hence, the accuracy of the study was improved. Also, member-checking at the end of the whole research enabled the participants to validate their responses; and thereby, the credibility of the study was enhanced. Additionally, member-checking ensured

ethical relationships, and reinforced collaboration and rapport between participants and the principal investigator (Saldaña, 2013; Creswell & Poth 2018; Yin, 2011).

Reliability and validity from a Christian perspective. Demonstrating validity and reliability agrees with the biblical instructions that require every human to seek the truth. "Then you will know the truth, and the truth will set you free" (John 8:32 NIV). Therefore, researchers should show integrity and conduct every aspect of the study in a trustworthy manner. "In everything set them an example by doing what is good. ... so that those who oppose you may be ashamed because they have nothing bad to say about us" (Titus 2:7-8 NIV). Moreover, researchers who make sure that their studies are valid and reliable will have research rigor following their righteous behaviors. Hence, these researchers will be free from any fear. "Whoever walks in integrity walks securely, but whoever takes crooked paths will be found out" (Proverbs 10 NIV). Consequently, researchers who seek truth in their studies are glorifying God in every aspect of their findings because God's words are the truth.

Summary of reliability and validity. Reliability means other researchers can repeat the steps of the study with the same findings with the same participants (Yin, 2011). To enhance reliability, the principal investigator documented the procedures for the collection, organization, and interpretation of the data. Rigorous documentation of research procedures enhanced the stability and integrity of the study (Yin, 2011; Patton, 2002).

Validity means the research findings are accurate based on the data (Patton, 2001; Yin, 2011). Thus, the principal investigator applied several validity constructs; for example, (a) corroborating evidence through triangulation of multiple data sources, (b) clarifying principal investigator's bias, (c) seeking participant feedback, and (d) generating a rich, thick description (Creswell & Poth, 2018; Yin, 2011).

To avoid participants' bias, the principal investigator had to let the participants confirm the accuracy of their responses by several techniques. For example, asking the question in different wording or by reading the responses back to them and carefully noticing their body languages (Dworkin, 2012; Shenton & Hayter, 2004; Mason, 2010). Furthermore, the principal investigator took specific measures to assure that the participants' ethical protection is adequate. However, the principal investigator avoided unintended personal bias because the researcher's interpretations in qualitative studies are not separate from the researcher's backgrounds and previous experiences (Zucker, 2009; Patton, 2002; Yin, 2011; Creswell & Poth, 2018).

The principal investigator kept replicating the interviewing process of the qualified participants until data saturation occurred. When reviewing the thirteenth participant, the principal investigator was sure that no further information would appear that could provide additional insights into the research questions (Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Creswell, 2009). Alternatively, triangulation helped the principal investigator to validate the findings by ensuring the data obtained from multiple cases is consistent among themes, perceptions, and documents.

Transition and Summary of Section 2

In Section 2, the principal investigator re-emphasized that the purpose of the study is to explore how accountants perceived their undergraduate courses prepared them to respond to fraud and ICMWs encountered in WEs. Also, the principal investigator justified why this research is a qualitative exploratory multiple case study.

The principal investigator explained the population of the study. Each participant met the following criteria: (a) should be a CPA, (b) has worked as an accountant in a major mid-Western metropolitan area for at least the past three years, and (c) has experienced accounting fraud or

ICMWs in WEs. However, a combination of purposive snowball sampling and criterion sampling techniques was applied to select the qualified accountants. Data saturation occurred by interviewing thirteen participants.

The principal investigator was the core instrument to collect data through in-person interviews and document review. The principal investigator asked the participants open-ended questions during semi-structured, face to face interviews. Three experts field-tested the questions.

The principal investigator collected data according to specific techniques. Then, the principal investigator analyzed the data through a process of five steps. NVivo software was used to code and analyze the data. However, in every corner of the study, the principal investigator applied several procedures to enhance the reliability and validity of the findings. The next section presents the findings of the study and applications to professional practice.

Section 3: Application to Professional Practice and Implications for Change

First, Section 3 contains an overview of the study and the anticipated themes. Then, it presents the findings of the study. Additionally, Section 3 suggests applications to professional practice, recommendations for action, and recommendations for further study. Finally, Section 3 concludes with an overall summary and reflections from the principal investigator.

Overview of the Study

Business organizations lose about 5% of their revenues annually due to fraud, which can exceed 3.5 trillion (USD) worldwide (Elder, 2018; Rezaee & Jim, 2017). External auditors usually detect only about 5% of fraud cases; however, the rate declines to just 4.2% in the U.S. (Brazel, Jones, & Prawitt, 2014; Harold, Roger, & Laury, 2010). According to the ACFE, the presence of anti-fraud controls correlates with lower losses and quicker FD. Moreover, the concept of ICMWs has become a fundamental issue for businesses due to the strong association between IC and fraud revelation (Burke & Sanney, 2018; Donelson et al., 2017). However, most AIs do not have a separate course or program in fraud, ICMWs, or FA (Daniels et al., 2013).

The principal investigator noticed a scarcity in the existing literature concerning accountants' lived experiences regarding how they detected and dealt with fraud and ICMWs. Specifically, there is a lack of understanding of how accountants perceive the effectiveness of their AE in preparing them to detect fraud and respond to ICMWs (Lawson et al., 2014; Appiah-Sokye, 2016; Nwanyanwu, 2018). To accomplish the purpose of the study, the principal investigator designed two research questions. The first question was about how accountants perceive their weaknesses in detecting and responding to fraud or ICMWs within their organizations. The second research question was about how accountants perceive the effect that their education has had on their preparedness to detect and respond to fraud and ICMWs.

This research is a qualitative exploratory multiple case study. The principal investigator incorporated subjectivity and interpersonal skills when examining the participants to understand their individual views. Therefore, the preferred method of this study was a qualitative one. Also, the research was exploratory because the existing literature contains few studies about the topic. Additionally, each participant had a unique experience regarding fraud and academic preparation; thus, the research was a multiple case study because each one of the selected participants was a case. Furthermore, the principal investigator rejected the other four designs of the qualitative method because they were not appropriate to serve the purpose of the study. Moreover, the principal investigator rejected a quantitative method because the study contained subjective content that is not measurable using standard, quantitative metrics and hence it cannot be tested (Hagan, 2014).

The principal investigator applied the following steps to recruit the participants:

- A- On January 22, 2018, the principal investigator started developing the conceptual framework for the study after obtaining an understanding of the topics and opinions related to occupational fraud, ICMWs, FA, and FE. Hence, the initial step was a review of the associated professional and scholarly articles in the existing literature.
- B- The principal investigator obtained LU' IRB approval on August 13, 2018 (see Appendix J).
- C- The principal investigator searched for accountants on LinkedIn, Facebook, and Google.
- D- The principal investigator filtered the accountants to include only those who meet the three selection criteria. To accomplish the purpose of the study, each

participant had to meet, in minimum, three eligibility criteria: a CPA, with three years' experience in accounting, and had experienced accounting fraud or ICMWs in WEs.

- E- The principal investigator re-filtered the accountants to concentrate on those who had professional certifications or those who appeared to have the potential to support better the purpose of the study. For example, experience with fraud or IC demonstrated at the accountant's LinkedIn profile, AE related to fraud or IC, or work related directly to fraud or IC.
- F- The principal investigator prepared a list of 314 potential participants and gathered their contact information.
- G- On September 12, 2018, the principal investigator received permission from LU to start the field study.
- H- On September 13, 2018, the principal investigator sent recruitment letters to the 314 accountants via e-mails (see Appendix G) to invite them to participate in the study. However, out of the 314 e-mails sent, fifteen e-mails returned to the principal investigator as undelivered. Also, the principal investigator received three automatic e-mails as "out of office." These facts decreased the "active" number of sent e-mails to 296.
- I- Out of the 296 potential participants, only twenty-four accountants showed interest to participate in the study. Two-hundred seventy-two potential accountants, representing 92%, never responded to the invitation to participate. According to DiGabriele (2016), participants' high non-response rate is an inherent attribute of research.

- J- The principal investigator resent the invitation letter to the 272 potential accountants. However, their response rate remained 0%.
- K- The principal investigator contacted the twenty-four accountants to confirm their potential benefit to the study. However, the principal investigator recruited only seven accountants out of the twenty-four due to the following reasons. One accountant stated later that his bachelor's degree is from an overseas university. One accountant accepted to participate; however, he no longer responded to e-mails to schedule the interview. One accountant claimed she became sick. One accountant changed her mind and stated she no longer had time for a face-to-face interview; however, she still accepted to conduct a phone interview. Alternatively, three accountants looked unprepared enough to benefit the study due to their odd inquiries about the interview questions. One accountant indicated that, one year ago, he moved and became a resident of another state but was still ready for a phone interview. One accountant was on a trip to another state. Eight accountants appeared as if they would not benefit the purpose of the study based on their experience with fraud or ICMWs encountered in WEs.
- The principal investigator preferred to select only accountants who are CPAs and hold bachelor's degrees from a U.S. academic institution to have a homogeneous group of participants. The implied reason was that the principal investigator was to replicate the interviewing procedures among the selected cases. Each participant was a case because each one has an exclusive perception. Put differently; the principal investigator preferred to select each accountant based on the lived experience regarding his/her U.S. AE and encountered fraud or ICMWs.

- L- The principal investigator asked the seven participants to refer their colleagues who could meet the selection criteria particularly those who experienced fraud or ICMWs. Creswell and Poth (2018) indicated that researchers could select the sample in qualitative studies in a deliberate manner called purposive sampling in which the researcher selects only information-rich cases to gain in-depth understanding concerning the purpose of the qualitative study. Additionally, Yin (2011) pointed out that the researcher in purposive snowball sampling asks the participants to recommend other useful candidates who would add value to the study. In this sense, the principal investigator provided the first selected participants with the needed information about the study to forward it to their colleagues who could provide valuable insights into the research questions. There was no need to obtain a modification approval from LU' IRB because the original approval included recruiting the participants using a combination of purposive snowball sampling and criterion sampling techniques.
- M- The principal investigator contacted all referred accountants via e-mails (see Appendix G) to invite them to participate in the study. Paradoxically, sixteen participants showed interest to participate in the study. That number was greater than the number of accountants recruited directly through LinkedIn and Facebook. The principal investigator inferred that recruiting participants through snowball sampling technique was easier than the technique based on social media. The reason was the social networks among members of the accountancy fraternity. The principal investigator arranged a second list of those accountants and ranked them according to their potential added value to the study (see Step E). The principal

investigator would use this list as a backup if the information collected from the first list were not enough to saturate the data.

- N- The principal investigator started conducting semi-structured, face-to-face interviews with each of the seven participants.
- O- After conducting seven interviews, the principal investigator was not able to saturate the data. Thus, the principal investigator started to invite the referred accountants according to the second list (see Step M).
- P- Evidence of data saturation appeared after conducting the eleventh interview. Nevertheless, the principal investigator decided to conduct two additional interviews to add more evidence of data saturation and triangulation. In this context, there is no consensus in the literature about the exact number of participants in qualitative research.

Few researchers, such as Dworkin (2012), claimed that a sample size of five participants is acceptable in qualitative research. Conversely, Fontenot (2013) insisted that fifteen to twenty-five participants is the acceptable range for qualitative case studies. Nevertheless, several research methodologists suggested that the exploration of perceptions in a homogeneous group requires to interview twelve participants for data saturation to occur (Creswell & Poth 2018; Yin, 2011; Creswell, 2009; Cazan, 2012; Hagan, 2014). The principal investigator stopped conducting the interviews after substantial evidence of data saturation reappeared when conducting each of the twelfth and the thirteenth interviews.

On September 13, 2018, the principal investigator started the field study after obtaining LU' IRB approval and receiving administrative permission from LU to start the field study. The

field study ended on October 20, 2018, spanning 38 days. The principal investigator applied the following techniques to conduct the thirteen interviews:

1. The principal investigator created an interview guide (see Appendix H) after reviewing the literature and studies about face-to-face, semi-structured interviews. The principal investigator used the interview guide to direct probing opportunities and follow-up questions (Yin, 2011; Shank, 2006; Alase, 2017). The principal investigator designed the components of the interview guide specifically to break down the research topic into smaller parts; and thus, accountants' responses were not difficult to capture (Creswell & Poth 2018; Yin, 2011).
2. The principal investigator afforded an opportunity to the participants to familiarize themselves with the interview protocols before the interviews. Also, after scheduling each interview, the principal investigator sent the research questions immediately to each participating accountant to prepare him/herself mentally for the in-depth interview.
3. The principal investigator and each participant agreed on the specific location, date, and time of the interview. The principal investigator conducted the interviews in reserved rooms at public libraries near the works or residences of the participants for their convenience.
4. At the beginning of each interview, the principal investigator assured privacy and confidentiality to the interviewees to the extent of the law. Also, before performing the interviews, the principal investigator obtained informed consent from each participant to ensure that they understood the benefits and risks pertinent to participation in the study (Consent Form is available in Appendix I).

5. Within about 40-minute timeframe, the principal investigator asked the interview questions set that included 40 open-ended questions. One interview took only 31 minutes, but another one required 67 minutes. The use of a digital voice recorder enabled the principal investigator to audio record all interviews after obtaining consent from each accountant. The principal investigator conducted the first interview on September 22, 2018. On average, the principal investigator was conducting three interviews each week.
6. The principal investigator transcribed verbatim each recorded interview within two days of conducting the interviews. The principal investigator transcribed most parts of the interviews manually and saved the transcripts as Microsoft Word files. The principal investigator offered each participant a voluntary one set of handwritten transcripts or a digital audio recording of the respective interview. Also, the principal investigator achieved member-checking by repeating accountants' responses back to them.
7. The principal investigator adopted a system to organize the data since the beginning of the study (Merriam, 2009). The system was to serve several purposes that enhance effective data compilation and retrieval.
8. The database in this study included the following components: (a) narratives, (b) case study documents, (c) case study notes, and (d) tabular materials (Yin, 2011).

The principal investigator created the data analysis plan after considering the following five techniques for data analysis: (a) cross-case synthesis, (b) time series analysis, (c) pattern matching, (d) logic models, and (e) explanation building (Creswell & Poth 2018; Yin, 2011). Also, the principal investigator adopted a five-phase approach recommended by Yin (2011) to

analyze the data: (a) compiling, (b) disassembling, (c) reassembling or arraying, (d) interpreting, and (e) concluding. Furthermore, the principal investigator used content analysis, which is a technique used to identify patterns in texts (Yin, 2011; Patton, 2002).

The coding system enabled the principal investigator to categorize interviews' transcripts into several buckets based on keywords or phrases (Yin, 2011). This step required analyzing and coding the data openly through a qualitative text analysis software tool, NVivo. In this sense, the principal investigator expected that NVivo and open coding would help in the "crystallization" and "condensation" of main themes to bring meaning to vital participants' words (Saldaña, 2013, p. 92). Additionally, the principal investigator used NVivo to obtain simple frequencies and percentages according to the emerging themes (Creswell & Poth 2018; Yin, 2011).

In addition to open coding, the principal investigator used axial coding to relate sub-themes and central themes to each other; and thereby, to narrow the number of themes (Creswell & Poth 2018; Yin, 2011). The axial coding was a continuation of the initial coding work by gathering "fractured" data to create significant codes (Saldaña, 2013). These techniques helped in lowering the number of themes by sorting sub-themes under the main themes.

The principal investigator incorporated data triangulation, which is an analytic technique to corroborate a finding with evidence from two or more different sources (Creswell & Poth 2018; Yin, 2011). In this context, triangulation included cross-referencing and checking the data among interviews and reviewed documents to find corroborative evidence to confirm or disconfirm the findings of the study (Creswell & Poth 2018; Yin, 2011). The principal investigator cross-checked the interviews among participants. To validate the study findings, the principal investigator triangulated the field data by using several secondary sources. For example, the principal investigator corroborated the findings with evidence from the existing

literature, AICPA's Accounting Trends, ACFE Global fraud reports, and IIA's Global Internal Audit Surveys. Also, data analysis included a cross-case analysis by comparing the themes among the participants.

The principal investigator coded and interpreted the themes according to the four elements of the conceptual framework of this study: (a) the Agency Theory, (b) the Fraud Triangle Theory, (c) the COSO Model, and (d) the Experiential Learning Model (ELM). A guarantee of data saturation appeared when there were neither new themes nor any further information that could provide additional insights into the research questions (Yin, 2011; Mason, 2010; Baxter & Jack, 2008; Creswell, 2009).

Anticipated Themes/Perceptions

The open coding technique enabled the principal investigator to ground the ideas from the data through an open-mind approach based on a strategy of keeping all thematic possibilities open when reading the data (Shank, 2006; Saldaña, 2013). However, before starting to conduct the interviews, the principal investigator tried to adopt an open-thinking mind when anticipating the themes and perceptions of the participants. There were specific themes the principal investigator expects to hear during the interviews. Nevertheless, there were also contradicting anticipations regarding the flow of the themes. For example, the principal investigator was expecting the participants to indicate that their undergraduate education did not prepare them appropriately to detect fraud or ICMWs. However, the principal investigator also anticipated that some participants might indicate that it is impossible for undergraduate education to equip the students with enough knowledge for FD. Those participants might indicate that the graduate program is the one suitable to resolve the gap in academic learning.

The principal investigator was anticipating the participants to point out that the AE failed in preparing students to fight the fraud appropriately. However, the principal investigator was ready to hear a contradicting view, that Auditing courses sufficiently introduce students to FD. Those students might justify their opinions that students who are interested in FD can proceed to a master's program in that field after obtaining a fundamental knowledge in Auditing courses.

Similarly, the principal investigator was anticipating contradicting perceptions regarding ethics education. Some participants might indicate that ethics education is more than enough. In contrast, some participants might insist that there is a crisis in ethics education and that ethics topics should be integrated more into the curriculum. However, there was uncertainty about participants' views regarding what amount of ethics education will constitute "enough." Also, there was anticipation to hear the participants indicating that they had several ethics topics in their academic study. However, the principal investigator was curious to explore whether the latter participants considered their ethics education effective.

There was an anticipated theme that participants would assert the importance of integrating FD into the curriculum. However, the principal investigator planned to explore whether there would be a majority among the participants regarding the best way to do that. In this context, there might be a majority that the best way to teach FD is through a stand-alone course. However, there was an anticipated ambiguity regarding whether participants would suggest a need to teach fraud in more than one stand-alone course.

Also, a major ambiguity concerning the anticipated themes was regarding how to teach the IC and whether accountants realize they had a gap in their AE when it comes to IC. Some participants might state that there were no academic weaknesses in teaching IC. Alternatively,

some might emphasize that topics in IC are more important than topics in ethics or even in fraud. Conversely, some accountants might suggest that it is beyond the scope of AIs to teach IC.

Solid anticipation was regarding supporting the AE by more practical applications. However, the principal investigator was eager to explore whether the participants would have beneficial ideas concerning how to teach fraud topics effectively. Also, the principal investigator sought to understand whether participants might suggest that universities should teach theoretical topics in fraud at the undergraduate level, whereas the professors should concentrate on practical applications at the graduate courses.

A justified anticipated theme was that participants would suggest introducing a new specialty program in FD. However, the principal investigator was ready to ask the participants whether they perceive the program to be a bachelor's degree or above that. Also, the principal investigator planned to posit a question regarding whether accountants prefer the specialty education in fraud to be only through professional certifications rather than academic programs.

There was an anticipated theme that interviewees would express their views regarding OJT they received regarding fraud and ICMWs. However, it was not clear that participants would consider OJT as a complement or as a substitute for academic learning. Also, the principal investigator expected to ask the participants whether they perceived their OJT as sufficient or not.

Some anticipated themes required percentages to add value to the study. For example, the principal investigator expected the participants to provide themes about how they detected fraud. However, there was a necessity to know the ratio of participants who detected fraud by coincidence vs. those who investigated red flags based on AE. Also, there was an open coding

technique to know whether there were other methods that enabled the accountants to detect fraud or ICMWs in WEs.

The principal investigator was anticipating a theme about the failure of AE in adding real value to students in their efforts against fraud. However, the principal investigator anticipated to code a theme regarding whether the accountants had viable perceptions about how to make the AE more effective. In this regard, the principal investigator sought to understand whether accountants would be able to provide innovative ideas according to their unique experiences with fraud encountered in WEs.

An anticipate theme was to hear the accountants stating only broad ideas regarding what topics the universities should teach. However, the principal investigator was ready to add sub-themes if participants indicated specific techniques; for example, what specifically the universities should teach under the topic “APs.” Also, there was an anticipation that participants would emphasize popular audit techniques, such as bank reconciliation. Alternatively, there was an anticipation that participants would suggest some more advanced techniques, such as Benford’s Law.

There was an ambiguity concerning whether participants would recommend specific cases for anti-fraud education. In other words, there was a theme that participants might remember certain cases they learned at the university and had a major impact on their preparation to fight fraud. Also, most scholars in the literature indicated that FE had a greater impact on females than males. Consequently, the principal investigator expected to know whether the participants recognized this fact. Alternatively, the principal investigator was hoping that some participants would have a terminal degree. In this sense, the principal investigator was hoping to articulate a theme on whether doctoral degrees added more value to participants to

detect fraud or to respond to ICMWs appropriately. Another theme was about whether accountants accept the responsibility to detect fraud or ICMWs. Moreover, the principal investigator was anticipating a theme regarding what were the mistakes participants realized in AE regarding fraud and ICMWs. A more complicated theme was expected about whether participants realized any justifications of why American external auditors detect fewer fraud cases than the worldwide average.

Presentation of the Findings

To support the quality of this study, the principal investigator set three strict selection criteria to select the participants. The high-quality eligibility criteria resulted in each of the selected participants to hold a master's degree, a CPA license, a professional experience in accounting in a major Mid-western metropolitan area, and experience with fraud or ICMWs in WEs. The principal investigator pointed out to the participants that their names would be confidential by using pseudonyms. Therefore, the principal investigator assigned the following names to the participants: Leah 4, Ava, George, Jack, John 7, Ethan, David, Mason, Michael, Daniel, Paul, Thomas 8, and Arthur 7. The principal investigator categorized participants' responses based on the terms emerged directly from the participants' indigenous words and phrases. Also, the principal investigator assigned codes to demographic data, such as gender, age, AE, year of graduation, the location of the academic institution, professional certification, and years of experience.

Participants' demographic characteristics revealed the following facts (see Table 1):

- All participants' ages were above twenty-nine and under fifty-four even though the study was open to any participant above eighteen who meets the three selection criteria.

- According to the three selection criteria, all participants were CPAs
- No participant held a terminal degree.
- All participants held master's degrees.
- All participants' master's degrees were in fields of business and from schools accredited by AACSB or ACBSP. However, not all master's degrees were in accounting.
- All participants finished their undergraduate studies before the year 2011.
- All Participants finished their master's degrees before the year 2016.
- More than 50% of the participants finished their bachelor's degrees between 1991 and 1998.
- More than 50% of the participants finished their master's degrees between 1995 and 2004.
- Female participants constituted only two participants (15%) whereas 85% of the participants were males (eleven participants).
- All participants held bachelor's and master's degrees conferred from U.S. AIs.
- The participants attended AIs predominantly at Illinois, making up 62% (eight participants). The remaining states were: Indiana, Wisconsin, Ohio, Iowa, and one from an online university based in Arizona.
- Some participants hold other certifications. They were, CFE, CIA, CISA, CMA, CFF (Certified in Financial Forensics), and CSOE (Certified Sarbanes Oxley Expert).
- All participants work at different organizations at the times of the interviews.

