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Can Professional Skepticism be Taught to Undergraduate Auditing Students?

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ABSTRACT

Professional skepticism is a combination of an auditor's innate abilities, personal characteristics, professional experiences, education, and training (Nelson, 2009; Hurtt, 2010; Liu, 2018). A key question is whether professional skepticism can be enhanced by classroom assignments. This study attempts to measure professional skepticism in audit students before and after a classroom assignment designed to enhance skepticism. The assignment is an intervention or simulated audit, which gives students the opportunity to exercise skepticism. Using Hurtt's (2010) survey instrument, I examine a questioning mind, the suspension of judgement, search for knowledge, interpersonal understanding, self-determination, and self-confidence. The findings show that students do not exercise a questioning mind, and instead, put too much trust in authority figures (e.g., clients). The students do suspend judgement, search for knowledge, seek interpersonal understanding, and have self-confidence during audits. The findings also show that rather than exercising self-determination, the students engage in groupthink. These results suggest that classroom assignments that simulate real-life audits may be able to improve certain aspects professional skepticism.

Keywords: professional skepticism, auditing, accounting education

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CHAPTER 1

INTRODUCTION

What is Professional Skepticism?

The American Institute of Certified Public Accountants (AICPA, 1972) defines professional skepticism as having a questioning mind and being critical when accessing audit evidence. The auditor should use their knowledge and skills when obtaining evidence and evaluate this evidence to make sure it is competent and adequate (AICPA, 1972). Professional skepticism also requires an auditor to be wary of management assertions and only be satisfied when there is persuasive and sufficient evidence (AICPA, 1972). Professional skepticism should be exercised throughout the entirety of the audit (AICPA, 1972).

The Public Company Accounting Oversight Board (PCAOB, 2012) defines professional skepticism as essential to performing effective audits, requiring a questioning mind and accessing evidence with a critical mindset. This attitude should be exercised throughout the entirety of the audit process, especially concerning items outside the normal course of business and management assertions (PCAOB, 2012). Without professional skepticism there could be an insufficient amount of competent evidence that could increase the probability of fraud and material misstatement (PCAOB, 2012).

Shaub and Lawrence (1996) define professional skepticism as the decision by an auditor to prevent or reduce the negative consequences of another person's behavior. This is especially important when dealing with client assertions or generally accepted conclusions, which auditors should be willing to doubt and question (Shaub & Lawrence, 1996). This viewpoint revolves

around trust between auditors and client management, and an auditor's assessment of the sufficiency and competence of evidence is an indirect consideration (Hurtt, 2008).

Others suggest that professional skepticism revolves around presumptive doubt (Hurtt, 2008). McMillan and White (1993) define professional skepticism as how sensitive an auditor is towards evidence that can help increase the chances of detecting material errors.

According to Nelson (2009), professional skepticism is the judgements and decisions made by auditors reflecting an increased analysis of risks concerning whether or not an assertion is correct, based off the information they have. An auditor who needs relatively more convincing compared to others before accepting that an assumption is correct is displaying a high degree of professional skepticism (Nelson, 2009).

Audit standard-setters such as the ACIPA and PCAOB devote entire reports to the topic of professional skepticism. These standard-setters focus on the proper application of professional skepticism in the field of auditing, as well as how professional skepticism can help prevent audit failures (ACIPA, 2012; PCAOB, 2012).

The Characteristics of Professional Skepticism

Hurtt (2010) defines professional skepticism as a multi-dimensional characteristic of individuals that is both a trait and a state. A trait is a stable and enduring aspect of an individual, while a state is a temporary condition based on situational variables (Hurtt, 2010).

Hurtt (2010) identifies six characteristics that make up professional skepticism as a trait. The six characteristics include a questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-determination, and self-confidence.

Questioning Mind

A questioning mind focuses on an auditor's ability to question everything, even their own judgement, as a necessary step in the process of obtaining quality evidence (Hurtt, 2010). SAS 99.13 (AICPA, 1972) emphasizes that professional skepticism includes a questioning mind and requires an auditor to constantly question whether the information and evidence is typical of a material misstatement. Thus, a questioning mind plays a large role in an auditor's day-to-day work analyzing evidence and working with the client (Hurtt, 2010).

Suspension of Judgement

Suspension of judgement focuses on an auditor's ability to withhold a judgement until they can make a sound judgement with the evidence they have (Hurtt, 2010). The AICPA (1972) states how due professional care is needed within the workplace regarding the collection of sufficient and persuasive evidence before making a judgement. Hurtt (2010) emphasizes that individuals should wait to make decisions until there is appropriate evidence, as evidence helps avoid a material misstatement