Table 1

Participants' Demographic Characteristics

Pseudonym	Gender	Bachelor's Degree	Master's Degree	CPA	Other Certification	Experience with Fraud or ICMWs in WEs	At Least Three Years' Experience of Accounting in a Major Midwestern Metropolitan Area
Leah 4	Female	Yes	Yes	Yes	CFE	Yes	Yes
Ava	Female	Yes	Yes	Yes	N/A	Yes	Yes
George	Male	Yes	Yes	Yes	CIA, CISA	Yes	Yes
Jack	Male	Yes	Yes	Yes	CMA	Yes	Yes
John 7	Male	Yes	Yes	Yes	CFE, CIA, CSOE	Yes	Yes
Ethan	Male	Yes	Yes	Yes	N/A	Yes	Yes
David	Male	Yes	Yes	Yes	CIA	Yes	Yes
Mason	Male	Yes	Yes	Yes	N/A	Yes	Yes
Michael	Male	Yes	Yes	Yes	CIA, CSOE	Yes	Yes
Daniel	Male	Yes	Yes	Yes	N/A	Yes	Yes
Paul	Male	Yes	Yes	Yes	N/A	Yes	Yes
Thomas 8	Male	Yes	Yes	Yes	CFE, CIA	Yes	Yes
Arthur 7	Male	Yes	Yes	Yes	CFE	Yes	Yes

Open coding enabled the principal investigator to explore the participants' perceptions searching for any unanticipated theme. Alternatively, axial coding enabled the principal investigator to relate the main themes to the research questions. Then, the principal investigator sought for minor themes and sorted them according to the main themes. Additionally, the principal investigator was interested significantly in finding views regarding how to enhance AE related to fraud and ICMWS. In this sense, axial coding enabled the principal investigator to relate sub-minor themes to minor themes emerged in that regard.

The use of open coding, axial coding, data mining, cross-case analysis, and content analysis enabled the principal investigator to find enough themes to answer the research questions and to saturate the data. This study relied on two research questions. In total, eight

main themes emerged in this study. Five main themes emerged concerning the first research question. Alternatively, three main themes emerged concerning the second research question.

There were sixteen minor themes related to the first research questions as follows:

- Seven minor themes related to one main theme
- Two minor themes related to a second main theme
- Two minor themes related to a third main theme
- Three minor themes related to a fourth main theme
- Two minor themes related to a fifth main theme

Alternatively, in the context of the main themes related to the second research questions, there were twelve minor themes as follows: (a) three minor themes related to one main theme, (b) three minor themes related to a second main theme, (c) and six minor themes related to a third main theme. These facts resulted in twenty-eight minor themes concerning the two research questions. Additionally, the principal investigator tried to add value to the existing literature regarding FE. Therefore, the principal investigator directed the flow of the interviews to ask questions regarding how the participants perceived any possible solutions to enhance the AE. The participants suggested several methods and important topics to enhance AE related to fraud and ICMWs. These efforts enabled the principal investigator to concentrate on six minor themes out of the twenty-eight. The concentration resulted in many sub-minor themes related to those six minor themes. The six minor themes are: (a) effective strategies and methods to teach fraud, (b) teaching certain topics to detect fraud, (c) competencies needed by business graduates, (d) effective methods to teach IC, (e) teaching certain topics to detect ICMWs, and (f) how to enhance OJT.

Table 2 presents the eight main themes according to the two research questions. Table 3 presents the twenty-eight minor themes according to the eight main themes. Table 4 presents the significant six minor themes that include sub-minor themes. Tables 5, 6, 7, 8, 9, and 10 present detailed, sub-minor themes emerged from the six unique minor themes (see Table 15).

Table 2

Research Questions and Main Themes

RQ1.	How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or ICMWs within their organizations?	Five main themes (see Table 3)
RQ2.	How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive the effect that their individual education has had on their preparedness to detect and respond to fraud and ICMWs?	Three main themes (see Table 3)

Table 3

Main Themes According to the Research Questions

Research Questions	Main Themes	Minor Themes	Frequency
RQ1.	Recognizing the strength or weakness in knowledge	Seven minor themes (see Table 4)	100%
	Weaknesses in AE related to fraud	Two minor themes (see Table 4)	77%
	Weaknesses in AE related to ICMWs	Two minor themes (see Table 4)	100%
	Recommendations to enhance AE related to fraud	Three minor themes (see Table 4)	100%
	Recommendations to enhance AE related to ICMWs	Two minor themes (see Table 4)	62%
RQ2.	Strengths in AE related to fraud	Three minor themes (see Table 4)	77%
	Strengths in AE related to ICMWs	Three minor themes (see Table 4)	54%
	Effects of OJT	Six minor themes (see Table 4)	100%

Table 4

Minor Themes According to Main Themes

Main Themes (Related to each Research Question)	Minor themes	Sub-Minor Themes (if any)
Recognizing the Strength or weakness in knowledge (RQ1.)	Realizing the academic gap in ICMWs or FE	-
	Weaknesses in determining who is responsible for fraud or ICMWs detection	-
	Insufficient AE regarding fraud	-
	Insufficient AE regarding IC	-
	Sufficient OJT regarding fraud or IC	-
	Recognizing how fraud and ICMWs were detected	-
	Recognizing the expected competencies of ASs	-
Weaknesses in AE related to fraud (RQ1.)	Inexistent topics about how to detect fraud	-
	Inexistent effective methods or strategies to teach fraud	-
Weaknesses in AE related to ICMWs (RQ1.)	Inexistent topics about how to detect ICMWs	-
	Inexistent effective methods or strategies to teach IC	-
Recommendations to enhance AE related to fraud (RQ1.)	Effective strategies and methods to teach fraud	See Table 5
	Teaching certain topics to detect fraud	See Table 6
	Competencies needed by business graduates	See Table 7
Recommendations to enhance AE related to ICMWs (RQ1.)	Effective methods to teach IC	See Table 8
	Teaching certain topics to detect ICMWs	See Table 9
Strengths in AE related to fraud (RQ2.)	Ethics education	-
	External Auditing course	-
	More practical applications and case studies at the graduate level	-
Strengths in AE related to ICMWs (RQ2.)	Some cases or topics regarding IC	-
	Introduction of topics related to internal auditing	-
	More practical applications and case	-

	studies at the graduate level	
Effects of OJT (RQ2.)	CPE	-
	Bonus for professional certifications	-
	Filling a part of the academic gap	-
	Reimbursement for academic tuition	-
	Assessment of OJT	-
	How to enhance OJT	See Table 10

Table 5

Effective Strategies and Methods to Teach Fraud

Research Question: RQ1	Main theme: Recommendations to enhance AE related to fraud Minor Theme: Effective strategies and methods to teach fraud
Integrating professional certifications into the undergraduate curriculum, such as CFE, CIA, CFF, or CPA	
A program in FD	
Integrating fraud contents into other courses	
A stand-alone course in fraud (elective)	
A core course in FD	
A combination of a stand-alone course in fraud and an integration of fraud contents into other courses	
A full fraud course in which the professor assigns students to two groups: one that commits fraud in certain financial documents, and one that tries to detect the fraud	
A full course that has few detailed fraud scenarios to engage students in detecting the fraud	
A full course of famous fraud schemes to learn the tactics followed at large scandals, such as schemes over \$1 million	
A stand-alone course in Internal Auditing	
A stand-alone course in FA	
A program in FA	
Introducing a major in fraud examination or FA at the bachelor's level	
Introducing a full bachelor's in fraud examination or FA	
Introducing a graduate degree in fraud examination or FA	
Introducing a double major at the bachelor's level	
Creating a new bachelor's degree in accounting engineering (Introducing a new, five-year bachelor's degree in accounting engineering or FA engineering)	
Deterring the ASs from committing fraud, such as visits to prisons	
More brainstorming sessions	
Depicting real-world situation in the classroom	
Problem-solving skills	
Critical thinking	
Case-based scenarios integrated into the course (case studies approach)	
A big project. Each academic institution would set its appropriate parameters and scope as to what constitutes a big project.	
Class projects	

Internal auditing experience through an internship
Hosting speakers who detected fraud to tell the students about how they did it
Co-lecturing or team teaching (using a team-based educational approach)
Self-assessment
Practical applications using experiential learning methods
Cooperative learning
Nontraditional educational methods, such as reading other students' case responses (usually, learners who studied an exemplary case response select more supporting arguments in subsequent case analysis)
The use of graphic organizers (learners who relied on a graphic organizer to visualize elements of the exemplary case response usually recognize better the absence of counterarguments in subsequent case analysis)
Nontraditional educational methods, such as Writing-to-Learn (WTL) assignments (learners understand concepts deeper when they write about them). For example, learning logs assignments, such as requiring the students to prepare a whistleblower letter reporting a fraud
Nontraditional educational methods, such as coaching-learning model
Nontraditional educational methods, such as using a case refreshing strategy to lower the plagiarism of fraud students (by making educational cases appear unique to each group of learners)
Using Individualized Accounting Questions (IAQ) to encourage independent active learning and to lower the plagiarism
Enabling the tutors to set individualized accounting questions and construct an answer grid for any number of learners with numerical values for each student's answers based on their student enrolment number). For example, using Excel to generate quantitative exercises with unique individual answers for relatively large classes, such as those above twenty-five students.
Using cooperative learning assignments to mitigate the students' frustration with Web-Based Homework (WBH)
Using more online multiple-choice questions (MCQ)
Using digital technology platforms (such as Google and Facebook) as an educational resource to engage students with their learning
Using Twitter as a learning support tool
Using social media in learning by developing smartphones applications
Applying the ACFE's report to daytime television talks show confessions (the students use concepts in the ACFE's RNOFA to two daytime television talk show episodes in which the hosts interview individuals convicted of occupational fraud)
The incorporation of fraud videos into the business and accounting curricula
Using myUnisa (which is an electronic institutional learning management system) to teach case studies to hone the students' vocational skills
Revolutionizing the entire paradigm of FE by using the most advanced education techniques. For example, bringing Mixed Reality (MR) lessons to the classroom by using realistic, interactive holograms to teach fraud. In this sense, MR combines the real and digital worlds by interweaving dynamically three-dimensional holographic; images, graphics, and data. Consequently, the same highly-experienced fraud professor can teach and look at the eyes of several geographically-dispersed groups of students simultaneously.

Teaching Excel to students (because the use of computer spreadsheets for financial analysis, data analysis, and calculations, is tested on the CPA examination)
Professors concentrate on accountants' rationalizations (through using non-negotiable fences as controls)
Careful monitoring of the use of online homework software (OHS) by professors
Careful monitoring of the use of automatic grading by professors, such as automatic grading of problem-solving tasks in a spreadsheet
Use of industry professionals to teach parts of certain courses

Table 6

Teaching Certain Topics to Detect Fraud

Research Question: RQ1	Main theme: Recommendations to enhance AE related to fraud
	Minor Theme: Teaching certain topics to detect fraud
Professional skepticism	
Segregation of duties	
Red flags (indicators of occupational fraud)	
Due diligence	
Due professional care	
Theories of business ethics	
Ethics for fraud examiners	
Factors that affect employees' ethical decisions	
Ethical mindset	
APs	
Analytical skills	
Some knowledge of FD (for example, FD methods, FD tailored to small companies, and FD at not-for-profit organizations)	
Discussion of fraud prevention, deterrence, detection, investigation, and remediation	
Increasing the awareness that fraud prevention is easier than FD	
Increasing the perception of detection as the most effective fraud prevention method	
Testing of internal controls and related audit procedures	
Principles of governance (accountability, responsibility, transparency, and fairness)	
Fraud and FA in a digital environment	
Textual analytics software	
Correlation analysis	
Link analysis software	
Data mining software	
Data analysis software	
Big Data and data analytics education	
ACL Analytics (The professors introduce fraudulent transactions into an existing dataset and then ask students to use ACL Analytics to identify these fraudulent transactions)	
Structured Query Language (SQL), which is a programming language to manage data held in database management systems that support Enterprise Resource Planning (ERP) systems	
How to perform APs using metacognitive skills (to use both divergent and convergent	

thinking)
Accountant's fraud-related responsibilities
External auditor's fraud-related responsibilities
Internal auditor's fraud-related responsibilities
Management's fraud-related responsibilities
Fraudster's mentality
Engagement quality controls for external auditors
Engagement quality controls for internal auditors
Computer-based auditing
Some knowledge in FA (certain topics in FA)
Risk assessment
Fraud risk assessment
Fraud risk
Risk management
The use of flowcharts software
Electronic working papers
A basic discussion of the roles of auditors, fraud professionals, and forensic accountants
Overview of who commits fraud and why, and the fraud triangle (pressure, opportunity, and rationalization)
Overview of the elements of fraud (act, concealment, and conversion)
External auditing
Certain topics in internal auditing (for example, internal auditing standards and guidelines)
Unpredictable procedures
Variance analysis
Negotiation
Forensic audits
The most recent trends on fraud, which occurred during the last four years (The correlation between auditing and FA is a dynamic process that keeps changing due to political, social and cultural events)
Emerging professional issues
Financial statements fraud
How fraud is committed
Legal aspects of fraud (for example, teaching the legal consequences to the accountants)
Overview of common fraud acts, particularly asset misappropriations and fraudulent financial reporting
Updates of SOX
Basics of business law
Law related to fraud
Criminal fraud statutes
Professional and regulatory bodies
Discussion of fraud remediation: criminal and civil litigation and internal controls
What to search for
How to ask important questions
Stratification of data
Problem-solving

Knowledge in Psychology
Emotions as a predisposition for people's actions
The theory of differential association
IT audit from the IT standpoint, such as Madoff
Financial analysis
The ultimate end of famous fraudsters, such as Madoff
Cooking the books and accounting issues
Sample tests for transactions over a certain amount of money
Consequences of fraud
Inquiries of variance
Auditing framework
Financial inquiries
Industry-specific planning tests
Nature of management
Control deficiencies evaluation
The cutoff for revenues and assets
Access control
How to identify fraudulent activity
Critical thinking
Scrutiny of odd transactions
Timely reconciliations
Substantive/control testing
Audit planning
Test of balances
Asking questions about controls
Forensic scientists need to be familiar with not only financial accounting, but also with tax, business law, criminology, psychology, and accounting
Corporate Social Responsibility (CSR)
How to respond when evidence of fraud arises
Types of digital evidence
Types of evidence (direct and circumstantial) vs. forms of evidence (testimonial, real, and demonstrative)
inculpatory evidence vs. exculpatory evidence
Organization, documentation, and evaluation of evidence
The best evidence rule
The relevance of evidence
Collection rules of documents
How to analyze the documents for fraud
The scope of fraud and financial crimes
Professional accounting, auditing, and assurance standards
Categories of occupational crime
Categories of occupational fraud (asset misappropriation, corruption, and financial statement fraud)
Concealment of material facts vs. fraudulent misrepresentation of material facts

Embezzlement vs. larceny
Defamation vs. public disclosure of private facts
Spoilation of evidence vs. Litigation hold
Probable cause vs. articulable reason
Substantive vs. procedural law
Kinds of testimony (Lay testimony and expert testimony)
Expert testimony and related techniques
Criminal vs. civil cases
Benford's Law analysis
The Brady material
A simulated or traced forgery
Types of data (structured or unstructured)
Metadata
Body language
Verbal clues vs. nonverbal indications of deception
Assessment questions
How to testify for fraud
Interview theory
Techniques for interviewing and interrogations
How to calibrate the interview with witnesses and defendants
Paralinguistic communication
Individual rights during fraud examination
Fraud reporting tools
How to trace illicit transactions
How to conduct a covert fraud examination
How to plan a fraud examination
How to write a fraud report
Criminal behavior
White-collar crime
Theories of crime causation
kickback
Lapping
skimming scheme
Cash larceny
Credit card skimming
Altered payee scheme
Phishing, pharming, vishing, SMiShing, and rock phishers
Pay-and-return scheme
Scavenging
Inventory shrinkage
Shell company schemes
Pass-through schemes
Mischaracterized expenses
A purchasing and receiving scheme

Multiple expense reimbursement scheme
Product substitution fraud
Social engineering
Bankruptcy fraud scheme
Money laundry
Accounting fraud preventing and detection techniques, such as assigning a trusted outside contractor to review and reconcile accounts at regular intervals, performing data analytics on payroll records to look for matching addresses, names, bank accounts, etc., rotating duties of employees in A/R and A/P, implementing tight IC on accounting functions, conducting random audits of A/R and A/P records, separating the functions of account setup and approval, restricting payroll department employees' ability to modify pay rates and hours, making it mandatory for employees to take vacation time, proper segregation of duties; for example, separating tasks of preparing payroll checks and reconciling payroll account
Asset misappropriation prevention and detection techniques, such as rotating the duties of employees, conducting thorough background checks on new employees, separating the functions of check preparer and check signer, conducting random audits of company accounts, and implementing an anonymous ethics hotline
Vendor fraud preventing and detection techniques, such as comparing vendor addresses with employee addresses, conducting random audits of vendor files, using the data mining to uncover anomalies and patterns, and conducting due diligence when setting up vendors by verifying vendor contact person, tax identification number, bank account, and vendor's business name and address
Intentional infliction of emotional distress
Computer and Internet fraud
Procurement fraud
Bribery and corruption
Disbursements fraud schemes
Financial statement fraud
Cash receipt schemes
Assets fraud schemes
Business tax fraud schemes
Data theft
Fraudulent financial reporting schemes concerning inventory, such as off-site" or fictitious inventory, and inflating the value of inventory
Fraudulent financial reporting schemes concerning improper revenue recognition, such as agreements to "sell-through" product, "roundtrip" transactions, altering shipping documentation, holding accounting periods open, side agreements, bill and holds, up-front fees, and failure to record sales provisions or allowances
In addition to inventory scheme and improper revenue recognition, other fraudulent financial reporting schemes, such as improper asset valuations, unjustified consolidation entries, "refreshed" receivables, fraudulent audit confirmations, improper capitalization of expenses, fraudulent disbursements, related parties that "create" transactions, off-balance-sheet entities and liabilities, phony "investment deals," promotional allowance manipulations, adjustments to estimates, adding back outstanding checks to cash, intercompany manipulations, and disclosure frauds

Pyramid scheme
Affinity Fraud
Window dressing techniques, such as earnings management
Ponzi scheme
Smurfing scheme

Table 7

Competencies Needed by Business Graduates

General Competencies of Business Graduates	General Competencies of Accounting Graduates	Specific Competencies of Accounting Graduates for FD
Understanding the entity	Critical thinking	Fraud examination knowledge
Problem identification and solution skills	Financial analysis	FA knowledge
Strategic planning	Professional judgment	IC knowledge
Strategic thinking	Segregation of duties	Basic knowledge in psychology
Prior experience	Specialized industry knowledge	Computer-aided auditing
Soft skills	Professional skepticism	Questioning mindset
Ethical behavior	Basic knowledge of ICMWs and FD	Passion for doing right
Hard worker		Interviewing skills
Forward-thinking		Negotiation
Professionalism		Staying abreast with regulatory changes and industry standards
Integrity		
Interpersonal and listening skills		
Written, oral, and graphical communication		
Team-playing capability		
Career planning skills		
Leadership		
Entrepreneurship		
Conflict management		
Adaptability to the workplace		

Table 8

Effective Methods to Teach IC

Research Question: RQ1	Main theme: Recommendations to enhance AE related to ICMWs
	Minor Theme: Effective methods to teach IC
Integrating professional certifications into the curriculum	
Training the professors on how to teach different topics about IC	
Role-plays	
Guest speakers from practice	
Providing a basic understanding of accounting processes to non-accounting students who study IC	
Integrating IC contents into other courses	
A stand-alone course in IC (elective)	
A core course in IC	
A combination of a stand-alone course in IC and an integration of IC contents into other courses	
A full IC course in which the professor assigns students to two groups: one that commits ICMWs in certain work activities, and one that tries to detect the ICMWs	
A full course that has few detailed ICMWs scenarios to engage students in detecting the ICMWs	
A stand-alone course in Internal Auditing	
Deterring the ASs from committing ICMWs	
More brainstorming sessions	
Depicting real-world situation in the classroom	
Case-based scenarios integrated into the course (case studies approach)	
A big project. Each academic institution would set its appropriate parameters and scope as to what constitutes a big project.	
Class projects	
Internal auditing experience through an internship	
Co-lecturing or team teaching (using a team-based educational approach)	
Experiential learning methods	
Cooperative learning	

Table 9

Teaching Certain Topics to Detect ICMWs

Research Question: RQ1	Main theme: Recommendations to enhance AE related to ICMWs
	Minor Theme: Teaching certain topics to detect ICMWs
Professional skepticism	
Red flags (indicators of ICMWs)	
Segregation of duties	
Increasing the awareness that ICMWs prevention is easier than ICMWs detection	
Testing of internal controls and related audit procedures	
Principles of governance (accountability, responsibility, transparency, and fairness)	
Fraudster's mentality	
Internal auditing	
Unpredictable procedures	

How to override the IC system
How management can override the controls
Recent trends on IC overriding, such as those emerging in the last four years
What to search for
How to ask important questions
Control deficiencies evaluation
Access control
Asking questions about controls
Assessment questions
Ethics education
Regular review and job rotation
If I see something, I say something
Disbursement control
IC evaluation
How to test the internal controls
Nature of management (tone at the top)
Cutoff for revenues
Body language
Regular password changes
How to test the control environment
How to evaluate the control deficiencies
The importance of at least a two-password authentication system
Random tests of customers
Random tests of vendors
Inquiries of variance
The necessity to perform walkthroughs (to gain an understanding of the process from beginning to end)
How to do walk-through tests effectively
Professional judgment
Observation
Monitoring
Supervision
Periodic independent verification
How to trace transactions amounts to supporting documents
Effective control culture
Effective IC design
Effective execution of the IC system
Management reviews
Tracking of remedial actions taken by management
Proactive detection measures
The components of the IC framework
How to search for anomalies or unusual patterns in the IC system
Reperforming certain tasks performed already by employees to test the IC
Fraud simulation exercises

The interrelatedness between IC and certain topics of accounting
Intrusion Detection System (IDS)
Logical access control
Keyloggers
Increasing the perception of detection
Inherent risks and residual risks
Enforcement strategies
Internal control over financial reporting (ICOFR)
COSO's Enterprise Risk Management (ERM)
Compliance verification
System logs, event logs, and security logs
Procedures to reimburse the employees
Deficiencies in credit authorization steps
Disaster recovery plans
Advantages and threats of recent technology and remote access, such as those emerging in the last four years
Hiring procedures
Operational audits
Enhanced audit committees
Improved internal controls
Implementation of fraud reporting policy
Fraud hotlines
Establishing a corporate code of conducts
Computer-based information system controls

Table 10

How to Enhance OJT

Research Question: RQ2	Main theme: Effects of OJT
	Minor Theme: How to enhance OJT
Formalizing and structuring the OJT	
Standardization of OJT	
More customization of training related to certain topics	
Setting the training plan on a regular basis	
Encouraging the supervisors to share their knowledge with subordinates	
Assigning a mentor to high-potential employees	
Loyalty	
A strong handbook	
Financial policies and procedures manual	
An orientation of the expectation of the job	
Knowledge of consequences of fraud	
Professional skepticism	
Professional judgment	
Segregation of duties	

Ethics
More training regarding FD
More training regarding fraud prevention
More training regarding IC
More training on what to search for
More IT training
IT audit from IT standpoint
More computer-based auditing
FA
Fraud examination
The most recent trends in fraud, such as those emerging in the last four years
Fraud deterrence
Case based-scenarios
How to choose a scenario to respond to a certain scenario
Establishing an ethics club at every organization
Potential risk factors
Self-assessment
Red flags or indicators of occupational fraud specific to the organization
Theories of business ethics
Ethics for fraud examiners
Factors that affect employees' ethical decisions
Ethical mindset
Fraudster's mentality
communities of practice
Electronic working papers
How to ask important questions
Conferences
Mentoring
Reflective supervision

Main theme 1. There were two research questions. From the analysis of the interviews' transcripts eight main themes emerged; five themes for the first question, and three themes for the second one. The first research question was: "How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or ICMWs within their organizations?" The principal investigator elaborated the themes by considering individual accountants' quotes from several participants.

Table 11

Main Themes Emerged Regarding RQ1.

RQ1.	How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or ICMWs within their organizations?				
Main Themes	Recognizing the Strength or weakness in knowledge	Weaknesses in AE related to fraud	Weaknesses in AE related to ICMWs	Recommendations to enhance AE related to fraud	Recommendations to enhance AE related to ICMWs
Frequency	100%	77%	100%	100%	62%

The first main theme emerged concerning the first research question was “recognizing the strength or weakness in knowledge.” 100% of the participants provided information related to this theme. The principal investigator sought to find evidence to know whether accountants realized that their AE did not prepare them appropriately to detect fraud or ICMWs. Also, the principal investigator was exploring participants’ perceptions concerning whether they consider FD and ICMWs as a part of their professional responsibilities. Alternatively, the principal investigator used this theme to categorize how accountants perceive the sufficiency of their OJT related to fraud or ICMWs. Additionally, this theme included participants’ views about how they perceive the knowledge that ASs should possess.

After analyzing all interviews’ transcripts, seven minor themes emerged in this regard. Consequently, the principal investigator categorized the seven minor themes under the main themes, “recognizing the strength or weakness in knowledge.” The seven minor themes were as follows; (a) realizing the academic gap in ICMWs or FE, (b) weaknesses in determining who is responsible for fraud or ICMWs detection, (c) insufficient AE regarding fraud, (d) insufficient AE regarding IC, (e) sufficient OJT regarding fraud or IC, (f) recognizing how fraud and ICMWs were detected, and (g) recognizing the expected competencies of ASs.

Minor theme 1. The title of the theme is “realizing the academic gap in ICMWs or FE.” This minor theme is one of seven ones related to the main theme “recognizing the strength or weakness in knowledge,” which emerged concerning the research question #1. The principal investigator probed participants’ views to know whether they recognize the gap in their academic preparations to detect fraud or ICMWs. Most participants (85%) provided evidence that they do recognize their weak preparedness to detect fraud or ICMWs. For example, John 7 stated emphatically, “I do not consider my college prepared me to detect fraud.” Similarly, Leah 4 said “Insufficient” when responding to a question about her AE. Other participants appeared more conscious about the failure of their AE. In this regard, Thomas 8 stated emphatically, “My university was behind times.” Similarly, Arthur 7 echoed this view and replied, “Catastrophic education.” When the principal investigator asked Arthur 7 to explain what he meant by “catastrophic education,” he responded:

Either they did not teach me anything about fraud detection, or I forgot everything. In either case, they failed to teach me. If the knowledge is easily forgotten, it is their mistake, not mine. They should emphasize important topics and teach them in a way that we remember for a long time.

However, there was evidence that accountants had contradicting views regarding the gap in their academic knowledge. For example, Ava described her AE as “appropriate” regarding her preparedness to respond to fraud or ICMWs. Also, Ethan used the word “sufficient” when he replied to the same question. However, surprisingly, Ava and Ethan changed their answers after the principal investigator asked them a series of questions regarding their OJT and how they detected fraud. Specifically, Ava responded:

OK! I now understand better what you meant ten minutes ago. I think I had confused my accounting education with what I learned when I studied to sit for the CPA exam. I guess I got most of my knowledge about fraud from the training I received from my employer... You were right when you asked me to identify how the school prepared me to detect fraud. I think we leave schools unaware that they did not teach us anything of real value... I have never compared what I learned from my employer with what I learned from the school.

Also, after the principal investigator asked Ethan to state what were the significant topics he learned out of the school, he provided an answer to the contrary to his first view. He responded, "I think my school never mentioned any of these advanced concepts in any course." Then, after he described how these off-school topics were the ones that did prepare him for the efforts against fraud, he said, "how come they did not teach us any of them!"

The minor theme, "realizing the academic gap in ICMWs or FE," suggests that few participants do not recognize the failure of their AE to prepare them to detect and respond to fraud or ICMWs. These accountants confuse the knowledge they received from their employer with their AE. However, these few accountants might recognize their academic weaknesses when someone enforces them to deeply remember what they learned from their employers particularly by comparing that knowledge with their prior one. These views were only 15% of the participants in this study. Conversely, eleven participants (85%) realized that their AIs left them unprepared to detect fraud or ICMWs. This minor theme confirms the problem stated in the study; and hence, it supports the necessity to explore certain perceptions of accountants.

Minor theme 2. The title of the theme is "weaknesses in determining who is responsible for fraud or ICMWs detection." This minor theme is one of seven ones related to the main theme

“recognizing the strength or weakness in knowledge,” which emerged concerning the research question #1. In this context, the principal investigator posited exploratory questions to probe participants’ attitudes toward such matters. The principal investigator sought to know whether accountants accept ICMWs and FD as a part of their professional responsibility.

All participants agreed that they have some level of responsibility, but they rejected FD as their primary responsibility. In this sense, all participants unanimously asserted that FD&P is the responsibility of management. That assertion conforms with the professional standards. However, most participants could not remember where they learned that information. In other words, participants’ perceptions were correct regarding who is responsible for designing IC to prevent fraud and who is responsible for setting measures to detect fraud; however, they could not remember the source of information. In this context, some participants indicated that they might have learned it at school, others affirmed that they might have learned it from CPA books, others suggested the source was OJT; however, others noted that they might be more than one source.

Some participants provided more in-depth views. For example, Leah 4 said: “the auditor is responsible for designing audit procedures to detect material misstatements.” Interestingly, John 7 affirmed emphatically:

You know, the external auditor expresses an opinion on whether the financial statements are presented fairly in all material respects and under the GAAP... and whether the organization maintains effective control over financial reporting... The internal auditor provides an independent, objective assurance and consulting activity to enhance an organization's operations.

When the principal investigator found John 7 providing precise information, the principal investigator asked John 7 about how he perceives the responsibilities of forensic accountants and fraud examiners. John 7 responded as follows:

Forensic accounting is litigation support involving accounting... a fraud examiner and a forensic accountant perform different jobs however their jobs are related... the professional services of forensic accountants include fraud, bankruptcy, and valuation... you know, forensic accountants investigate and detect fraud in businesses.

When the principal investigator asked the participants about their views concerning the differences in responsibilities between forensic accountants and fraud examiners, most participants (85%) appeared unaware or unsure of the differences. Only two participants were precise, Leah 4 and John 7. However, John 7 appeared more confident when responding to such a question, and revealed that:

Fraud examiner is a financial detective... the manager calls a forensic accountant when he suspects fraud. That means fraud examiner works on finding more evidence based on what the forensic accountant has found... They always tell us that a fraud examiner may not assume a fraud did not occur.

The principal investigator asked John 7 about what he meant by "they." John 7 smiled and responded emphatically: "not the schools; The books of CFE and other certifications." Other participants also provided valuable insights into the responsibility to detect fraud. For example, David emphasized: "The duty of external auditors is not primarily to detect corporate fraud."

When the principal investigator asked David to make himself clearer, he responded:

The client expects the external auditors to detect fraud, but it is not their responsibility. Some kinds of fraud are almost impossible to be detected; for instance, when there is

collusion with the management... auditors plan their engagement as if there is a fraud.

But as I told you before, auditors are concerned about the material misstatements in the four financial statements.

The principal investigator asked David whether the term “material misstatements” means fraud, he recounted as follows: “I am not sure; I need to take a look at some book.” Other participants provided a clearer view of the holistic picture. For example, Jack said: “Management wants us to detect fraud, but accountants and auditors alike do not accept this responsibility.” Similarly, George smiled and felt relaxed when indicating that: “My position description does not describe anything about my responsibility for fraud detection.” However, when the principal investigator asked George what he would do if he encountered fraud in a WE, George recounted as follows: “I would do my best to root the fraud out... yet it is not my responsibility. It is their responsibility; the CEO and his fellas.” Therefore, the principal investigator said to George: “Since your job description does not directly mention fraud detection, does it say anything in this regard?” Consequently, George answered:

Professional skepticism... I should exercise professional skepticism in everything I do. If I encountered fraud that another prudent man would detect, then, it is my responsibility to detect it. But if there is a collusion scheme, it is hard to be detected... I am not expected to detect those schemes especially if there is a collusion.

Similarly, Mason agreed and emphasized: “My employer trains us to exercise professional skepticism in everything we do.” Paul reflected the same opinion, but he added: “My responsibility for fraud detection is limited. I am responsible only for designing audit procedures to detect material misstatements. That’s it. No more, no less.” However, when the

principal investigator asked Paul what he would do if he encountered fraud in a WE, Paul's response was like that of George. Paul recounted as follows:

If I suspected an item, I would perform more tests around it... then, if I found an error or fraud, I would perform more tests to know how serious it is... but in all cases, management is the one responsible for fraud detection. They are responsible for designing the internal control system. Management should design the internal control system in a way that prevents and detects fraud... our responsibility is only to test the internal control system.

Evidence of the significance of the professional skepticism was obvious in participants' responses. This evidence corroborates with other sources, such as professional organizations and peer-reviewed journals. Consequently, this evidence serves the purpose of data triangulation

In contrast to Paul who said he would perform more tests if he encountered fraud, Michael recounted as follows "If I ever found a fraud, I would let the management know. If they asked me to help, I would definitely help. It would be a big chance for me." However, like Paul, Michael stated: "My responsibility is to ensure adequate internal controls are in place... I do that by evaluating the system of internal control."

Some participants provided more detailed descriptions about their views regarding the responsibility for FD. For example, Thomas 8 stated emphatically:

I look for any red flag indicating fraudulent financial reporting... misstatements of assets, or corruption. For instance, I look at bank reconciliation to search for kiting; I verify the information... I draw samples randomly... I check the bank checks for dual signatures... I evaluate the internal control system by observation... I observe to make sure everyone follows the internal control system.

The minor theme “weaknesses in determining who is responsible for fraud or ICMWs detection” suggests that 100% of participants rejected to accept FD as their primary responsibility. The thirteen participants unanimously emphasized that management is the one that is responsible for FD and for designing the internal control system. Nevertheless, all participants affirmed that FD is a part of their duties. In this context, there were contradicting views regarding what constitutes a part of their duties.

Also, there was confusion among some participants concerning what to do when they encounter fraud or ICMWs. Because that point constitutes an important concept by itself, the principal investigator found a need to code a distinct minor theme under the title “recognizing how fraud and ICMWs were detected.” The latter theme is also a minor theme emerging from the same main theme that also includes the theme “weaknesses in determining who is responsible for fraud or ICMWs detection.” Moreover, there was a consensus among the participants regarding the concept of “professional skepticism” as it is a part of their duties related to FD.

The findings corroborate evidence from other sources. Several articles published by peer-reviewed journals, doctoral students, and professional organizations indicated that management is the one responsible for FD. Consequently, this evidence serves the purpose of data triangulation. Moreover, the concept of management responsibility is consistent with the conceptual framework of this study. In this context, this concept is an integration of both the Fraud Triangle Theory and the Agency Theory.

Additionally, all participants provided similar responses when the principal investigator asked them about how they define professional skepticism. In this sense, most participants (77%) recalled that they learned and understood the concept of professional skepticism at their

undergraduate studies. Consequently, the principal investigator found evidence of a partial success of AE in certain topics related to fraud and ICMWs.

Minor theme 3. The title of the theme is “insufficient AE regarding fraud.” This minor theme is one of seven ones related to the main theme “recognizing the strength or weakness in knowledge,” which emerged concerning the research question #1. This important minor theme directed the flow of the interviews because it gave evidence that most participants recognized the failure of their AE in preparing them to detect and respond to fraud and ICMWs appropriately. Consequently, after the emergence of this theme, the principal investigator honed the efforts toward identifying what constitutes an essential fraud topic that schools should integrate into the curricula.

When the principal investigator probed the perceptions of participants regarding how they perceive their AE had prepared them to respond to fraud, there was almost a consensus of its failure. Three participants (23%) asserted that their AEs were not successful at all in preparing them. Also, most participants coincided that their AEs suffer from several weaknesses and lack significant topics that are absent from the curricula completely. The interview questions in this regard were about any topic related to fraud or even another different yet related field, such as FA. Therefore, the principal investigator found a justification to conclude that all participants deemed their AE was not relatively satisfactory or sufficient to equip the students with the appropriate knowledge.

John 7, Leah 4, Michael, Mason, and David used similar words to describe their AE concerning FDs, which were “insufficient” or “not sufficient.” Moreover, Leah 4 added that her AE related to that field was “non-existed.” Similarly, Thomas 8 coincided with Arthur 7 when both affirmed: “There was no fraud education.” Surprisingly, Jack disagreed and said: “There

were some courses in fraud detection.” When the principal investigator asked Jack to state the titles of those courses, Jack responded: “Maybe they were not courses... I think they were topics in other courses... maybe they were elective courses that I did not choose to take though. Anyway, they were present but broad.” Conversely, Ethan revealed that he liked the courses when he was a student; however, he changed his mind when he received OJT. In this context, Ethan summed up his views as follows: “At that time, I felt they were sufficient. But later I figured out that they are outdated and needed a lot of revisions; they should be updated every year.”

Alternatively, Ava noticed the difference between what she learned from her employers versus what the school taught her. In this sense, Ava recounted as follows:

It was not enough at all. The only source that provided me with real skills to detect fraud was provided by my employer, not the school... I recall an employer who taught me a lot about fraud detection... it is true that it was not formal training, but it was solid training.

Thomas 8 provided more insights into the weaknesses in AE. He recounted as follows:

The methods were not practical; they were theoretical... you cannot have a fraud detective through theories; you need practice. And you need an experienced professor to teach you fraud... I am sure that all my professors did not detect a single fraud in their whole lives! They taught us the fraud triangle. So, what! They need to train us from the fraudster’s mindset... they should get some real experts and let them speak in front of us on how they suspected the fraud from scratch.

Moreover, there were contradicting views among the participants regarding the External Auditing course. Some participants claimed it provided them with valuable information to

respond to fraud. Other participants highlighted the failure of External Auditing course to provide solid information that lasts on the long-term. For example, John 7 said emphatically:

My experience with the External Auditing class was pathetic. Its professor made me hate both of them; the class and the professor. He had no experience in external auditing... for some reason, the school assigned him that important course though. He was trying to fool us by asking each student to talk about auditing at their firms. That was going on every week. He was pretending to be the expert. He was only interrupting the students to say something as “do you see,” “this is weird,” “this is brilliant,” “how come they did not notice that.” We kept silent because he was pretending to be the professor who cares about the students. Do you realize how much I consider my school failed? I am talking about the External Auditing course! That professor made me suffer when I started studying for the CPA exam.

Paul was not unsatisfied as much as John 7. Paul had a vision about dividing the knowledge between the undergraduate and the graduate studies at the same school. Specifically, Paul recounted as follows:

My experience with accounting education was not very bad. I learned a lot. But there is much that needs improvement though. I had my master’s and bachelor’s degrees from the same school... I noticed they filled the big part of the gap in our knowledge through the graduate courses. Maybe it is the best way to prepare students. You know, half the accounting students follow master’s degrees. You can hardly sit for the CPA exam without a master’s degree. So, it may be a good strategy to introduce basic terms and only fundamental knowledge to the undergraduates. Then, the master’s professors would provide the real info.

Part of the qualitative research process is to search for disconfirming evidence even to the contrary of the personal views of the researcher. Consequently, the principal investigator explored disconfirming perceptions and provided a certain quote as evidence of an opposite view. One participant confirmed emphatically:

I had a great course in Internal Auditing. It was elective, yet it was rich in knowledge. It introduced me to the world of internal control weaknesses in purchasing. It was the most beneficial class that helped me to start my professional career as an internal auditor.

The minor theme “insufficient AE regarding fraud” affirms other themes by highlighting that most participants considered their AE related to fraud and ICMWs as insufficient. Some of them considered their education as relatively not enough, whereas others considered it as not appropriate at all. Surprisingly, very few participants considered certain classes as sufficient. However, even those accountants indicated a hidden weakness; for example, the course was elective; hence, many students would not necessarily take it. The principal investigator was successful in obtaining views regarding many weaknesses in AE. To strengthen the study by including a call to positive actions, the principal investigator deemed to sort those weaknesses under another two themes, which are “effective strategies and methods to teach fraud” and “teaching certain topics to detect fraud.”

Minor theme 4. The title of the theme is “insufficient AE regarding IC.” This minor theme is one of seven ones related to the main theme “recognizing the strength or weakness in knowledge,” which emerged concerning the research question #1. The principal investigator obtained consensus from the participants regarding the apparent failure of their schools in teaching IC to them. When the principal investigator was exploring views regarding the minor theme #3, which relates to FE, the principal investigator heard words such as “insufficient.” The

word “insufficient” does not necessarily mean total failure. However, when the principal investigator probed the participants’ perceptions regarding IC education, the principal investigator heard firm negative words. One participant evaluated her AE conclusively about ICMWs as “Zero.” Another participant emphasized emphatically: “Absent. I heard nothing about internal control weaknesses in my undergraduate study.” One participant recounted as follows:

It did not occur to me before now that schools should teach us how to evaluate the internal control system and how to detect internal control weaknesses! Now, you are drawing my attention more and more to why we suffer at the start of our careers... why did they do that to us! Why schools are not thinking to teach these topics!

No participant in this study was an academician; regardless, the principal investigator found a need to point out to the knowledge crisis among professors regarding responsibility for IC. In this sense, Miller et al. (2013) found many management professors believe that internal auditors, not management, are the ones responsible for establishing and maintaining internal controls over financial reporting. Additionally, Miller et al. (2013) presented a surprising conclusion when they found a statistically significant difference in the perceptions of accounting and management professors. In this sense, there was a disagreement concerning in which course the professors should teach the topic of IC and who is most qualified to teach IC to non-accounting business majors. Furthermore, Bernardi et al. (2016); and Zamojcin and Bernardi (2013) noticed that during the 46 years from 1966 through 2011, only 13 journals published accounting education papers. Shockingly, these researchers asserted that only 31.4% of accounting’s 4855 doctoral faculties who teach at schools in North America have one or more publications in these 13 journals. Thus, the principal investigator suggests that many employers might blame the professors for not loudly reflecting their voice regarding how to enhance

accounting and FE. In this sense, the principal investigator encourages the remaining 68.6% of doctoral professors to start participating in the literature to enhance accounting education. Additionally, there are repercussions ensued from the inconsiderable percentage of 31.4%. One of these consequences is the academic failure affirmed by participants' views presented in this study. However, there is a need to investigate the implied causes behind the non-reflected voices of two-thirds of the doctoral professors. According to the findings of this study and the studies of Miller et al. (2013); Bernardi et al. (2016); and Zamojcin and Bernardi (2013), the principal investigator encourages future researchers to explore professors' perceptions regarding how to enhance ICMWs and FE. Specifically, there is a necessity to investigate the factors inhibiting most professors from publishing articles about accounting education.

Some participants were satisfied with the sufficiency of their AE at the time of graduation. Then, after they received their OJT, they realized their mistake. Alternatively, few participants did not notice the gap in their AE concerning IC until they had to evaluate it. For example, those participants became aware of this academic failure during the interview when they had to compare their IC education with OJT following the open-ended questions. Shockingly, this fact might suggest that some accountants could think that their AE did prepare them adequately to detect and respond to ICMWs despite that, indeed, it did not. Thus, the principal investigator encourages future researchers to study accountants who mistakenly think they had appropriate AE concerning IC.

The minor theme "insufficient AE regarding IC" confirms other themes by highlighting the failure of AE. However, although most participants coincided that FE is insufficient, there was a consensus among participants when it comes to IC education. The thirteen participants unanimously expressed their opinions about the catastrophic education related to ICMWs. The

principal investigator was able to code two different minor themes by gathering participants' suggestions regarding how to enhance AE concerning IC. The titles of those themes are "effective methods to teach IC" and "teaching certain topics to detect ICMWs."

Minor theme 5. The title of the theme is "sufficient OJT regarding fraud or IC." This minor theme is one of seven ones related to the main theme "recognizing the strength or weakness in knowledge," which emerged concerning the research question #1. When the principal investigator asked the participants to evaluate their OJT, their responses were much different from their views regarding AE. Most or all responses were negative regarding AE related to fraud or IC. Conversely, the majority confirmed the satisfaction regarding OJT. This fact suggests that, for FD, U.S. accountants rely much more on their OJT than the AE. Also, this fact suggests that most accountants detected fraud schemes not because of the years spent at the university but through knowledge received from employers. Consequently, the principal investigator encourages future researchers to investigate the real value added by schools to its students.

The principal investigator found a need to concentrate on this theme. The reason is that delving deeper into accountants' perceptions in this regard may uncover the hidden weaknesses in the AIs. Put differently, exploring the strategies and methods that the employers succeeded in adopting may provide a roadmap to the schools to simulate. This roadmap directly serves the purpose of the study by presenting applicable steps to enhance the AE; and hence, to participate in the global fight against occupational fraud.

The principal investigator almost obtained a consensus from the participants that they were satisfied with their OJT. Arthur 7 described the training received from his employer as "effective." Alternatively, Ava used the word "happy" to describe her feelings about the

knowledge she possessed from her OJT. Also, Leah 4 used the word “helpful;” however, David emphasized: “very helpful.”

Part of the qualitative research process is to search for disconfirming evidence even to the contrary of the personal views of the researcher. Consequently, the principal investigator explored disconfirming perceptions and provided a certain quote as evidence of an opposite view. One participant emphasized that his OJT was “not enough,” and reaffirmed that by stating “my employer did not train me enough to detect fraud schemes. They should spend more on teaching us the latest fraud techniques... we should be smarter than the bad guys.”

However, 92% of the participants’ perceptions about OJT confirmed its sufficiency. One participant described such training as “quite helpful;” however, another one emphasized that it was “extremely good.” Nevertheless, not all participants found the training formalized or structured. For example, one participant said: “I have no idea whether my boss has a plan to train me... I do receive good training... but I am not sure she is following a long-term plan.” However, the same participant used the word “adequate” to describe his training. Conversely, some participants hesitated at the beginning of questions in this regard. For example, one participant said: “It was somewhat helpful.” Another participant confirmed that there is room to improve his training. Particularly, he said: ‘I am sure it could be better.’ Similarly, another participant emphasized: “Definitely it could be more.”

Interestingly, one participant provided a distinct view by narrating:

I think the mission of schools is to teach us the alphabets of fraud. Then, the employer gives us a jumpstart through training courses. The real knowledge will come from practical experience. Everything else is merely an introduction, though. I mean... you

know, we can keep studying fraud forever, but this is not right. We should practice; we learn through practice.

Another participant partly echoed the latter view by saying: “It is a good start.” When the principal investigator asked participants about weaknesses in their OJT, most criticisms suggested that the employers should standardize the training. One participant considered “standardization of training” to mean “formalizing and structuring the training.” Also, when clarifying what he understands by “standardization of training,” the participant recounted as follows “it needs to be improved, and to be quarterly.”

When the principal investigator asked the participants to compare their OJT to their AE regarding fraud, 100% of participants responded that the training they received from employers is relatively better than the AE. Even the participants who were not highly satisfied with OJT, they found it better than the theoretical knowledge received at the college. In contrast, one participant highlighted an important view by stating: “At the beginning, I received good training. But that was only when they hired me. After that, they rarely taught us.”

One participant described such training as “very helpful, yet it was general training.” The same participant added: “That training helped me to uncover fraud. They taught me to look for deficiencies... the most important training was the one related to technology.” Another participant said: “It was awesome; it was so specific.” Conversely, another participant was less enthusiastic and said: “It was only a few seminars.” Similarly, one participant emphasized:

I learned a lot from my employers. But it was not structured training. I learned from my superiors who shared their knowledge with me. I learned from them much more than the expensive courses. I used to call them, fancy courses.

One participant suggested that OJT is only a matter of formalities. He said the employers are using third-party, CPE, and in-house training. He added that he already received half of the knowledge at the college. Another participant complained and criticized most of the OJT. He recounted as follows:

At the school, they taught me a lot of ethics. All my employers taught me a lot of ethics as well. What is the point! You cannot enforce someone to be ethical. I think a lot of ethics training is not beneficial though. They should have spent part of that money on technical skills. They know we took ethics courses at school. So why they keep doing that! And do you know what the funny thing is? They only taught us the basics of ethics!

A participant provided a distinct view by indicating that most employers do not allow employees to choose what training courses to attend. Consequently, employees may attend a course on a topic they do not need because they are professional in it. That participant elaborated and indicated that accountants attend CPE courses annually to satisfy the requirements of their professional certifications. He added that, as a result, most those accountants choose IC courses because they realized either the lack of their knowledge in IC or because they need to stay up-to-date with recent trends in IC, such as those emerging in the last four years

The minor theme “sufficient OJT regarding fraud or IC” confirmed other themes by highlighting the relative success of OJT when compared to the failure of AE. The thirteen participants unanimously expressed their opinions that they were more satisfied with OJT than their AE related to ICMWs or fraud. Most participants described the training they received from employers as “sufficient.”

Very few participants considered OJT as insufficient. Some participants were very happy and used words as “quite helpful” when talking about such training. However, some perceptions

affirmed that the training received from employers was not structured, but others asserted that it was only the beginning of working. Also, one participant suggested that OJT was not standardized and was merely a passing of knowledge from the superior who shared the knowledge. Due to the crystallization of these findings, the principal investigator was able to code one main theme to gather participants' suggestions regarding the strengths of OJT. The title of that theme is "effects of OJT," which relates to the research question #2.

Minor theme 6. The title of the theme is "recognizing how fraud and ICMWs were detected." This minor theme is one of seven ones related to the main theme "recognizing the strength or weakness in knowledge," which emerged concerning the research question #1. The principal investigator was anticipating this theme because there were a series of questions in this regard. The highlights reflected in this theme served the purpose of the study directly. It was vital to know how participants detected the fraud or ICMWs. Then, it was necessary to know what knowledge or specific skills enabled the participants to detect the fraud. By filtering these data, the principal investigator was able to explore the participants' perceptions regarding the weaknesses and strengths of their AE regarding fraud and ICMWs.

When the principal investigator asked the participants how they detected the fraud or ICMWs, one of them responded emphatically: "By coincidence." Conversely, another participant claimed with confidence: "By logic and common sense." A third one stated: "Simply, by reconciliations. No more; no less." Similarly, a fourth participant echoed this view and said: "By following and applying the auditing procedures." A fifth one summed up his views as follows: "By testing the internal control system and by asking questions about the controls." A sixth participant said: "By random tests." A seventh one said: "By investigating the red flags; I found an employee was not taking vacations." An eighth participant said: "By adopting the bad guys'

mentality... I always ask myself, if I were in their shoes, where could I beat the system?" A ninth one reported: "The fraud was detected spontaneously by itself. It was merely a matter of updating the internal controls. They made a new rule... a surprising reassignment of duties. It resulted in the fraud floating on the surface." Similarly, a tenth participant revealed: "By updating the rules and regulations." In contrast, three participants reflected the same reason, which is whistleblowing. Specifically, one of them said: "By tips."

The principal investigator conducted data mining to search whether any participant related the ICMWs or FD to the knowledge possessed through AE. No participant did that. The first thing the participants recalled is a technical method that enabled them to detect fraud. Even after asking more questions regarding how they learned the certain FD technique, the answers did not contain an indication to the AE. Conversely, some of them pointed out that they learned that technique through their supervisors, practical experience, training courses, books, OJT, or even when they were studying for professional certification. This fact collaborates with other themes and the literature review. Put differently, by triangulating the data, all sources of information indicated that accountants do not suggest their AE is the one that enabled them to detect ICMWs or fraud.

The principal investigator encouraged the participants to give more details regarding how they detected ICMWs or fraud. One of them said: "Frankly speaking, I was encouraged to find a fraud because of the rewards and promotion opportunities. I expanded the scope of analytical procedures. I stratified the data as well." Another participant summed up his views as follows: "I have a broad knowledge about what to look for. I read a lot of books on fraud. I mix the professional skepticism with a pessimistic view to look for red flags and flaws in the internal

control environments that not many people notice.” When the principal investigator asked that participant to give some example, the participant reported:

In one organization, most people knew that any financial transaction above \$10,000 would attract more scrutiny by the auditors. I said to myself, If I were to circumvent the control environment, I would go for transactions just under that amount. So, I decided to expand my tests to focus also on transactions that were between \$8,000 and \$9,999. And I was right. I found a fraudulent transaction of \$8,400. And that was the beginning.

When the principal investigator asked the three participants, who received tips, to provide more details, one of them said:

I received an email from an anonymous whistleblower claiming that there were bogus employees in the payroll. I took it seriously and expanded my auditing procedures and tests in that field. The whistleblower was telling the truth, but we never knew who it was.

Some participants provided information about how they applied sophisticated techniques to detect fraud. In contrast, some accountants narrated stories about simple techniques. For example, John 7 summed up his views as follows:

Many years ago, I was starting my new position as an accountant at a small family company... the accounting and financial department consisted of only two persons, the accounting manager and me. My first day was June 5th. The accounting manager told me to double-check the daily entries only for the last four days. I said to myself, why not to go back one or two months? I had the time and was expecting to understand better the accounting system by doing so. I found a fraud scheme in April, and it was a clear one. The accounting manager justified not discovering it as a result of the confusion happening from the sudden resignation of the prior accountant. The general manager

accepted that story. After one year, I was suspecting everything. So, I started secretly auditing previous years' journals, and I found more and more fraud. But the problem was the reactions of the general manager who is also the owner. He told me to chill out and that everything would be fine. Then, after two days, I came to the company and found my drawer broken, and the evidence disappeared. I rushed to the office of the general manager and told him, and I was shocked by his reaction. Again, he said everything would be fine and that I do not have to worry. I told him that the stolen money was his money; not mine, and that the fraud was at least more than a hundred thousand grands. He did not look at my eyes when he was telling me that he would look into the matter and that I should calm down. At that moment I realized what was going on. It was a small family company. The accounting manager and some employees were embezzling cash and assets. And the general manager knew that but said nothing. That baller was also taking a major amount of the revenues from his brothers and sisters. The accounting manager knew what the main owner was doing. So, the general manager did not accuse anyone with the theft, because he was afraid that if he did so, the accounting manager would tell everything to his brothers and sisters. I found myself stuck in that jungle, and I did not want to have a problem with anyone especially that it was the first work in my life. The next day I submitted my resignation, and I was free. Everyone was embezzling. Even a contractor used to send double invoices. I remember having solid evidence that the IT manager was stealing the sugar and the coffee! Can you imagine that? I was the wrong man in the wrong place. Few years after I fled that jungle, I heard that the IT manager got a big promotion!

The story of John 7 highlighted the existence of two fraud schemes; the main partner was committing a fraud, and there was collusion between key employees who were perpetrating a different line of fraud. Furthermore, that story corroborates the statement made by another participant regarding the impact of the ethical culture on the individual employees' ethics. Also, in a study published in 2017, the ACFE indicated that the ethics culture has a major influence on the employees' ethics. Specifically, the ACFE indicated that there are four factors affecting employees' ethical decisions. They are (a) industry and organizational ethical codes, (b) tension between personal standards and organizational needs, (c) social pressures, and (d) the law and other government regulations. Consequently, the principal investigator was able to triangulate the data by corroborating the evidence from two sources; the participants, and an article published by a professional organization.

In addition to data triangulation, the story of John 7 suggests that the employees, who were committing the fraud, were exploiting an opportunity resulting from the embezzlement perpetrated by the general manager himself. This conclusion conforms with the conceptual framework of this study because one element of the Fraud Triangle Theory is the opportunity.

In contrast to the simple, yet long story, provided by John 7, Leah 4 narrated a shorter story but gave more details about the fraud scheme itself:

I witnessed the uncovering of a fraud scheme in a company that I had worked at sixteen years ago. An employee issued two payments to the same supplier for the same invoice. He did that on purpose. After the company mailed the checks, that employee called the supplier and told him that we made a double payment by mistake. He asked the supplier to return one of the checks to his attention. The supplier did not have any reason to be suspicious... after the employee received the returned check, he took it, endorsed it to his

friend, and cashed it. I do not know whether he had done it more than one time. We discovered the fraud by coincidence when that employee was absent because of a sudden illness.

By applying data mining to the interviews' transcripts, the principal investigator found the following attitude existed in all answers: professional skepticism. All accountants described that they were sufficiently skeptical when conducting their tasks. It is obvious that professional skepticism is one of the central factors that enabled some accountants to detect ICMWs and fraud schemes. The participants successfully did not assume that fraud or ICMWs did not exist. Also, they were not one hundred percent sure whether there was a fraudster or someone was overriding the IC system. This mentality enabled the accountants to keep all possibilities open.

The principal investigator did not explain, in the study, what the participants had done after the detection of fraud or ICMWs. The reason is that specific action is beyond the scope of this study. However, in summary, the accountants said they expanded their tests; gathered adequate supporting evidence; performed more analytical procedures; consulted the in-house legal counsel; informed their teams, superiors, the auditing committee, or management at least one level above the perpetrator. All participants unanimously affirmed that they would notify the appropriate personnel if they had a justified suspicion regarding ICMWs or fraud. However, all accountants agreed that it was not their responsibility to take the necessary corrective measure to rectify the ICMWs. However, they indicated that they would suggest a rectification if management asked them for advice. Conversely, some participants noted that their duties required them to review the corrective action taken by management.

Furthermore, one should note that, in addition to professional skepticism, some participants confirmed the importance of professional judgment. In this sense, those accountants

asserted that they were exercising the professional judgment throughout their assignments, engagements, or tasks. For example, a participant stated that she decided the cash revenues were the one she should focus on. Consequently, she used flowcharts to track all sources of revenues activities. In addition to the flowcharts, she performed bank reconciliations. When she found cash larceny, she investigated it to discover how the embezzler overrode the IC system.

Conversely, another participant followed the exact opposite technique. He said that the first thing he did was to determine the weaknesses in the IC system. The next step was to perform more tests around those weaknesses to detect fraud. After detecting a fraud scheme, the following step was to understand the scope of the fraud. The principal investigator asked the participants to elaborate in that regard because it relates to the purpose of the study.

Consequently, those participants indicated that their organizations provided several IC and FD techniques. For example, analytical reviews, reconciliations, interviews, and data mining software, such as Excel, ACL, and SAS Enterprise Miner. The participants used data mining software to look for anomalies in databases to identify similarities, differences, trends, and deviations in massive data sources.

One evidence of the significance of the data mining software was evident in participants' responses. This evidence corroborated other sources, such as professional organizations and peer-reviewed journals. Consequently, this evidence serves the purpose of data triangulation.

Like another participant, an accountant said he noticed that there was a weakness on the IC over bills sent to customers. He suspected that IC weakness would result in overbilling the customers. Therefore, he traced the sent invoices, received checks, recorded checks, and earned revenues. Additionally, he traced transactions amounts to supporting documents and found a fraud.

All accountants, in this study, realized how they detected the fraud scheme or ICMWs. The participants appeared ready to provide ample information regarding how they detected the fraud or ICMWs. However, that was not the primary purpose of this study. Consequently, the principal investigator encourages future researchers to explore the perceptions of accountants who encountered and detected fraud schemes or ICMWs. Such studies may uncover strategic or more effective practical methods for FD.

Most accountants indicated that one of the major ICMWs in many organizations was due to inadequate segregation of duties. They asserted that there was a failure in assigning authorization of transactions, custody of assets, and keeping the accounting records by different individuals. One participant suggested seeking ICMWs concerning the segregation of duties; and then, to investigate if there is a fraud resulting from the incompatible duties. However, most participants indicated that the stronger the IC measures, the lower the losses resulting from fraud. This fact corroborates the literature in which several authors and professional organizations, such as ACFE, asserted that the presence of anti-fraud controls correlates with lower losses and quicker FD. Specifically, Arthur 7 stated: "Appropriate segregation of duties would prevent a bad guy from perpetrating a fraud and concealing it at the same time." However, that participant elaborated and stated: The problem gets bigger when two or more employees collude to perpetrate a fraud. Collusion would help them in overriding many strong internal control systems."

One evidence of the significance of segregation of duties was evident in participants' responses. Also, several studies published by peer-reviewed journals confirmed the major risk resulting from an employee holding incompatible duties that enable perpetrating a fraud and concealing it. These two pieces of evidence corroborated other sources, such as professional

organizations. Consequently, this evidence served the purpose of data triangulation. Moreover, the concept of segregation of duties was consistent with the conceptual framework of this study. In this context, this concept was an integration of both the Fraud Triangle Theory and the COSO Model.

The principal investigator asked the participants how to look for ICMWs. Some accountants suggested searching for inappropriate segregation of duties by searching for incompatible duties. Others indicated that effective monitoring would help in detecting ICMWs. Like monitoring, other accountants added supervision and periodic independent verification. The same participants confirmed that the lack of monitoring and supervision would result in the failure of the IC system; and thus, in ICMWs that fraudsters would exploit to override the system.

A participant indicated that ineffective control culture would lead to ICMWs. Similarly, another accountant indicated that the lack of documented standard operating procedures weakens the IC system. Alternatively, a participant suggested that there were dysfunctional IC systems with inherited limitations. However, the same participant elaborated and indicated that sometimes the IC system was adequate, but the problem was its poor execution.

It is obvious that some participants described monitoring and supervision as a valuable technique to detect ICMWs and fraud. A study published by the IIA corroborates the findings of the study. According to the *Journal of Accountancy* (2016), the IIA studied 900 participants and suggested that internal auditors spend 81% of their times on monitoring, supervision, and assurance services related to IC processes. Furthermore, the ACFE (2018) indicated that proactive data and employee monitoring and analysis accounted for 35% of fraud schemes detected. Consequently, the findings of this study corroborate evidence published by professional

organizations. Thus, the principal investigator was able to triangulate the data. Also, monitoring and supervision are parts of IC activities. These activities are essential components of the COSO Model, which is one of the four elements of the conceptual framework of this study. Also, FD relates to the Fraud Triangle Theory, which is another element of the framework.

In summary, the participants thoroughly indicated how they detected fraud or ICMWs. Some detections were a result of a coincidence or a tip; nevertheless, others were because of due professional care. However, all participants confirmed the significance of professional skepticism in the detection. Also, participants provided detailed information regarding how to detect a weakness in IC. Specifically, participants pointed out to the following measures to strengthen the IC system: segregation of duties, monitoring, observation, supervision, effective control culture, robust IC design and execution, periodic independent verification, and documented standard operating procedures.

Minor theme 7. The title of the theme is “recognizing the expected competencies of ASs.” This minor theme is one of seven ones related to the main theme “recognizing the strength or weakness in knowledge,” which emerged concerning the research question #1. The principal investigator asked the participants about what they consider the competencies needed by ASs are.

Interestingly, the participants provided rich information regarding the competencies expected by ASs. Moreover, participants were able to distinguish competencies possessed by graduates from missing competencies. Additionally, the participants provided valuable data when they were able to realize that there are three types of competencies: (a) general competencies required by business graduates, (b) general competencies needed by accounting graduates, and (c) specific competencies of accounting graduates for FD (see Table 7). The rich

information provided by participants suggested that accountants realize what they need, what they already possess, and what they do not possess.

The principal investigator asked the participants to suggest any competency expected from the accounting student whether it exists or not. The participants were able to respond successfully. Consequently, the principal investigator was able to code another theme under the central theme “recommendations to enhance AE related to fraud. In this sense, the principal investigator preferred to gather the existed competencies with the absent ones in one table and to sort them under the theme related to how to enhance the AE. Some implications result from this coding. For example, the existence of the first theme highlights the participants’ realization of what competencies exist, and those do not. Consequently, scholars and professors can find all views about competencies at the same table.

Main theme 2. The second main theme emerged concerning the first research question is “weaknesses in AE related to fraud.” 77% of the participants provided information related to this theme. In this sense, the principal investigator asked questions to understand accountants’ views regarding why AE is weak when it comes to fraud. Specifically, the principal investigator was exploring the perceptions to know what is missing from the curricula. After coding the data collected in the transcripts, the principal investigator noticed that two different yet related themes emerged in this regard. The first theme is regarding the topics that do not exist in academic courses. The second theme is the weaknesses in academic methods used to teach fraud.

Minor theme 8. The title of the theme is “inexistent topics about how to detect fraud.” This minor theme is one of two ones related to the main theme “weaknesses in AE related to fraud,” which emerged concerning the research question #1. The principal investigator asked the

participants to state all topics necessary to detect fraud that did not exist in AE. All participants were able to provide rich information in this regard.

Generally, the participants indicated that they did not have sufficient AE in the following topics: (a) FD, (b) fraud prevention, (c) fraud deterrence, and (d) FA. In this sense, three participants indicated that schools are good at “talking” about Enron and fraud risk, but they do not have realistic topics that do prepare students to practice fighting the fraud. Several participants agreed on the significance of incorporating APs, financial analysis, ratios, internal auditing, and FA into the curricula. To the contrary of these perceptions, a participant said: “We had enough analytical procedures and financial ratios. We do not need more of them. We need more advanced concepts like Benford's Law.” Additionally, some participants indicated that they received certain training from their employers regarding specific topics that were completely absent from AE. For example, one participant stated that, unlike the schools, his employer trained him on data analytics software.

More than half of the participants indicated that their AE did not contain the effective use of red flags as indicators of fraud. The principal investigator asked the participants to elaborate by detailing what specific red flags they deem schools should teach. The red flags that appeared the most in participants’ responses were in the following order: (a) placing too much trust in an employee, (b) unclear or non-existent procedures of how to authorize a transaction, (c) inappropriate segregation of duties, and (d) lack of independent checks on performance. These red flags conform with some popular indicators of fraud published by professional organizations, such as the AICPA (2007). The findings are also consistent with an article published by a peer-reviewed journal. In that context, Tsegba (2015) found that the significant determinants of unethical financial reporting are: (a) weak corporate governance, (b) attempts to conceal

deteriorating financial position, and (c) compensation and bonus incentives. Consequently, the principal investigator was able to triangulate the evidence from three sources.

Specifically, participants indicated specific important fraud topics that did not exist in AE. The following are selected topics (see Table 6) that appeared frequently in interviews' transcripts: factors that affect employees' ethical decisions, fraud and FA in a digital environment, data mining software, accountant's fraud-related responsibilities, fraudster's mentality, computer-based auditing, fraud risk assessment, internal auditing, unpredictable procedures, what to search for, manipulating accounting records, industry-specific planning tests, how to respond when evidence of fraud arises, and window dressing techniques, such as earnings management.

One evidence of the significance of several educational topics related to FD was evident in participants' responses. This evidence corroborates other sources, such as professional organizations and peer-reviewed journals. Consequently, this evidence served the purpose of data triangulation.

The minor theme "inexistent topics about how to detect fraud" emerged when all participants provided ample information in this regard. The principal investigator gathered and sorted the inexistent topics (see Table 6). The significant findings related to this theme serve the purpose of the study directly.

Minor theme 9. The title of the theme is "inexistent effective methods or strategies to teach fraud." It is one of two minor ones under the main theme "weaknesses in AE related to fraud," which emerged concerning the research question #1. The principal investigator asked a series of questions to explore what good teaching methods the participants think are non-existent in AE. Surprisingly, participants provided specific answers that enriched the findings. The

principal investigator gathered and sorted the methods and strategies (see table 5). Like Minor theme #8, this theme served the purpose of the study directly and provided critical information that benefits the accounting practice and education.

Specifically, the following are selected teaching methods and strategies (see Table 5) that appeared frequently in interviews' transcripts although they did not exist in AE: a program in FD, a stand-alone course in fraud, integrating fraud contents into other courses, a combination of a stand-alone course in fraud and an integration of fraud contents into other courses, introducing a major in fraud examination or FA at the bachelor's level, deterring the ASs from committing fraud, such as visits to prisons, depicting real-world situation in the classroom, case-based scenarios integrated into the course, and hosting speakers who detected fraud to tell the students how they did it.

Furthermore, the following are some selected untraditional teaching methods (see Table 5) that participants wondered why their schools did not apply them: reading other students' case responses, using a case refreshing strategy to lower the plagiarism of fraud students, using social media in learning by developing smartphones applications, incorporating fraud videos into the curricula, and bringing Mixed Reality (MR) lessons to classrooms by using realistic, interactive holograms to teach fraud by outstanding experts.

Main theme 3. The third central theme emerged concerning the first research question is “weaknesses in AE related to ICMWs.” 100% of the participants provided information related to this theme. When coding the data collected in the transcripts, two minor themes emerged. The two themes were different yet related. One is mainly about the topics that were non-existent in AE related to ICMWs. The second was in the same field but more condensed around the methods of teaching.

Minor theme 10. The title of the theme is “inexistent topics about how to detect ICMWs.” This minor theme is one of two ones related to the main theme “weaknesses in AE related to ICMWs,” which emerged concerning the research question #1. All participants were able to indicate some topics necessary to prepare students to detect and to respond to ICMWs; nevertheless, these essential topics did not exist at their schools.

For example, a participant pointed out that there were no academic topics regarding how to do random tests concerning the IC system. Another participant suggested that schools should teach students how to verify the existence of the employees. Another participant said that the curriculum did not contain how to do substantial tests regarding inventory. Also, a participant insisted: “They taught us nothing about access control.” These participants asserted that their schools should have taught such fundamental topics.

Specifically, participants highlighted specific important IC topics that did not exist in AE. The following are selected topics (see Table 9) that appeared frequently in interviews’ transcripts: red flags or indicators of ICMWs, components of the IC framework, testing of IC and related audit procedures, control deficiencies evaluation, fraudster’s mentality, how to override the IC system, disbursement control, cutoff for revenues, the importance of at least two-password authentication system, how to trace transactions amounts to supporting documents, tracking of remedial actions taken by management, proactive detection measures, inherent risks vs. residual risks, and ICMWs and fraud hotlines.

Some participants suggested that IC topics were either inexistent or volatile. Put differently, schools either overlooked teaching IC topics or failed to sustain the students’ knowledge. In this context, a participant said: “I do not remember any real knowledge I got at school. But I am sure if they taught us anything about internal control, it was superficial.”

Another accountant validated this view by stating: “They barely touched the elements of internal control components.” Similarly, a participant described her AE related to IC as “inadequate.” However, another participant was more specific and said: “A total failure.” When the principal investigator asked that participant about the reason to say so, he said: “Because there were zero internal control courses during the four years.” Similarly, another participant laughed and said:

My school, the XYZ, is proud that they are among the top 100 universities, but they forgot to teach us anything about internal control... they announce everywhere that they prepare students to work in the real world... no, they do not!

Similarly, a participant summed up his views and said: “None.” The same participant compared the absence of IC topics from the academic curriculum with the CPE required by most professional certifications. Specifically, the participant highlighted that many accountants attend an IC course annually to satisfy the requirements of CPE. Hence, the participant indicated that those accountants would stay acquainted with the most recent trends in IC; however, most schools still do not approach that critical field.

Four participants highlighted the same topic that did not exist in their AE, which is the risk assessment. A participant wondered how risk assessment is absent from the curricula despite that it is a part of the IC framework. Consequently, the principal investigator asked the participant about topics the school should teach regarding risk assessment. His response highlighted the following topics: (a) how to consider risk interactions, (b) how to develop risk assessment criteria, (c) how to prioritize the risks, (d) how to assign values to each risk and opportunity, and (e) how to respond to risks. These suggested topics conform to topics recommended by some professional organizations and published in several peer-reviewed journals. Consequently, this evidence served the purpose of data triangulation.

Such findings confirmed the existing gap in the literature regarding FE. However, the gap is severer when it comes to IC education. Shockingly, there are few studies in the literature about this critical field. Consequently, there is an urgent need for many future studies to intensify the debate about IC. This debate is vital to identify the “active ingredients” that calibrate the effectiveness of IC education.

The participants provided insightful views about necessary topics that they did not learn at schools, yet the topics are significant to prepare the student to detect and to respond to ICMWs appropriately. The principal investigator gathered these topics, sorted them, and combined them with other topics that the participants deemed significant for an effective IC education. These findings are in Table 9.

Minor theme 11. The title of the theme is “inexistent effective methods or strategies to teach IC.” In contrast to another minor theme related to the same main theme, this one concentrates on methods to teach certain topics; not the topics their selves. However, like the previous minor theme, the views crystallized to condense a theme about something that did not exist in the academic process. Nevertheless, contrary to the previous theme in which all participants provided rich information, some participants did not have specific views in this regard. However, most participants presented ideas to improve AE regarding ICMWs detection. The findings corroborate the data presented in other themes and serve the purpose of the study. The principal investigator sorted the rich data emerged regarding this theme and presented them in Table 8.

Specifically, the following are selected teaching methods and strategies (see Table 8) that appeared frequently in interviews’ transcripts although they did not exist in AE: a full IC course in which the professor assigns students to two groups: one that commits ICMWs in certain work

activities, and one that tries to detect the ICMWs; internal auditing experience through an internship; integrating IC contents into other courses; a stand-alone course in IC; a combination of a stand-alone course in IC and an integration of IC contents into other courses; and integrating professional certifications into the curriculum, such as CIA, Certified Internal Controls Auditor (CICA), and Certified Controls Specialists (CCS).

When comparing these views with those about OJT in the same field, the gap in perceptions crystallizes. Several participants indicated that their organizations provided them with various IC and FD techniques. For example, analytical reviews, reconciliations, interviews, and data mining software, such as Excel, ACL, and SAS Enterprise Miner. However, shockingly, some participants indicated that their organizations did not teach them how to use the data mining software to look for anomalies in databases to identify similarities, differences, trends, and deviations in massive data sources. Other participants indicated that the data mining software available at their organizations were not effective and appropriate. Conversely, few participants complained of the absence of such software at their organizations.

Main theme 4. The fourth main theme emerged concerning the first research question is “recommendations to enhance AE related to fraud.” 100% of the participants provided information related to this theme. This was a central theme in the study because there were many participants’ quotes that condensed around the same view, which directly serves the research questions. The principal investigator asked the participants a series of questions to know their perceptions regarding how to enhance AE related to fraud. Consequently, three minor yet essential themes emerged.

Minor theme 12. The title of the theme is “effective strategies and methods to teach fraud.” All participants provided ample information regarding necessary strategies or methods to improve the AE related to fraud. The principal investigator presented these findings in Table 5.

A participant suggested having a full fraud course in which the professor assigns students to two groups: one that commits fraud in certain financial documents, and one that its mission is to detect the fraud. In this context, Arthur 7 cited a well-known Chinese proverb: “Give a man a fish, he eats for a day. Teach a man to fish, and he eats for a lifetime.” Arthur 7 emphasized that AIs should sustain the students’ knowledge regarding FD. He said it is not enough to teach students essentials of fraud, but they should practice complicated cases during their academic studies. Consequently, the principal investigator presented a new idea in this regard and asked the participants about their opinions concerning creating a new degree, which is an accounting engineering. More than half of the participants said it is an attractive idea and deserves more consideration.

Conversely, a participant rejected the stand-alone course and summed up his views as follows: “schools should not have a distinct course in fraud detection. It would be boring. Instead, they should have fraud topics in several accounting classes.” Alternatively, some participants asserted that the best method to teach fraud is through case studies approach. A participant added a critical perspective when she complained:

I think most schools integrate some fraud topics into the External Auditing class. They are suggesting that only auditors are concerned with fraud. But this is not true. Anyone should be concerned with fraud. They should train all of us as if we are financial detectives. This is why I think they should add some hot fraud spices to accounting classes.

A participant had a more holistic view regarding how to strengthen the academic methods to teach fraud. He narrated:

Let the students play the roles of the good and the bad guys. Some of them commit fraud in a certain area, and others are responsible for detecting where and how the fraud was committed. Schools can design this class as a big project. It would be a class full of fun as well. Also, add some difficult ethical dilemmas to it. Professors can integrate concepts from several classes together. They can add some internal auditing, external auditing, fraud, internal control, accounting, financial analysis... you got the idea!

Surprisingly, another participant presented a unique view to revolutionize the AE. He suggested letting the students choose their majors in the third year of the bachelor's degree. Particularly, he indicated that all ASs should study the same fundamental courses during the first two years. Then, they choose their major in the third year. After that, they choose a specialization in the fourth year. He suggested adding a major in fraud examination in the third year and a specialization in FA in the fourth year. Additionally, the same university should create appropriate master's and doctoral degrees that complement its bachelor's degrees.

Like the prior suggestion, but contrary to most other views, a participant insisted that the best strategy to revolutionize the AE is merging the professional certifications into the curriculum. Specifically, the participant suggested teaching the books of a professional certification at the fourth year of the bachelor's degree. That participant recommended creating several majors in the fourth year based on the professional certification: CPA, CMA, CIA, or CFE. The participant believed that this strategy would enable the students to focus their knowledge into a specific field, and simultaneously, schools would integrate theoretical education with professional knowledge.

Generally, participants indicated that ethics education is a vital content of FE. This finding corroborates the findings of Flynn and Buchan (2016) who confirmed that ethics education has a positive impact on the moral development of business students. Additionally, most participants suggested keeping ethics education as it is.

Nevertheless, few participants suggested revolutionizing the ethics education to prepare students better to detect fraud. These participants affirmed that the existing ethics education is adequate but not appropriate. They indicated that schools should not add more ethics education but should change parts of the contents. This finding corroborated a peer-reviewed journal article; and hence, it served the data triangulation. In this sense, Martinov-Bennie and Mladenovic (2015) pointed out there is not enough encouragement of ethical decision-making frameworks to prepare students to recognize (ethical sensitivity) and think through ethical issues (ethical judgment). In this context, a participant indicated that the primary function of ethics education should be to teach ethical systems of analysis, not moral standards of behavior.

It is evident that participants' views about ethics education were thorough. As indicated before, each participant held at least one professional certification. However, the principal investigator did not explore the correlation between ethics level and holding a professional certification because it was beyond the scope of this study. Nevertheless, the principal investigator found a necessity to indicate that Odar et al. (2017) purported that accountants who have a professional certificate are harsher towards ethically-sensitive scenarios.

All participants asserted that AE should use case studies to teach FD. Also, participants unanimously suggested that schools should teach FD through practical applications. The concept of using experiential learning to teach IC and fraud is consistent with three elements of the conceptual framework of this study. Particularly, this concept is an integration of the Fraud

Triangle Theory, the Experiential Learning Model (ELM), and the COSO Model. Moreover, the principal investigator triangulated this theme because these findings corroborated evidence from other sources. Specifically, several articles published by peer-reviewed journals, doctoral students, and professional organizations indicated that the Experiential Learning Model is the best one to teach ICMWs and FD.

However, part of the qualitative research process is to search for disconfirming evidence even to the contrary to the personal views of the researcher. In this context, the principal investigator found evidence that some participants considered ethics education as adequate but not appropriate. Also, researchers should disclose all material facts related to the study. Consequently, the principal investigator indicates that this study did not investigate any differences in perceptions due to gender or age. In this sense, gender and age were beyond the scope of the study. However, some other studies indicated that gender and age have impacts on ethics. For example, Tormo-Carbó, Seguí-Mas, and Oltra (2016) found significant differences in students' perceptions of the importance of accounting ethics depending on their gender and age. For example, female and older students showed more ethical inclinations than, respectively, male and younger students (Tormo-Carbó et al., 2016).

In summary, the participants provided rich information regarding effective strategies and methods to teach fraud. The principal investigator gathered, sorted and presented the findings in Table 5. The participants unanimously recommended integrating FD into the curriculum. The most recommended strategies were: (a) introducing a stand-alone course in FD, (b) integrating FD topics into other accounting courses, or (c) a combination of both a stand-alone course and an integration of topics into other courses. Also, there was a debate about the importance of

teaching FD through a case studies approach. A common suggestion was to make the stand-alone course a core course, not an elective one.

Minor theme 13. The title of the theme is “teaching certain topics to detect fraud.” This minor theme is one of three ones related to the main theme “recommendations to enhance AE related to fraud,” which emerged concerning the research question #1. In contrast to the previous theme that focused on strategies and methods of teaching, this theme was about the topics. The principal investigator asked the participants to suggest important topics the professors should integrate into the curriculum.

A participant suggested adopting a topic that focuses on famous fraudsters to teach students the ultimate destiny of committing fraud. Another participant recommended a full course that contains only real fraud cases. Specifically, those cases should be detailed enough to let the students feel as if they were in WEs.

The principal investigator posited the following question to each participant: Do you think that internal control is the most important topic needed to teach FD to students? Most participants (77%) confirmed immediately. This finding corroborates an article published in a peer-reviewed journal. Consequently, the principal investigator was able to triangulate the evidence. In this sense, Daniels et al. (2013) explored accounting educators and practitioners' perspectives on fraud and forensic topics in the accounting curriculum. These researchers concluded that educators and students agree that IC is the most critical topic. Furthermore, Lehmann (2010) added that IC education takes on even more importance with the enactment of the Sarbanes-Oxley Act of 2002.

However, two of the other three participants (15%) asserted that ethics is the most important educational topic to fight fraud. Surprisingly, this finding also corroborated another

article published in a peer-reviewed journal. Thus, this fact also served the purpose of data triangulation. In this context, Warinda (2013) asserted that the respondents considered the development of abilities needed to deal with ethical dilemmas as the most significant issue.

Only one participant has a unique holistic view. John 7 considered FA as the most important educational topic to prepare students to detect fraud. Interestingly, this finding corroborated a peer-reviewed journal article. Therefore, the principal investigator was still able to triangulate the findings. Specifically, Carpenter et al. (2011) investigated how much providing a course that focuses on FA affects fraud-related judgments of the learners. Carpenter et al. (2011) asserted that the FA course is the one that raises the students' level of skepticism. However, the principal investigator found a need to draw the attention of AIs to another fact related to this finding. In this sense, Carpenter et al. (2011) purported that the trained students' performance sustained after seven months of conducting the course. Thus, these researchers speculated that the impacts of a fraud-specific FA class are persistent.

Specifically, participants suggested several in-depth fraud topics to enhance AE. The following are selected topics (see Table 6) that reflect the profound views of participants: social engineering, scavenging, window dressing techniques, pass-through schemes, procurement fraud, vendor fraud preventing and detection techniques, asset misappropriation preventing and detection techniques, pay-and-return scheme, lapping, how to trace illicit transactions, interview theory, how to testify for fraud, types and forms of evidence, the ultimate end of famous fraudsters; such as Madoff, stratification of data, and forensic audits.

The participants provided valuable data concerning vital topics related to FE (see Table 6). These important findings complement the views reflected in Table 5. The principal

investigator gathered these perceptions to benefit universities that might use the data to enhance the AE.

Minor theme 14. The title of the theme is “competencies needed by business graduates.” The principal investigator asked the participants to indicate what competencies they perceive necessary for the accounting student to possess. The principal investigator sorted the views into three categories: (a) general competencies needed by business graduates, (b) general competencies needed by accounting graduates, and (c) specific competencies of accounting graduates for FD.

Most participants (54%) indicated that oral communication and team-playing capability are fundamental dynamics. Alternatively, all participants agreed that ASs should graduate with at least a basic level of knowledge regarding FE. However, there was a difference in the views regarding up to which level the knowledge would be necessary. The central reason behind the dispersion in perceptions was because participants recognized that not all ASs would deal mainly with fraud examination.

Generally, the following are selected views that frequently appeared regarding general competencies needed by business graduates: strategic thinking; soft skills; ethical behavior; professionalism; interpersonal and listening skills; and written, oral, and graphical communication. Particularly, the following are certain perceptions that frequently appeared concerning general competencies of accounting graduates: professional judgment, professional skepticism, segregation of duties, and critical thinking. However, the most highly-repeated competencies of accounting graduates for FD included: fraud examination knowledge, IC knowledge, basic knowledge in psychology, and computer-aided auditing.

Like the minor themes 12 and 13, the principal investigator sorted the views and presented them in Table 7. The principal investigator encourages future researchers to conduct studies about Table 5 to understand more the effective strategies and methods to teach fraud. Also, the principal investigator recommends another distinct study but about Table 6 to explore deeper the topics related to FE. Moreover, the principal investigator recommends a third study on Table 7 to scrutinize the nuances among the three categories of competencies needed by business graduates.

Main theme 5. The fifth central theme emerged concerning the first research question is “recommendations to enhance AE related to ICMWs.” 62% of the participants provided information related to this theme. Whereas the main theme #4 concentrated on how to enhance FE, this theme focused on IC education. However, the principal investigator divided the data collected into two minor themes according to repeated words and concepts.

Minor theme 15. The title of the theme is “effective methods to teach IC.” Shockingly, almost only half of the participants had views regarding important methods needed to teach IC effectively (see Table 8). Consequently, the principal investigator encourages future researchers to delve deeper into accountants’ perceptions particularly regarding IC education.

62% of the participants suggested that IC education should concentrate equally on both sides of the coin; theoretical knowledge and technical skills. Also, all participants agreed that IC education should benefit from contemporary teaching methods. Participants were only able to suggest a few methods. However, one should note that all participants in this study were not professors. Thus, it is justifiable that the participants were not acquainted with the contemporary educational methods.

Specifically, participants frequently suggested the following methods (see Table 8) to teach IC: providing a basic understanding of accounting processes to non-ASs who study IC, a full course that has few detailed ICMWs scenarios to engage students in detecting the ICMWs, class projects, co-lecturing or team teaching, training the professors on how to teach different topics about IC, more brainstorming sessions, and integrating IC contents into other courses.

Consequently, the principal investigator encourages AIs to adopt contemporary methods carefully. In this sense, there are several scholars in the literature noticed the correlation between the education method and the teaching outcomes. For example, teaching methods influenced active learners more than passive ones (O’Leary & Stewart, 2013). According to these researchers, usefulness was high when teaching methods matched learning styles; however, when teaching methods and learning styles did not match, usefulness deteriorated dramatically.

Minor theme 16. The title of the theme is “teaching certain topics to detect ICMWs.” Like the previous minor theme, only about 62% of the participants had views regarding the essential topics that universities should teach to prepare students for ICMWs. The principal investigator gathered and presented the findings in Table 9. This fact corroborated the previous minor theme and affirmed the gap in accountants’ knowledge.

Most participants indicated that schools should teach data mining software to learn how to look for anomalies in databases to identify similarities, differences, trends, and deviations in massive data sources. Participants suggested that they would use such software to test the potential weaknesses in the IC system.

Generally, participants enriched the findings by providing profound views. By comparing the views regarding IC (Table 9) and fraud (Table 6) together, the principal investigator inferred that fraud-related perceptions were deeper and more comprehensive. This conclusion might

suggest that the gap in IC knowledge is still wide even after OJT. Consequently, that catastrophic gap might interpret why external auditors detect only a small portion of fraud schemes. However, the principal investigator encourages schools to adopt the participants' suggestions regarding valuable IC topics (Table 9). The following are selected topics that appeared frequently in interviews' transcripts regarding how to enhance IC education: segregation of duties, professional skepticism, principles of governance, how management can override the controls, access control, assessment questions, observation, monitoring, supervision, proactive detection measures, ICOFR, COSO's ERM, and unpredictable procedures.

Main theme 6. The main themes 6, 7, and 8 relate to the second research question. By analyzing the interviews' transcripts, eight main themes emerged; five themes related to the first research question, and three themes under the second question. The second research question was: "How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive the effect that their education has had on their preparedness to detect and respond to fraud and ICMWs?" The principal investigator elaborated the themes and supported them by careful consideration of individual accountants' selected quotes.

Table 12

Main Themes Emerged Regarding RQ2.

RQ2.	How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive the effect that their individual education has had on their preparedness to detect and respond to fraud and ICMWs?		
Main Themes	Strengths in AE related to fraud	Strengths in AE related to ICMWs	Effects of OJT
Frequency	77%	54%	100%

The sixth main theme, which is the first central theme emerged concerning the second research question, is "strengths in AE related to fraud." 77% of the participants provided

information related to this theme. The principal investigator asked the participants to state any success of schools in preparing students to fight fraud. Only three minor themes barely emerged. This fact asserts how accountants consider the schools almost failed in providing them with a solid education. Out of hundreds of courses and educational strategies and methods, the participants were satisfied almost only with three matters: Ethics courses, External Auditing course, and certain teaching methods at the graduate level. Consequently, this fact confirms the problem stated in this study. Thus, the principal investigator encourages the universities to rely on the findings and delve deeper into how to enhance the educational methods and topics.

Minor theme 17. The title of the theme is “ethics education.” Open coding enabled the principal investigator to code this theme because most participants provided views regarding ethics education. Furthermore, using axial coding, the principal investigator sorted this theme under the central theme related to strengths. In this sense, there was a general agreement among participants on the effectiveness of the AE concerning ethics. This finding encourages schools to calibrate educational topics other than ethics to enhance students’ preparedness related to anti-fraud.

All participants indicated that they had a stand-alone course in ethics, ethics topics integrated into other courses, or both. This fact confirmed that most universities had realized the importance of incorporating ethics into the curriculum. Also, contrary to ICMWs and FD, most participants indicated that their ethics education was sufficient, effective, adequate, or appropriate. For example, a participant narrated:

I had a full course in ethics. It was a good course... it had a lot of cases and scenarios, and we had to discuss other students’ answers on the right behavior we should do. I still remember some cases; do you believe that! There was a case that attracted a lot of class

discussion. It was about a company that could save hundreds of grands in taxes by using a certain tactic. It was legal, but it was unethical. The professor divided the class into those encouraging the legal yet unethical tax avoidance and those supporting the ethical decisions.

This quote confirms the long-term effectiveness of ethics education at some schools. Consequently, the principal investigator encourages future researchers to investigate what might cause a specific case study about fraud to be more memorable than another one. Conversely, another participant reported: “No, I do not remember having a course in ethics. But ethics existed in several courses... and that was more than enough.” Similarly, another participant said: “I had a full chapter of ethics and some ethics topics in some other classes.” Moreover, a participant said: After I accepted my first job offer, I noticed that my ethics education was appropriate.” Alternatively, a participant said: “I do not remember the specific class I had ethics in it, but I do know I had studied good ethics cases.”

Part of the qualitative research process is to search for disconfirming evidence even to the contrary of the personal views of the researcher. In this sense, a participant suggested that ethics education at the graduate level is better than that at the bachelor’s level. Furthermore, one participant said: “Ethics education was good, but they made a big mistake. I had only one ethics class, and it was elective. I took that class, but most students did not. I learned a lot... they did not!” Also, another participant revealed that the ethics course was elective, and it was less than three credit hours.

The principal investigator was able to triangulate those findings with evidence in articles published by peer-reviewed journals. For example, Dellaportas et al. (2014) asserted that 60% of Australian universities that have an ethics-dedicated course offered the course as an optional one.

Also, Apostolou et al. (2013) indicated that the modes of ethics delivery include a standalone course on ethics specifically or a discipline-specific course with ethics elements. Those researchers indicated that Auditing is the most popular course to incorporate ethics into it. Also, educators can integrate ethics into other courses, such as Financial Accounting or Tax; for example, a financial accounting course can address the ethics of earnings management (Apostolou et al., 2013).

In summary, all participants indicated that ethics education is appropriate and sufficient. These perceptions might encourage the universities to keep ethics education as it is. There is no need to add more ethics education. Most participants confirmed the effectiveness of integrating ethics topics into other courses, which is an educational strategy many schools follow.

Minor theme 18. The title of the theme is “External Auditing course.” This minor theme is one of three ones related to the main theme “Strengths in AE related to fraud,” which emerged concerning the research question #2. When the principal investigator asked the participants to indicate what topics or courses the universities are successful in teaching them, a theme crystallized indicating the External Auditing course.

Arthur 7 described his educational experience with External Auditing as “awesome.” He said that this course did help him in studying for the CPA exam. Leah 4 narrated:

I had two courses in External Auditing during my undergraduate study. They were tough especially the second one. But both were enough to teach me the fundamentals of external auditing. I think the way my school taught audit should stay as it was.

David agreed with this view, but he indicated a hidden reason behind the success of AE in this field: “From my point of view, I think the schools are doing a great job when teaching External Auditing only because it is a part of the CPA exam.” Although another participant

(Thomas 8) complained that the External Auditing course lacks practical applications, he confirmed that its theoretical knowledge is valuable. John 7 corroborated this view. He said the problem was with the professor who lacked professional experience; however, John 7 coincided with other participants and asserted that the course textbook had critical information.

Generally, the participants perceived the External Auditing course as necessary, appropriate, valuable, but there is a room for improvement. Some participants suggested adding more cases and practical applications to that course. Another enhancement was to assign this course to only professors who have evident practical experience in external auditing.

Minor theme 19. The title of the theme is “more practical applications and case studies at the graduate level.” When analyzing the interviews’ transcripts, a theme emerged because of the repetition of the following words in the same context: “cases,” “master’s,” practical applications,” appropriate,” and “graduate studies.”

The principal investigator asked the participants about whether they consider the schools have strengths in FE. Paul responded: “I noticed a huge difference between what they teach in the master’s courses vs. the undergraduate. The master’s courses included much more cases.” Michael validated this view when he reported:

Yes, I remember a lot of great things the school was successful in teaching them. I had a lot of practical applications that introduced me to the real world. But that was only at the graduate level. The courses became more about how to apply the knowledge.

Although most participants affirmed the failure of their AE in preparing them to detect fraud and ICMWs, some participants made an exception regarding the master’s courses. Those participants asserted that there were certain strengths at the graduate level. In summary,

participants indicated that the master's courses contained more cases and practical applications that apply theoretical knowledge to real-world examples.

Main theme 7. The seventh central theme, which is the second main theme emerged concerning the second research question, is “strengths in AE related to ICMWs.” 54% of the participants provided information related to this theme. Three themes emerged from the interviews' transcripts. One theme is about topics in IC, whereas another theme was regarding topics in internal auditing. Alternatively, the third theme condensed about increasing the practical applications.

Minor theme 20. The title of the theme is “some cases or topics regarding IC.” Only about half the participants indicated that they learned some valuable academic topics concerning IC. However, the same participants complained that the profound topics were only a few ones. Two participants indicated that the introduction of these few topics in AE is a cutting-edge strategy. Thus, those participants encouraged all schools to adopt more educational topics in IC to rectify academic failure. The principal investigator merged these suggestions with other related findings and presented them in Tables 8 and 9.

Minor theme 21. The title of the theme is “introduction of topics related to Internal Auditing.” Few participants (only four) indicated that they had topics in internal auditing during their academic studies. Generally, those participants were satisfied with the topics and described them as “strong.” However, only one participant indicated that his school had a stand-alone course in Internal Auditing. Nevertheless, that participant pointed out to the elective nature of the course; and hence, many students preferred not taking it. The principal investigator considers this fact as one of the implied reasons behind the academic failure. Put differently; schools should design a core course in Internal Auditing.

Generally, few participants stated that schools have a strength due to the incorporation of internal auditing in the curricula. Other participants encouraged the AIs to integrate more topics of internal auditing into other courses. Alternatively, some participants found a necessity to create a core, stand-alone course in internal auditing. The principal investigator presented the views in Tables 8 and 9.

Minor theme 22. The title of the theme is “more practical applications and case studies at the graduate level.” Like minor theme 19, some participants noticed that graduate education contains more cases and practical applications related to IC than the undergraduate studies. However, by contrasting the themes related to graduate education, the principal investigator found the participants more satisfied with IC than fraud. This fact necessitated delving deeper into perceptions to understand why participants ranked IC graduate education as better than FE. The core perception was indicating that graduate courses contained advanced cases in IC. For example, John 7 reported:

If my memory serves me right, I remember one of the master’s courses included very advanced cases in internal control. With the help of the professor who had experience in the field, we could imagine ourselves working inside the organization discussed in the case... it was just like a virtual reality. But we could understand each weakness of the internal control study. This is a huge success to the university and to the author of that textbook... the textbook included nothing but cases. Each case was roughly thirty pages on average... I think you agree with me that this is the best way to teach fraud and internal control.

Generally, participants were more satisfied with the graduate topics than the undergraduate topics regarding fraud and IC. At the undergraduate level, participants indicated

that IC education suffers more than FE. Contrary to that perception, participants noticed the graduate topics related to IC are better than fraud topics. These views might draw schools' attention to the advantages of adopting the graduate-level strategies related to IC and applying them on fraud at both the graduate and undergraduate levels. Additionally, some participants suggested adopting more textbooks that contain only long, detailed cases. Therefore, the principal investigator encourages AIs to adopt one cases textbook to each of the following fields: fraud, IC, ethics, and FA. Such a strategy might enrich students' momentums by calibrating their knowledge practically toward real-world examples.

Main theme 8. The eighth central theme, which is the third main theme emerged concerning the second research question, is “effects of OJT.” 100% of the participants provided information related to this theme. In general, participants were satisfied with their OJT. However, the principal investigator delved deeper into their views to explore why such training was successful. After analyzing interviews' transcripts, six minor themes crystallized in this regard.

Minor theme 23. The title of the theme is “CPE.” Several words condensed to formulate a theme about the Continuing Professional Education (CPE). Most participants provided views confirming the effectiveness of CPE to enhance their knowledge. For example, two participants indicated that their employers send them to attend conferences that increase their professional knowledge. Other participants confirmed the value of the coaching and mentoring provided by their employers. Also, some participants highlighted that their employers do not hesitate in supporting them with technical assistance and reflective supervision. Other participants added the following: consultation, and communities of practice. However, some participants drew the principal investigator's attention that not all professional education they received from their

employers related directly to their position. In this sense, some participants indicated that they received the training to boost their team functioning skills, leadership skills, systems thinking skills, and effectiveness skills.

Generally, participants were satisfied with the OJT. Specifically, they indicated the usefulness of the CPE they received. Moreover, they highlighted that there are different methods available for the employers to provide the continuing education. Additionally, participants were aware that the OJT they received also included topics unrelated directly to their specific positions, but it enhanced their general competencies. The principal investigator encourages employers to use wisely the CPE to rectify the inherited weaknesses in accountants' academic knowledge.

Minor theme 24. The title of the theme is “bonus for professional certifications.” Some participants indicated that their employers reimbursed them for most costs related to obtaining new professional certification. Also, some participants reported that their employers sent them to attend live-courses that prepare them to sit for certain professional certifications. Additionally, seven participants indicated that they get a bonus if they obtain additional certification. Thus, OJT has several strengths. Particularly, the relationship between OJT and employees' personal interests are mutual. This fact might inspire future scholars to explore innovative ideas to make also the academic experience a win-win education.

Minor theme 25. The title of the theme is “filling a part of the academic gap.” Most participants indicated that their employers filled most of the gaps in their academic knowledge. In this sense, some participants confirmed that OJT was more practical whereas AE had inherently-theoretical nature. Additionally, a participant noticed that her employer effectively hones OJT to focus only on what her daily tasks need. Also, most participants indicated that OJT

succeeded in preparing them to detect and to respond appropriately to fraud and ICMWs whereas the AE failed relatively.

Participants' views suggest that employers are the ones who indeed realized the "active" topics in which the schools are failing to enhance the students' knowledge. The reason is that most participants' views indicate that their employers knew exactly the gaps in their academic knowledge. Nevertheless, if these views prove right, the principal investigator proposes the following question: If the employers know exactly in which topics to train the accountants, why do accountants still fail to detect most fraud schemes? Consequently, the principal investigator encourages future researchers to explore that question by focusing on studying accountants' perceptions only regarding the OJT. Specifically, future scholars should explore accountants' perceptions concerning weaknesses in OJT. Furthermore, the principal investigator encourages the scholars to focus on fraud schemes detected by coincidence. Then, scholars should investigate why accountants could not detect such schemes using the usual auditing procedures and standardized fraud examination techniques. The findings of those studies might shed light on FD strategies that neither exist in AE nor OJT.

Generally, participants considered OJT as successful. In this sense, employers know exactly how to elevate the knowledge of the accountants. Some participants provided a frustrating picture of AE. For example, they suggested that the task of schools is limited to only preparing the students to receive future training by the employers. Thus, the principal investigator encourages future researchers to study qualitatively and quantitatively employers' perceptions to understand how they design the training plans and how they select the topics.

Minor theme 26. The title of the theme is "reimbursement for academic tuition." This minor theme is partly like the minor theme #24. However, some nuances led to the

differentiation between the two themes. The reason is due to the reimbursed fees and the amount of future bonus. Some participants indicated that the encouragement by the employers to follow an additional certification has an effect less than that related to the additional academic degree.

For example, some participants indicated that their employers would pay parts of the tuition if they followed another academic degree that has a major effect on their productivity. Few participants indicated that they have a full reimbursement. Participants stated that this strategy is exactly to the opposite of what regular students have. Whereas a regular student usually pays out of pocket to attend the college or relies heavily on loans, those employees pay nothing. The participants suggested that this “special” education has a long-term effect on their careers, knowledge, and loyalty.

Generally, one of the main strengths of the training offered by employers is encouraging employees to follow long-term education that has strategic effects on them. The reimbursement of tuition fees does encourage the employees to follow a second master’s degree. This training program has mutual benefits to both the employer and the employee. Conversely, many participants blamed their AIs for the failure of preparing students appropriately to respond to fraud and ICMWS. Put differently, whereas participants viewed OJT as a win-win relationship, they described the academic courses as fancy ones, which are necessary for the sake of appearances or at least for basic knowledge.

Minor theme 27. The title of the theme is “assessment of OJT.” Like main themes 6 and 7, the principal investigator explored participants’ perceptions to understand how they evaluated their OJT. The purpose was to contrast accountants’ views on AE versus OJT. Another purpose was to explore how and why OJT differs from AE. These answers could help the universities in

honing specific efforts toward academic topics and educational methods that have more effectiveness with longer sustainability.

A participant narrated:

They trained us on how to find red flags; such as... real red flags! They trained us on how to look for high-risk areas and what to do then... they customized the training to our firm. They did not waste our time or theirs on red flags that we will not face... they taught us to perform walk-through tests as well... how to plan our time, our assignments... they taught us when to decide to perform more tests.

Whereas other participants validated these views, two of them suggested an enhancement by stating: "They should train us regularly by a reputable third party." Similarly, another participant validated this view by stating: "My boss sends me to a training course every three months." Conversely, a participant asserted the effectiveness of OJT by saying: "I believe many newly-hired employees would feel as if they were thrown in the middle of the desert if their employers did not train them ASAP." Also, one participant reported: "I learned the concept of professional skepticism at school, but my employer is the one who taught me how to apply it to practical scenarios."

In contrast to certain other views, some participants suggested that OJT is strong because it is not formal. For example, a participant said: "Just let the supervisors share their experience with subordinates. You do not need to send people to fancy training classes. We only need a good mentor!" Another participant provided a distinct perception when reporting:

I think the major reason behind the success of such training is because the employer trains us on a few points only. He trains us based on prior fraud incidents he experienced in his company. He does know his system and what some people had done to override it.

Some views were about specific topics, such as ethics. For example, a participant said: “My employers have their own written manual that helps us to choose the appropriate action when we face ethical dilemmas. It is basic lines, but it tells us how to generalize though.”

In summary, participants considered OJT as sufficient, adequate, and valuable. They indicated that OJT is much more successful than AE in preparing accountants to detect and respond to fraud and ICMWs. Nevertheless, some participants indicated that OJT has some weaknesses and limitations. However, participants agreed that OJT is the primary defense line against fraud and ICMWs.

Minor theme 28. The title of the theme is “how to enhance OJT.” At the main themes 4 and 5, the data concentrated on how to enhance the AE. Alternatively, at the minor theme 28, the participants suggested how to enhance the OJT.

A participant summed up his views as follows: “There will always be some people who want to beat the system. So, managers need to keep teaching us the most recent trends in fraud.” Similarly, another participant validated that view but added another perception: “It is not enough to teach us how to detect the fraud; they should focus on how we can prevent fraud as well.” In the same context, a participant said: “They need to keep us posted on recent fraud incidents; the big ones with a lot of dough.” Moreover, a participant reported that: “It is not enough to have some IT knowledge. We need training on IT audit from IT standpoint.” Alternatively, two participants shared the same perception. One of them stated: “We need additional case-based scenarios.” However, a participant focused on what to teach the new employees just after recruitment. She said: “Before anything else, they need to teach us what to look for.” However, the same participant elaborated and said: “Always tell me what to do. They should teach me the scenarios available to me when I face a certain scenario, and how to choose the best alternative.”

Some other views were different, for example, a participant said: “They should have an ethics club. It would have several benefits.” One participant said: “We need to learn the potential risks factors.” However, another participant contradicted this view by indicating: “We had enough of significant risks and potential risk factors. We need to learn how to narrow what we find.” Interestingly, a participant said: “They need to teach and support the loyalty; no kidding.” Also, a participant suggested that the written rules and policies are not sufficient. She said: “They need a stronger handbook.” In this sense, another participant corroborated this view and emphasized: “A financial policies and procedures manual; we need an outstanding one.”

Generally, participants agreed on adding more training regarding the IC. Nevertheless, there were few distinct opinions. For example, a participant suggested deterring the employees from committing fraud. He said: “Before they train the employees how to detect fraud, deter them. Let them know the consequences of fraud.” When the principal investigator mentioned this idea to another participant, the latter did not agree and summed up his views as follows: “I do not think it is a good idea. Everyone knows the consequences. Instead, focus on teaching them how to do their daily tasks. They should start the recruitment by an orientation of the expectations of the job.”

In summary, participants were able to provide ample information regarding how to enhance OJT to prepare the accountants for ICMWs and FD. The principal investigator sorted the suggested enhancements and presented them in Table 10. Employers and universities might benefit from these findings to strengthen and customize their training and education.

Relationship of themes to research questions. All emerged themes relate to the research questions directly. Specifically, all themes helped in answering the research questions. Thus, the findings helped in accomplishing the purpose of the study collectively.

A total of eight main themes emerged concerning the two research questions. Five main themes emerged concerning the first question and three for the second one. The eight main themes included twenty-eight minor themes. In average, there were three minor themes for every single central theme. Many perceptions crystallized around six unique minor themes out of the twenty-eight ones (see Table 14). Thus, the principal investigator gathered and sorted sub-minor themes under these six unique minor themes (see Table 13). No main, minor, or sub-minor theme did not relate to one of the research questions.

The first research question was about participants' perceptions regarding the weaknesses in AE related to ICMWs and FD. Sixteen minor themes emerged regarding this question. The principal investigator used the axial coding technique to sort the sixteen minor themes under five main themes as follows:

- Recognizing the strength or weakness in knowledge
- Weaknesses in AE related to fraud
- Weaknesses in AE related to ICMWs
- Recommendations to enhance AE related to fraud
- Recommendations to enhance AE related to ICMWs

Collectively, the sixteen minor themes were helpful in answering the first research question. The principal investigator was able to understand how private, corporate and managerial accountants in a major mid-Western metropolitan area perceived their weaknesses in detecting and responding to fraud or ICMWs within their organizations. Participants' views provided significant insights into the problem stated in the study.

The second research question was about participants' perceptions regarding the effect of the AE on their preparedness to detect ICMWs and fraud. Twelve minor themes emerged

regarding this question. The principal investigator gathered and sorted these twelve minor themes axially under three main themes as follows:

- Strengths in AE related to fraud
- Strengths in AE related to ICMWs
- Effects of OJT

Collectively, the twelve minor themes were helpful in answering the second research question. The principal investigator was able to explore how private, corporate and managerial accountants in a major mid-Western metropolitan area perceived the effect that their education has had on their preparedness to detect and respond to fraud and ICMWs. The answers to this question provided additional profound insights into the problem stated in the study.

Table 13

Themes According to Research Questions

	Research Question	Main Themes	Minor Themes	Unique minor Themes
	1	5	16	5
	2	3	12	1
Totals	2 research questions	8 main themes	28 minor themes	6 unique minor themes

Table 14

The Unique Minor Themes

Unique Minor Theme	Main Theme	Research Question
Effective strategies and methods to teach fraud	Recommendations to enhance AE related to fraud	RQ1.
Teaching certain topics to detect fraud		
Competencies needed by business graduates		

Effective methods to teach IC	Recommendations to enhance AE related to ICMWs	
Teaching certain topics to detect ICMWs		
How to enhance OJT	Effects of OJT	RQ2.

Summary of the findings. The principal investigator was able to saturate the data when conducting the eleventh interview. Also, the principal investigator triangulated the data by corroborating the findings with evidence from articles published by professional organizations or peer-reviewed journals. Accountants' perceptions of how AE prepared them to detect ICMWs and fraud in WEs was the focus of the study. The first concentration was on fraud because it is a global issue (McCabe, 2018; Gates et al., 2016). Education was the second concentration because AE has a positive influence on deliberative reasoning and ethical decisions (Thomas, 2012). Particularly, some studies indicated that first-year accounting students might make different ethical decisions than first-year business students following their different academic courses and topics (Thomas, 2012). Consequently, the principal investigator expected the study to enrich the literature and to enhance the accounting practice by exploring the "active ingredients" in the effective FE. The principal investigator determined to identify the dynamics of a successful FE by exploring perceptions of experienced accountants. Also, the principal investigator gathered participants' profound insights regarding the weaknesses and strengths in their academic preparedness to detect and respond to fraud and ICMWs. The main beneficiary of the study is AIs that might use the findings to change how they calibrate the parameters of FE.

The method of the research is qualitative with exploratory multiple-case study design. The principal investigator was able to saturate the data by conducting thirteen semi-structured, face-to-face interviews with accountants who encountered fraud or ICMWs. The principal investigator used a combination of purposive snowball sampling and criterion sampling

techniques to recruit the thirteen participants. To analyze the data, the principal investigator used open coding, axial coding, content analysis, and cross-case synthesis. Furthermore, the principal investigator triangulated the data by corroborating the findings with three sources of evidence: peer-reviewed journal articles, articles published by professional organizations, and doctoral dissertations.

The participants confirmed that the complexity of occupational fraud has received considerable attention during the past few years and will continue to cause concern. Consequently, participants suggested that AIs should teach the most recent practical techniques regarding the detection of financial statement manipulation and other types of occupational fraud. In this context, participants stated that professors should stay informed of emerging business trends and rapidly-advancing technologies, such as the methods employed by increasingly-sophisticated information thieves. Additionally, participants indicated that schools should focus more on Big Data, business analytics, and data security. For example, schools should teach data mining software, how to create data security policies and related ICs, and key strategies for mitigating the threat of malicious data theft.

Eight main themes emerged concerning the two research questions (see Table 2). Five central themes related to the first research question, and three condensed under the second research question. Additionally, each main theme included minor themes resulting in twenty-eight minor themes under the eight central themes (see Table 3). Moreover, many participants' perceptions and suggestions crystallized particularly around six unique minor themes (see Table 15). In this sense, the principal investigator was able to sort valuable sub-minor themes under those six unique minor themes (see Tables 5, 6, 7, 8, 9, and 10).

The first research question was about participants' perceptions regarding the weaknesses in AE related to ICMWs and FD. Sixteen minor themes emerged regarding this question as follows:

- Realizing the academic gap in ICMWs or FE
- Weaknesses in determining who is responsible for fraud or ICMWs detection
- Insufficient AE regarding fraud
- Insufficient AE regarding IC
- Sufficient OJT regarding fraud or IC
- Recognizing how fraud and ICMWs were detected
- Recognizing the expected competencies of ASs
- Inexistent topics about how to detect fraud
- Inexistent effective methods or strategies to teach fraud
- Inexistent topics about how to detect ICMWs
- Inexistent effective methods or strategies to teach IC
- Effective strategies and methods to teach fraud
- Teaching certain topics to detect fraud
- Competencies needed by business graduates
- Effective methods to teach IC
- Teaching certain topics to detect ICMWs

The principal investigator used axial coding to gather and sort these sixteen minor themes under five central themes as follows:

- Recognizing the strength or weakness in knowledge
- Weaknesses in AE related to fraud

- Weaknesses in AE related to ICMWs
- Recommendations to enhance AE related to fraud
- Recommendations to enhance AE related to ICMWs

The second research question was about participants' perceptions regarding the effect of AE on their preparedness to detect ICMWs and fraud. Twelve minor themes emerged regarding this question as follows:

- Ethics education
- External Auditing course
- More practical applications and case studies at the graduate level
- Some cases or topics regarding IC
- Introduction of topics related to Internal Auditing
- More practical applications and case studies at the graduate level
- CPE
- Bonus for professional certifications
- Filling a part of the academic gap
- Reimbursement for academic tuition
- Assessment of OJT
- How to enhance OJT

The principal investigator gathered and sorted these twelve minor themes under the following three main themes:

- Strengths in AE related to fraud
- Strengths in AE related to ICMWs
- Effects of OJT

Table 15

Presentation of Unique Minor Theme

Unique Minor Theme	Table
Effective strategies and methods to teach fraud	Table 5
Teaching certain topics to detect fraud	Table 6
Competencies needed by business graduates	Table 7
Effective methods to teach IC	Table 8
Teaching certain topics to detect ICMWs	Table 9
How to enhance OJT	Table 10

The first main theme is about how the participants recognized the strengths or weaknesses in their knowledge related to fraud and ICMWs. In summary, the principal investigator found the following insightful views emerging from the interviews' transcripts:

- Most accountants, in this study, realized the gap in their knowledge due to weaknesses in their AE related to fraud and ICMWs.
- All accountants rejected FD as their primary responsibility. All accountants realized that management is the party responsible for FD and for designing the IC system. Most accountants agreed that they have “some” responsibility concerning FD. Additionally, they indicated that personnel, at all levels of the organization, have “some” responsibility for dealing with fraud risk. However, participants pointed out that in addition to management, internal and external auditors have “unique” duties regarding ICMWs and FD. Generally, accountants are satisfied with their responsibility based on the concept of professional skepticism.
- Most accountants described their AE related to FD as insufficient.
- All accountants described their AE related to ICMWs as insufficient, non-existent, or even catastrophic.

- Most accountants described their OJT as sufficient or adequate concerning fraud and IC. Although few accountants highlighted some weaknesses in this training, almost all accountants asserted that the employers are the ones who resolve a significant part of the gap in accountants' knowledge.
- All accountants realized how they detected the fraud schemes or the ICMWs. The participants appeared ready to provide ample information regarding how they detected the fraud or ICMWs. The detection was because of a coincidence, a tip, or due professional care. All participants confirmed the significance of professional skepticism in the detection. Moreover, participants suggested the following measures to strengthen the IC system: segregation of duties, monitoring, observation, supervision, effective control culture, robust IC design and execution, periodic independent verification, and documented standard operating procedures.
- All accountants provided rich information regarding the expected competencies of ASs. According to the emerging themes and data collected, the principal investigator sorted these competencies into three categories: (a) general competencies needed by business graduates, (b) general competencies needed by accounting graduates, and (c) specific competencies of accounting graduates for FD (see Table 7).

The second main theme is about the weaknesses in AE related to fraud. The principal investigator found the following profound views:

- Most participants identified some anti-fraud teaching methods that did not exist in their AE (see Table 5).

- All participants identified a spectrum of important anti-fraud topics that did not exist in their AE (see Table 6).

The principal investigator found the following views concerning the third main theme, which is about the weaknesses in AE related to ICMWs:

- All participants identified several IC topics that did not exist in their AE (see Table 8).
- Most participants identified some IC teaching methods that did not exist in their AE (see Table 9).

Some perceptions that relate to the fourth main theme, which is about enhancing AE related to fraud, are:

- The participants provided rich information regarding effective strategies and methods to teach fraud (see Table 5).
- The participants suggested valuable topics related to FE (see Table 6).
- The participants provided detailed views about competencies needed by business graduates (see Table 7).

The fifth main theme included views about enhancing AE related to IC, such as:

- Over half of the participants provided profound information regarding effective methods to teach IC (see Table 8).
- Over half of the participants provided information regarding necessary academic topics that universities should teach to prepare students to detect and respond to ICMWs (see Table 9).

The sixth main theme is about the strengths in AE related to fraud. The principal investigator found the following insightful views condensing from the interviews' transcripts:

- Ethics education is appropriate and sufficient. There are no critical modifications needed to enhance it.
- External Auditing course is valuable, appropriate, and sufficient. However, universities should add more cases and practical applications to it. Also, only professors with related practical experience should teach the course.
- There are certain apparent strengths in AE at the graduate level. Generally, the master's courses include more cases and practical applications than the undergraduate level.

The following views emerged concerning the seventh main theme about the strengths in AE related to ICMWs:

- Both graduate and undergraduate studies have few strengths due to the inclusion of some cases or topics related to IC. Participants encouraged the universities to integrate more IC topics into the curriculum.
- There is an academic strength resulting from the existence of some internal auditing topics in other courses. However, some participants found a necessity to incorporate more internal auditing topics. Also, there was a suggestion to create a non-elective, stand-alone course in internal auditing.
- Participants provided contradicting opinions regarding the academic strength of IC education versus fraud. At the undergraduate level, both fields suffer from weak education, but IC education is the weaker. At the graduate level, the FE becomes the weaker. Participants suggested adopting some textbooks that rely only on long, detailed cases creating a virtual reality to let the students practice detecting the ICMWs.

The eighth main theme included insightful perceptions about the effects of OJT, such as:

- The participants agreed on the effectiveness and importance of OJT they receive as a CPE. Some methods to offer CPE included: conferences, coaching, mentoring, technical assistance, reflective supervision, consultation, and communities of practice. In addition to topics related directly to the trainee's career or position, CPE included other topics or skills that enhance the general productivity of the employee. For example, team functioning skills, leadership skills, systems thinking skills, and effectiveness skills.
- Most participants indicated that their employers offer them a bonus to encourage them to earn additional professional certifications.
- The participants claimed that OJT resolved significant gaps in their academic knowledge. However, the principal investigator encourages future researchers to scrutinize that claim by investigating why the accountants still fail to detect most fraud schemes. In this sense, future researchers might compare employees who received OJT with those who did not. The purpose would be to measure the effectiveness of OJT.
- The reimbursement of tuition fees does encourage the employees to follow a second master's degree.
- The participants considered OJT as much more successful than AE although OJT has certain weaknesses and limitations.
- A theme emerged about participants' suggestions regarding how to enhance OJT (see Table 10).

Part of the qualitative research process is to search for disconfirming evidence even to the contrary of the personal views of the researcher. Consequently, the principal investigator explored disconfirming perceptions and provided certain quotes as evidence of opposite views. However, the principal investigator was able to triangulate the data. In this sense, the principal investigator corroborated the findings with confirming evidence from three other sources, such as articles published by peer-reviewed. Furthermore, the principal investigator compared the themes among the thirteen cases. Finally, the principal investigator was able to saturate the data. In this sense, after the eleventh interview, there were no new themes or any further information that could provide additional insights into the research questions. Consequently, the eight main themes, which included twenty-eight minor themes, answered the research questions collectively; and thus, the principal investigator accomplished the purpose of the study.

Applications to Professional Practice

The applications of the study to practice are two-fold because they benefit accounting practitioners and educators. Accountants and ASs might use the study to understand the views of other accountants on the impacts of AE related to fraud and IC. Consequently, they would be able to make better-informed decisions regarding how to resolve the gaps in their AE. Additionally, employers would be more informed on the reasons resulting in external auditors discover only a small fraction of the fraud cases. Thus, employers would make more enlightened decisions regarding how to structure, formalize, standardize, or customize OJT to limit the repercussions of academic failure. Alternatively, the applications of the study to professional practice would have indirect, critical influence by impacting topics and strategies deemed adequate by schools to teach fraud and IC. Put shortly; this indirect impact would affect the accountants by enhancing accounting education. In addition to the tactical remediation of

deficiencies in the pedagogical contents, the influence would have long-term consequences because it impacts the strategic methods of FE.

The findings might lead to change the anti-fraud intervention by the accounting profession. In this sense, all findings relate directly to accounting education. For example, the findings would add practical value to AIs by realizing what topics are most needed to equip ASs with the necessary knowledge for FD&P. Furthermore, the study presented viable strategies and methods to teach several anti-fraud topics.

The incorporation of fraud and ICMWs topics into the academic curricula would benefit ASs, AIs, employers, societies, accounting practitioners, fraud academicians, and economies. The principal investigator explored how accountants perceive their AE prepared them to detect and respond to fraud and ICMWs. Particularly, the participants expressed their views regarding the strengths and weaknesses of (a) AE concerning FE, (b) AE concerning IC education, and (c) OJT concerning fraud and ICMWs.

Specifically, the principal investigator gathered and ranked participants' views regarding essential topics that schools should integrate into the curricula to enhance teaching fraud and ICMWs. Consequently, the findings apply to professional practice as follows:

- Accountants can use the findings; presented in Tables 5, 6, 8, and 9; to understand deficiencies in their academic preparedness regarding fraud and ICMWs. Thus, they might be able to develop a continuing education plan to resolve the gaps in their knowledge.
- AIs can use the findings; presented in Tables 5, 6, 7, 8, and 9; to enhance their education concerning fraud and ICMWs and to leverage the competencies of ASs.
- Employers can use the findings, presented in Table 10, to enhance employee OJT.

- Future researchers can benefit from the literature review that uncovered existing trends in the literature regarding FA, contemporary methods to teach fraud and IC, and perceptions regarding ICMWs and FE expressed by accountants, employers, students, and professors.

The specific topics and certain strategies to teach ICMWs and fraud reflect the originality of the findings. The principal investigator encourages AIs to benefit from the findings by modifying the existing accounting curriculum to include ICMWs and fraud topics. Moreover, the study contained the principal investigator's perceptions of how to revolutionize AE, such as the creation of a new, five-year bachelor's degree in accounting engineering.

The answers to the research questions would bridge the gap between accounting practice and demand. In this context, the findings would advance the literature by exploring the gap between what managers expect accountants can do and between what undergraduate courses prepared them to do. Specifically, the answers to the research questions would resolve an apparent gap in the literature by understanding how schools can enhance the education to better prepare accountants to respond to critical challenges encountered in WEs.

The principal investigator encourages employers to restructure and formalize OJT related to fraud to resolve the gaps in the employees' knowledge resulting from AE failure. Put differently; this study would help organizational managers to customize OJT to meet accountants' expectations based on their perceptions and concerns. Alternatively, accounting firms can also benefit from the findings to concentrate on training their CPAs on certain topics (see Tables 6, 9, and 10) and by specific strategies (see Tables 5 and 8). Alternatively, this study would help educators and professional accountants to realize the effect of integrating undergraduate courses and topics about fraud, IC, and FA into the curriculum.

Recommendations for Action

Existing educational methods are not enough to curb the trend of frauds and ICMWs. Hence, the principal investigator recommends several actions to fill the void. The principal investigator calls future researchers to hone their efforts toward filling the gaps in the existing literature concerning ICMWs and FE. Moreover, the principal investigator encourages employers to benefit from the data presented in Table 10 to enhance OJT concerning ICMWs and fraud.

Furthermore, the principal investigator calls professors and AEs to revolutionize the teaching methods (see Tables 5 and 8) and topics (see Tables 6, 9, and 10) as a result of the academic failure to prepare students to detect and respond to fraud and ICMWs appropriately. The revolutionary actions should be of strategic nature to sustain the educational effects. In this sense, the principal investigator encourages AIs to adopt the findings of this study as follows:

- The data presented in Table 5 help in creating effective strategies and methods to teach fraud
- The data presented in Table 6 help in integrating certain fraud topics into the curricula
- The data presented in Table 7 help in understanding how to enhance the competencies needed by business graduates
- The data presented in Table 8 help in creating strategies and effective methods to teach IC
- The data presented in Table 9 help in integrating specific IC topics into the curricula

Consequently, AIs may enhance the fraud studies by examining and considering the significant educational implications of this study. Specifically, the principal investigator recommends that AIs incorporate specific fraud and ICMWs topics into related courses. Alternatively, there is an urgent need to design a framework for the pedagogy of FA.

The most effective classroom pedagogical tool to teach fraud is the use of case studies, typically augmented with reflective writing and class discussion or presentation. However, scholars should impart the knowledge about a framework for the pedagogy of fraud before discussions regarding the academic application can ensue. Then, there is a necessity to move past the debate of how to teach fraud to when.

The principal investigator recommends integrating certain topics into the curriculum as a leverage strategy to strengthen students' professional judgment and skills. In this context, the principal investigator recommends each accounting school to have the following stand-alone, core courses: Fraud course, IC course, Business Analytics course, FA course, Internal Auditing Course, External Auditing course, and Ethics course. Additionally, the principal investigator encourages AIs to have a major in each of the following fields: fraud, FA, IC, and business analytics. Similarly, the principal investigator encourages AIs to have a graduate degree in each of those fields.

Finally, after conducting this study, the principal investigator inferred that the overcrowded accounting curriculum hinders adding additional courses regarding fraud, IC, and FA. Thus, the principal investigator found a need to revolutionize the U.S. AE concerning fraud and ICMWs. In this sense, the principal investigator is maybe the first researcher to call AIs to create a new degree in accounting. Specifically, the principal investigator is recommending creating a bachelor's degree in Accounting Engineering. This should be a five-year degree to enable schools to have enough time to add adequate courses and topics to compensate for the existing failure in preparing ASs to detect and respond to fraud and ICMWs appropriately.

Recommendations for Further Study

There are many gaps in the existing literature concerning fraud and ICMWs. However, there are significant gaps regarding FE. Moreover, there are few studies about ICMWs education. Filling the gaps would help in the efforts against fraud, which is a global issue. Thus, the principal investigator encourages future researchers to:

- explore professors' perceptions regarding how to enhance ICMWs and FE,
- explore employers' perceptions regarding how to enhance ICMWs and FE,
- explore the perceptions of accountants regarding how they detected fraud schemes or ICMWs,
- conduct studies about Table 5 in this study to understand more the effective strategies and methods to teach fraud,
- explore accountants' perceptions only regarding IC education,
- explore accountants' perceptions only regarding OJT concerning fraud and IC,
- study qualitatively and quantitatively the claimed success of OJT concerning fraud and ICMWs,
- explore employers' perceptions to understand how they design the training plans and topics for OJT related to anti-fraud,
- study other countries to gain a clearer picture of what constitutes a forensic accountant,
- investigate the impact of incorporating a good corporate governance system on curtailing the incidences of unethical financial reporting,
- study how to apply the MFT effectively on ASs,
- study how to alert ASs of the ethical dilemmas they would encounter in WEs,

- explore innovative ideas from employers regarding how to enhance AE related to fraud and ICMWs due to the need for closer collaborations between industry and business schools,
- test the potential benefits of assessment activities to encourage deeper engagement by ASs,
- study the controversial views among fraud professors regarding how they rank the most significant topics in the first auditing course,
- explore how instructors should teach fences, discussed in an article written by Reinstein and Taylor (2017), to learners particularly about how they can strengthen new professionals to encounter pressures and illegal opportunities,
- explore how professors should engage students in cooperative learning assignments to mitigate the level of frustration with the software in the WBH learning environment (more details are in a study by Khanlarian and Singh (2014)),
- expand the study of Fajardo (2014) into how to teach fraud courses online effectively,
- study the positive and negative consequences of using OHS to teach fraud and ICMWs,
- explore how AIs should use social media to teach fraud and ICMWs,
- explore how to expand the findings of Kearns (2015) when developing learning goals and curriculum of a course in computer forensics for accountants,
- study the claimed benefit of teaching SQL to auditing students,
- verify the persisted impacts of a fraud-specific FA class,

- explore the reasons behind differences in moral reasoning scores between males and females and how to employ the reasons in revising ethics education to improve the males' scores,
- to replicate the study of O'Leary and Stewart (2013) who claimed that teaching methods influenced active learners more than passive ones. Specifically, the authors indicated that usefulness was high when teaching methods matched learning styles; however, when teaching methods and learning styles did not match, usefulness deteriorated dramatically,
- explore professors' perceptions regarding the main obstacles to integrating FA in the curriculum,
- explore the consequences of professors' ethical perspectives on the effectiveness of their teaching of ethics,
- to consolidate the findings of Poon and Ainuddin (2011) concerning the fraud of fraud educators with the findings of Burke and Sanney (2018) regarding the fraud of fraud learners,
- study how professors can teach ASs to fight earnings management practices,
- identify internal and external factors that are favorable and unfavorable to achieve the intended strategic objectives of ICMWs and FE,
- investigate how to create a strategy to affect students' career choice of the FA profession to increase the number of forensic accountants,
- explore how to improve students' ethical sensitivity by integrating the ethics education to expose the student to a range of ethical issues,

- investigate how university management can impact the retention and recruitment of quality academics to enhance FE,
- study the potential adverse impacts of automatic grading of fraud assignments by weighing the long-term educational advantages and disadvantages of such a controversial teaching method,
- examine factors affecting candidate performance on CFE and CFF exams like the study of Self, Machuca, and Lockwood (2014) who examined possible differences on the UCPAE between graduates from minority and non-minority AI,
- explore the necessity to integrate FE into the curricula. This is because some accountants claim that OJT is adequate and is filling the gaps in academic knowledge,
- test the claim that psychopathy has severe implications for fraud and unethical behavior by accountants and auditors—arguably more so than other dark personality traits,
- study the ethical behaviors of those who teach ethics; the professors,
- explore managers' perceptions regarding the strengths and weaknesses of accounting professional certifications, and
- explore the views of FA educators and practitioners because the number of institutions offering FA education has dramatically increased.

Reflections

Before beginning this study, the principal investigator thought that most accountants would not be able to identify specific advanced topics regarding ICMWs and FE. However, many participants in the study provided ample information in that regard, such as lapping, scavenging, shell company schemes, and smurfing scheme. The principal investigator attributed

this fact to the important impact of professional certification on the knowledge of accountants. The principal investigator was impressed with the high level of knowledge of many participants. This knowledge was evident in their description of how they detected fraud and ICMWs. Furthermore, the principal investigator was not expecting that the Ethics course and the External Auditing course would have such a positive, long-term impact on participants, which was apparent when accountants praised the two courses.

Alternatively, the principal investigator was surprised by positive, immediate reactions of the participants regarding two points. The first one was when the principal investigator asked them whether they consider IC as the most important topic that schools should teach to fight fraud. The second one was when the principal investigator asked whether creating a new, five-year Bachelor of Accounting Engineering would help in resolving the academic failure.

In contrast, conducting this study enabled the principal investigator to notice several gaps in the literature, which were not apparent before starting the study. These gaps would keep the scholars busy in the fight against occupational fraud. Alternatively, the principal investigator was shocked, after reviewing the literature thoroughly, by certain hinderances against an effective FE in some other countries. Moreover, after conducting the study, the principal investigator realized how FA and business analytics would constitute the fastest, upward trends in the coming years. In this sense, after the study, the principal investigator recognized that accountants who lack knowledge in Big Data and data mining would probably be behind times and may lose their competitive edge in the ever-evolving market. This is because traditional data-processing application software cannot adequately deal with Big Data, which refers to data sets that are too large or complex. Parallel to the accelerated expansion in Big Data, fraudsters

are inventing creative techniques because fraud has an unlimited range of possible forms (Self, Fudge Sullivan, & Harrington, 2016).

Alternatively, after conducting the study, the principal investigator realized how much the doctoral research is demanding. In this context, the doctoral journey had significant impacts on the principal investigator's insights into persistence, time management, and how to control the stress. Furthermore, it was a challenging experience for the principal investigator to avoid preconceived ideas and personal bias particularly during the semi-structured, face to face interviews. The best strategy followed was to try to understand the implied reasons behind participants' perceptions. Interestingly, that strategy constituted a fundamental learning point to the principal investigator. Thus, conducting the study led to changes in the principal investigator's thinking as a result of practicing. "Whatever you have learned or received or heard from me, or seen in me--put it into practice. And the God of peace will be with you." (Philippians 4:9 NIV).

Conversely, satisfaction in thinking included realizing how effective and efficient it was to select a topic for the doctoral dissertation that was of personal interest to the principal investigator. This is because the principal investigator spent about twelve months reading and working on one topic. Additionally, the principal investigator was satisfied to choose a topic of public benefit. In this sense, fraud is a wrongful act; and hence, it is a sin. "Everyone who sins is breaking God's law, for all sin is contrary to the law of God" (John 3:4 NLT). Finally, the principal investigator was satisfied as a result of connecting the topic of fraud with AE. "Not many of you should become teachers, my fellow believers, because you know that we who teach will be judged more strictly" (James 3:1 NIV). The fruit of combining fraud with AE was a list of topics and educational methods (see Tables 5, 6, 7, 8, 9, and 10) that would help others. "Each

of you should use whatever gift you have received to serve others, as faithful stewards of God's grace in its various forms" (Peter 4:10 NIV).

Summary and Study Conclusions

This research is a qualitative exploratory multiple case study. The principal investigator accomplished data saturation by interviewing thirteen participants. The principal investigator recruited the participants through a combination of purposive snowball sampling and criterion sampling techniques. All interviews were semi-structured, face-to-face, and occurred in reserved rooms at public libraries. The principal investigator reviewed more than 100 articles published in peer-reviewed journals particularly within the last five years (2013-2018). The catastrophic scarcity of studies in the existing literature about fraud and IC education validates the purpose of this study and necessitates to hone the academic curricula.

The problem stated in the study concentrated on AE regarding occupational fraud, which is a global issue. Using two research questions, the principal investigator explored accountants' perceptions regarding the effect and weaknesses of their AE on preparing them to detect and to respond to fraud and ICMWs. The participants provided valuable information that enabled the principal investigator to understand the nuances in their perceptions about the weaknesses and strengths of AE. These perceptions, in addition to the literature review, provided the principal investigator with profound insights into the root causes of the academic failure.

The principal investigator delved deeply in exploring the accountants' perceptions and considered other pedagogical aspects not probed in previous doctoral studies. The use of open coding, axial coding, data mining, cross-case analysis, and content analysis enabled the principal investigator to find enough themes to answer the research questions and to saturate the data. Additionally, the principal investigator triangulated the findings by corroborating them with

evidence from three different sources, such as articles published by professional organizations. Also, the principal investigator cross-checked the interviews among participants.

The participants indicated to the failure of their AE in preparing them to detect and respond to fraud appropriately. The participants asserted that academic failure is severer concerning ICMWs. However, participants pointed out that there are partial strengths in AE concerning a few topics, such as ethics, and external auditing. The participants provided ample information to enhance AE concerning fraud and ICMWs. These enhancements include academic topics (see Tables 6 and 9), and teaching methods and strategies (see Tables 5 and 8). The most critical suggestion to enhance AE was to integrate fraud and IC education into the curriculum using one of three strategies. Parallely, the participants unanimously confirmed that the best strategy to sustain the academic impact is to use more case-based scenarios that reflect real-world examples. Conversely, most participants asserted that their OJT is effective and resolved a significant part of their academic gap. Nevertheless, participants complained that the OJT has several weaknesses; and thus, they suggested some enhancements (see table 10), such as the formalization, standardization, and structuring of OJT.

Eight main themes emerged concerning the two research questions; five for RQ1 and three for RQ2 (see Table 2). Additionally, each main theme included minor themes. In this sense, there were twenty-eight minor themes under the eight main themes (see Table 3). Moreover, many participants' perceptions and suggestions concentrated particularly on six unique minor themes (see Table 15). In this sense, the principal investigator was able to sort sub-minor themes under those six unique minor themes as follows:

- Effective strategies and methods to teach fraud (see Table 5)
- Teaching certain topics to detect fraud (see Table 6)

- Competencies needed by business graduates (see Table 7)
- Effective methods to teach IC (see Table 8)
- Teaching certain topics to detect ICMWs (see Table 9)
- How to enhance OJT (see Table 10)

In addition to the six unique minor themes, other important findings included:

- Most accountants realized the gap in their knowledge due to weaknesses in their AE related to fraud and ICMWs
- All accountants rejected FD as their primary responsibility
- All participants realized how they detected the fraud scheme or ICMWs
- All accountants were able to provide rich information regarding the expected competencies of ASs
- Most accountants described their AE related to FD as insufficient
- All participants agreed on the importance of integrating ICMWs and FD into the academic curriculum
- Most accountants agreed on adding a major or a graduate degree in fraud examination
- All participants identified several topics that did not exist in their AE
- There is an urgent necessity to adopt more the case studies approach into AE
- Ethics education is appropriate and sufficient. There are no critical suggestions to modify it
- The participants claimed that OJT filled significant gaps in their academic knowledge

The eight main themes, which included twenty-eight minor themes, enabled the principal investigator to answer the research questions collectively; and thus, to accomplish the purpose of the study. The most expected beneficiaries from the findings are AIs, accounting practitioners,

professors, and employers. Specifically, the principal investigator encourages AIs to benefit from the findings to prepare students better to detect and respond to fraud and ICMWs appropriately. Finally, the study included the principal investigator's perceptions concerning how to enhance the AE regarding anti-fraud as follows:

- Each accounting school should have the following stand-alone, core courses: Fraud, IC, FA, Internal Auditing, External Auditing, Ethics, and Business Analytics
- AIs should have a major in each of the following fields: fraud, FA, IC, and business analytics. Also, AIs should have a graduate degree in each of these fields.

The principal investigator utilized the Agency Theory, the Fraud Triangle Theory, the COSO Model, and the ELM to construct a conceptual framework for this study. In the context of the Agency theory, all participants unanimously asserted that FD&P is the responsibility of management. However, all participants agreed that they have "some" level of responsibility, but they rejected FD as their primary responsibility. Nevertheless, participants indicated that external auditors and internal auditors have "special" responsibility in detecting fraud; however, the participants were not able to identify clearly the meaning of that "special responsibility." In the context of the Fraud Triangle Theory, the participants identified certain fraud topics that schools should focus on them (see Table 6). In the context of COSO Model, identified specific IC topics that schools should teach them (see Table 9). In the context of the Experiential Learning Model (ELM), participants provided ample information regarding practical methods and strategies, such as case studies, to teach fraud and ICMWs (see Tables 5 and 8).

The principal investigator recommends future researchers to replicate this study by exploring the perceptions of anti-fraud professors on how to enhance AE. Furthermore, the principal investigator presented thorough recommendations (more than 40 suggestions) to future

researchers. Finally, the principal investigator found a need to revolutionize the U.S. AE concerning fraud and ICMWs. Therefore, the principal investigator encourages AIs to create a new, five-year bachelor's degree in Accounting Engineering to compensate for the existing failure of AE.

On average, U.S. external auditors detect 4.2% of fraud cases, which is less than the worldwide average of 5%. Some scholars attributed the reason to the failure of AE related to fraud and IC. Thus, the principal investigator expects that the identification of the "active ingredients" of educational topics and dynamic methods presented in this study would result in U.S. external auditors detecting more fraud schemes. Consequently, accountants would help more in the global efforts against fraud, which costs the organizations about 5% of their revenues resulting in a loss of more than 3.5 trillion (USD) worldwide. Hence, the findings provided profound insights into the problem stated in this study.

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¹ The published article includes this typo.

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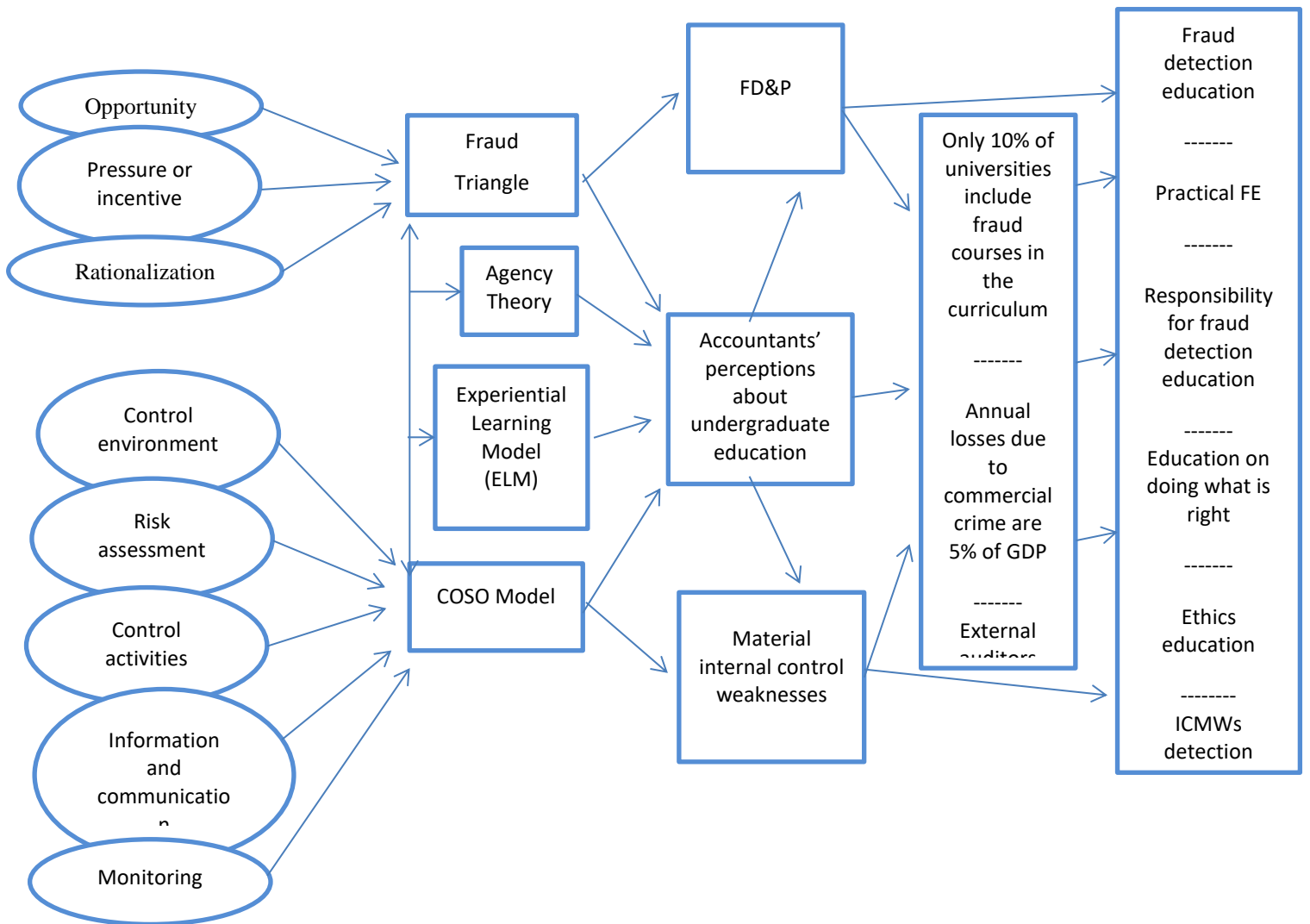
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Appendices

Appendix A: Conceptual Framework



Appendix B: Parts of the Cases Presented by Lehmann (2010)

Case 1: Control Environment and Control Activities: The Importance of Hiring Trustworthy Employees

Questions

1. What were some of the factors that contributed to this situation?
2. What could internal controls have been in place to prevent this from happening?

Case 2: The Control Environment and Control Activities: Proper Authorization of Credit

Questions

1. Identify weaknesses in the current accounts receivable process that include potentially fraudulent activity due to the lack of formalized procedures in the accounts receivables process.
2. What are your recommendations to improve the control environment and the procedures in the accounts receivables process?

Case 3: Risk Assessment: Information Privacy and the Cost/Benefits of a Proposed Online System

Questions

1. What recommendations would you make to HHS regarding the cost and benefits of an online authorization system?
2. How can HHS ensure patient information confidentiality if this service is provided _for more information on regulatory requirements related to information confidentiality, visit http://www.hhs.gov/ocr/hipaa_?

Case 4: Risk Assessment and Information/Communication: Risks and Benefits of Remote Access

Questions

1. What issues should you consider before deciding whether to allow remote access?
2. What would be some of the risks in allowing remote access?
3. If remote access is allowed, what do you recommend as a password policy to minimize the opportunity for mishandling of remote access?

Case 5: Risk Assessment and Control Activities: Disaster Recovery Plan

Questions

1. Describe at least three internal control weaknesses related to computer security that existed at AAA Inc. before the flood occurrence.
2. Describe at least three components that should be incorporated into a formal disaster recovery plan so that AAA Inc. can become operational within 72 hours after a disaster affects its computer operations capability.
3. Identify factors other than the plan itself, which AAA Inc. should consider in formulating a formal disaster recovery plan.

Case 6: Monitoring Activities: Employee Reimbursements

Questions

1. What steps should have been taken by the company to prevent this fraudulent activity from occurring?
2. How could information already in the accounting system have been used to minimize the opportunity for fraud?

**Appendix C: Model Curriculum Graphical Overview of Kranacher, Morris, Pearson, and
Riley Jr. (2008)**

Prerequisite Knowledge		Exposure Material /Course	In-Depth Course Material	
(1) Commonly Included in Undergraduate Accounting Curriculum	(2) Commonly Included in Business Core or Electives	(3) Core Fraud and FA	(4) Fraud	(5) FA
Basic accounting: <ul style="list-style-type: none"> ● Basic financial statements and note disclosures ● The effects of debits and credits on account balances ● Account analysis ● Computation of key financial ratios, common size financials, etc. 	General business communication skills (oral and written)	Definition of fraud	Criminology; Legal, Regulatory, and Professional Environment; Ethical Issues	
Basic auditing concepts: <ul style="list-style-type: none"> ● Professional skepticism ● Relevant auditing standards ● Professional and regulatory bodies ● Types of audit evidence 	Business ethics	Definition of FA	Fraud and FA: Asset Misappropriations, Corruption, and False Representations Financial Statement Fraud Fraud and FA in a Digital Environment Forensic and Litigation Advisory Services	
Basics of transaction processing cycles and		A basic discussion of the roles of auditors, fraud professionals, and forensic		

internal controls, including computer-based information system controls		accountants		
Basics of business law		Overview of who commits fraud and why and the fraud triangle: <ul style="list-style-type: none"> ● Pressure ● Opportunity ● Rationalization 		
Basic computer skills		Overview of the elements of fraud: <ul style="list-style-type: none"> ● Act ● Concealment ● Conversion 		
		Discussion of fraud prevention, deterrence, detection, investigation, and remediation		
		Overview of common fraud acts including asset misappropriations and fraudulent financial reporting		
		Discussion of “red flags.”		
		Discussion of fraud remediation: criminal and civil litigation and internal controls		
		Discussion of types of forensic and litigation advisory engagements		

Appendix D: Parts of the Findings of Seda and Kramer (2009)

Curriculum content importance and coverage analysis (Academics)		
Importance Mean	Curriculum Content	Coverage Mean
4.61	Fraud risk factors or "red flags"	4.46
4.61	Fraud prevention, deterrence, and detection	4.36
4.60	Financial statement fraud	4.21
4.54	Critical thinking approaches to unstructured problems	3.93
4.47	Cooking the books and accounting issues	4.30
4.47	Fraud risk assessment	4.07
4.46	Basic concepts and elements of fraud	4.47
4.35	Testing of internal controls and related audit procedures	3.67
4.33	Analytical review procedures	3.74
4.30	Written, oral, and graphical communication	3.88
4.29	Roles of auditors and forensic accountants	3.91
4.29	Interpersonal and listening skills	3.67
4.24	Fraud investigation and remediation methods	3.95
4.22	The legal and regulatory environment (e.g., SOX)	3.63
4.21	Anti-fraud environment, processes, and controls	4.14
4.19	The scope of fraud and financial crimes	4.30
4.12	Professional accounting, auditing, and assurance standards	3.51
4.06	Effective financial reporting	3.53
4.05	Occupational fraud	3.92
4.01	Corporate governance and information technology security	3.05
3.98	Organization, documentation, and evaluation of evidence	3.47
3.95	E-Commerce, cyber-crime, and computer fraud	2.95
3.95	Accounting information systems (ERP) and risk assessment	2.77
3.89	Theories of business ethics	3.47
3.79	Types of FA engagements	3.19
3.75	Techniques for interviewing and interrogations	3.35
3.72	Types of digital evidence	2.73
3.71	Audit software packages (e.g., ACL) for data extraction	2.62
3.69	Forensic digital tools and techniques.	2.77
3.65	Types of public/private information (e.g., online databases)	3.11
3.55	Theories of crime causation	3.48
3.54	Money laundering	2.80
3.37	Consumer fraud	2.68
3.33	Litigation advisory services and related techniques	2.60
3.27	Business valuation techniques	2.15
3.17	Expert testimony and related techniques	2.63
3.15	Bankruptcy, divorce, and tax fraud	2.38

Importance of Learning Mechanisms in Teaching an FA Course Responses from Academicians	
Learning Mechanism	Mean Response
Textbooks	4.08
Research Projects	4.05
Videos	3.82
Case Studies	4.55
Guest Speakers	4.00
Field Trips	2.64
Service-learning Activities	2.66
Student presentations	3.52
Internships	3.48
Group dynamics	3.54
Computer Lab. with fraud related software	3.30
Role-play scenarios	3.25
Fraud surveys	2.89
Journal articles	3.82
Newspaper articles (e.g., Wall Street Journal)	4.22

Appendix E: Parts of Two Cases Presented by Cheng and Flasher (2018)

Case #1: Professional Scenario

Case #2: Student Scenario

Discussion Questions: Apply the following ethical framework for each scenario:

1. What standards and principles of ethics did Johnny, and Mary Jo violate? Should Johnny be sanctioned by the firm or the PCAOB? If so, how? Should Mary Jo be sanctioned by the university office responsible for ensuring academic integrity? If so, how?
2. Who are the main stakeholders in each situation aside from Johnny and Mary Jo? How might each of these stakeholders be affected by Johnny's and Mary Jo's choices, respectively?
3. How might Johnny and Mary Jo rationalize their behavior as acceptable?
4. What alternative actions would you recommend for Johnny and Mary Jo?
5. Johnny and Mary Jo both failed to speak up when confronted with their ethical dilemmas. What factors contributed to their silence? Assume that they wanted to act ethically. How could they have given voice to their concerns?

Appendix F: Twenty-one topics Presented by Daniels et al. (2013) in descending order of importance

Internal control
Elements of fraud
Fraudulent financial statements
Fraud risk factors
Ethical issues
Prevention/Deterrence
Fraud symptoms
FD
Fraud schemes
Case Studies
Asset misappropriation
Computer/Internet schemes
Investigative methods
Legal environment
Interviewing skills
Corruption
Criminology
Fraud remediation
Report writing
Forensic litigation services
Civil litigation services

Appendix G: Recruitment Email

Date

To: [Recipient]

Dear [Recipient]:

My name is Mohamad Majdi Sahloul. I obtained your contact information from the social media at [name of the social media, such as Facebook or LinkedIn], which is available to the public. As a graduate student in the School of Business at Liberty University, I am conducting research as part of the requirements for a doctoral degree.

The purpose of my research is to explore how accountants in a major mid-Western metropolitan area perceive whether their undergraduate courses prepared them to respond to fraud and internal control material weaknesses encountered in WEs. I am writing to invite you to participate in my study.

If you are a CPA, have worked as an accountant in a major mid-Western metropolitan area for at least the past three years, and have experienced accounting fraud or internal control material weakness in a WE, you are invited to take part in this study. If you are eligible and willing to participate, you will be asked to answer some questions in a face-to-face interview with me. Your answers will help me to explore accountants' perceptions about their AE and preparedness to respond to fraud encountered in WEs. Your answers will be repeated back to you to ensure that your responses have been fully captured.

It should take approximately 40-60 minutes for you to complete the interview. The interview will be conducted in a reserved room in any public library near your work or residence for your convenience. Your name and some identifying information will be requested as part of your participation, but the information will remain confidential.

To participate, contact me to schedule a date, time, and place for the interview at your convenience. My email is msahloul@liberty.edu.

A consent document is attached to this email. The consent document contains additional information about my research and the contact information of my dissertation's chair and the Institutional Review Board (IRB) of Liberty University. Please sign the consent document and return it to me at the time of the interview.

If you would like to know more about the study or wish to take part in the study, kindly let me hear from you within seven days. You may send me an email to let me know that you do not want to take part in the study.

You may talk about the study with other accountants who may be interested in taking part in the study. Please feel free to pass this invitation letter along.

Sincerely,

Mohamad Majdi Sahloul, CFE
Liberty University Doctoral Student

Email: msahloul@liberty.edu

Appendix H: Interview Guide (Research Questions)

Introduction

- The principal investigator welcomes and thanks the participants for their voluntary participation in the study
- The principal investigator preambles and explains the purpose of the study
- The principal investigator describes the interview approach
- The principal investigator explains and assures the confidentiality of participants' identifying information
- The principal investigator obtains participants' signatures on the informed consent form
- The principal investigator answers participants' potential questions if any

Questions for Participants

Thank you again for participating in this study. Now, I am going to ask you a series of questions about your educational and professional background.

Participant's background information.

1. What is your age?
2. How many years have you been practicing as an accountant in a major mid-Western metropolitan area?
3. What type of organization/sector do you work for?
4. Which university did you receive your bachelor's degree from?
5. When did you receive your bachelor's degree?
6. What type of bachelor's degree did you earn from that university?
7. Do you hold a master's degree? If yes, what type of master's is it, and when did you earn it?
8. Do you hold a doctoral degree? If yes, what type of doctorate is it, and when did you earn it?
9. Do you hold another academic degree?

10. What professional certifications do you hold?

Thank you for your answers. Now, I am going to ask you a series of questions about your detection of fraud.

Detection of occupational fraud.

1. How do you perceive your role and responsibilities in detecting occupational fraud?
2. Please describe your responsibilities for detecting occupational fraud.
3. How do you perceive your preparedness to respond to fraud?
4. Please describe your experiences with detecting corporate fraud.
 - A- How did the fraud occur?
 - B- How did you detect the fraud?
 - C- How did you respond to the fraud?
 - D- What strategies could be used to detect corporate fraud?
 - E- What are the capabilities and knowledge that enabled you to detect the fraud?
 - F- How did you acquire the knowledge or experience that enabled you to detect and respond to fraud?

Thank you for your answers. Now, I am going to ask you a series of questions about your detection of internal control material weaknesses.

Detection of internal control material weaknesses.

5. How do you perceive your role and responsibilities in detecting internal control material weaknesses?
6. Please describe your responsibilities for detecting internal control material weaknesses.
7. How do you perceive your preparedness to respond to internal control material weaknesses?
8. Please describe your experiences with detecting internal control material weaknesses.
 - G- How did the internal control material weakness occur?
 - H- How did you detect the internal control material weakness?
 - I- How did you respond to the internal control material weakness?
 - J- What strategies could be used to detect internal control material weakness?

- K- What are the capabilities and knowledge that enabled you to detect the internal control material weakness?
- L- How did you acquire the knowledge or experience that enabled you to detect and respond to internal control material weakness?

Thank you for your answers. Now, I am going to ask you a series of questions about your AE regarding fraud.

AE about fraud.

9. How do you perceive the sufficiency of your AE about fraud?
10. How do you describe your preparedness to detect and respond to fraud as a result of your AE?
11. How helpful was your FE in detecting fraud in your WEs?
12. What do you think are the necessary fraud topics that should be taught at universities?
13. How would you like FE to be integrated into undergraduate programs?
- M- Do you think fraud topics should be taught as a stand-alone course or be integrated into other courses?
- N- Do you think it is a good practice to create a separate academic program in fraud?
- O- Do you think it is a good practice to create a separate academic program in FA?
- P- Do you think it is a good practice to create a separate academic program in internal control?
14. What do you think are the mistakes universities make when teaching fraud?
15. How do you describe the expected competencies of ASs for detecting fraud?
- Q- How helpful do you perceive these expected competencies might be in preparing students to detect fraud?
- R- What other competencies should ASs possess to detect fraud?
16. How do you perceive the ethics training you received at the university?

Thank you for your answers. Now, I am going to ask you a series of questions about your fraud training received on the job.

Fraud training received on the job.

17. How do you perceive the sufficiency of your fraud training received on the job?
18. How do you describe your preparedness to detect and respond to fraud as a result of training received on the job?
19. How helpful was your training received on the job in detecting fraud in your WEs?
20. What do you think are the necessary fraud topics for which employees should receive OJT?
21. What do you think is the best way to teach employees about fraud on the job?
22. What do you think are the mistakes employers make when training their employees about fraud?
23. How do you perceive the ethics training you received on the job?

Thank you for your answers. Now, I am going to ask you a series of questions about your AE regarding Internal control.

AE about internal control material weakness.

24. How do you perceive the sufficiency of your AE about internal control?
25. How do you describe your preparedness to detect and respond to internal control material weaknesses as a result of your AE?
26. How helpful was your AE in training you to detect internal control material weaknesses in your WEs?
27. What do you think are the necessary internal control topics that should be taught at universities?
28. How would you like internal control education to be integrated into undergraduate programs?
 - S- Do you think internal control topics should be taught as a stand-alone course or integrated into other courses?
29. What do you think are the mistakes universities make when teaching internal control?

Thank you for your answers. Now, I am going to ask you a series of questions about your internal control received on the job.

Internal control training received on-the-job.

30. How do you perceive the sufficiency of your internal control training received on-the-job?
31. How do you describe your preparedness to detect and respond to internal control material weaknesses as a result of your training received on the job?
32. How helpful was your internal control training received on-the-job in detecting internal control material weaknesses?
33. What do you think are the necessary internal control topics for which employees should receive OJT?
34. What do you think is the best way to teach internal control on-the-job?
35. What do you think are the mistakes employers make when training their employees about internal control?

Thank you for your answers. Now, I am going to ask you the last series of questions about your recommendations.

Overall assessment of perceptions and recommendations.

36. How do you perceive your AE prepared you to respond to fraud encountered in the WEs?
37. How do you perceive your AE prepared you to respond to internal control material weaknesses encountered in the WEs?
38. What are your recommendations for professors regarding FE?
39. What are your recommendations for professors regarding internal control education?
40. Is there anything else you would like to add?

Closing

- Thank the participant
- Provide the principal investigator's phone number to the participant
- Request follow-up contact from the participant to validate the data
- End the interview

Appendix I: Consent Form

Exploring the Perceptions of Accountants on Academic Preparations Related to Occupational Fraud and Internal Control Weaknesses

Mohamad Majdi Sahloul

Liberty University

School of Business

You are invited to be in a research study about how accountants in a major mid-Western metropolitan area perceived their undergraduate courses prepared them to prevent and detect fraud and to respond to internal control weaknesses detected in their WEs.

You were selected as a possible participant because you are a CPA, have worked as an accountant in a major mid-Western metropolitan area for at least the past three years, and have experienced accounting fraud or internal control material weaknesses in WEs. Please read this form and ask any questions you may have before agreeing to be in the study.

Mohamad Majdi Sahloul, a doctoral candidate in the School of Business at Liberty University, is conducting this study.

Background Information: The purpose of this study is to answer the following two questions:

- How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive their weaknesses in detecting and responding to fraud or internal control material weaknesses within their organizations?
- How do private, corporate and managerial accountants in a major mid-Western metropolitan area perceive the effect that their individual education has had on their preparedness to detect and respond to fraud and internal control material weaknesses?

Procedures: If you agree to be in this study, I would ask you to do the following thing:

- Participate in a semi-structured, face-to-face interview with me. I will ask you open-ended questions about your AE and preparedness to respond to fraud and internal control material weaknesses in the work environment. The interview will take approximately about 40-60 minutes to complete. I will use a digital voice recorder to record the interview. However, your name and other identifying information will remain confidential (i.e., I will know what data belongs to whom, but I will not disclose identities). Hence, your answers will be kept confidential, and the findings will not disclose your identity. The interview will occur in a reserved room at any public library near your work or residence for your convenience.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study. However, benefits to society include helping educators and professional accountants to realize the effect of integrating undergraduate courses or topics about fraud and internal control. Moreover, accountants in other major metropolitan areas will benefit from understanding how the participating accountants believe their AE prepared them to respond to ICMWs. Also, the research will help organizational managers to customize OJT to meet accountants' expectations based on their perceptions and concerns.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records. I may share the data I collect from you for use in future research studies or with other researchers; if I share the data that I collect about you, I will remove any information that could identify you, if applicable, before I share the data.

- The interview will be conducted at a public library in a reserved room for privacy. The name of the participant will stay confidential by using a pseudonym. Therefore, by assigning the participant a unique pseudonym, the published documents will not contain the participant identity. The principal investigator will be able to link individuals to identifiable data; however, pseudonyms will conceal their identities. Additionally, any information that may identify the participants (such as title and company name) will not be published in the presented data and findings
- Electronic data related to this study will be stored on the researcher's personal laptop for a minimum of three years after the study and may be used in future presentations. The researcher will use a strong password for the laptop. Also, there will be a different strong password for all Word files that contain data of the study. Additionally, the researcher is the only one who has access to the laptop that contains the electronic files related to the study.

Moreover, all passwords will be changed every three months to enhance confidentiality and security. Alternatively, there will be a backup of all electronic files contained in the laptop. The backup will be on a portable USB thumb drive that will be stored securely in a designated drawer in the desk of the researcher. The drawer has a lock, and its key is only in possession of the researcher.

- Interviews will be recorded and transcribed. Recordings will be stored on a password locked computer for a minimum of three years. Only the researcher will have access to these recordings.
- The only potential risk is a breach of confidentiality if the master list of pseudonyms is lost or stolen. As a result, the researcher will utilize a three-factor authentication system to secure the master list of pseudonyms. First, the list will be stored on a Microsoft Word file that has a strong password. Second, the Word file will be stored on a portable USB thumb drive that has another strong password. Third, the USB thumb drive will be stored in a locked cabinet inside the residence of the researcher who is the only person that has the key to the cabinet. Consequently, data files and the master list of pseudonyms will be maintained in two different locations.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free not to answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Mohamad Majdi Sahloul. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at msahloul@liberty.edu. You may also contact the researcher's faculty chair, Stanley W. Self, at swself@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

The researcher has my permission to audio-record me as part of my participation in this study.

Signature of Participant

Date

Signature of Investigator

Date

Appendix J: Institutional Review Board (IRB) Approval**LIBERTY UNIVERSITY.**
INSTITUTIONAL REVIEW BOARD

August 13, 2018

Mohamad Majdi Sahloul

IRB Approval 3417.081318: Exploring the Perceptions of Accountants on Academic Preparations Related to Occupational Fraud and Internal Control Weaknesses

Dear Mohamad Majdi Sahloul,

We are pleased to inform you that your study has been approved by the Liberty University IRB. This approval is extended to you for one year from the date provided above with your protocol number. If data collection proceeds past one year or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

6. Collection of data from voice, video, digital, or image recordings made for research purposes.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
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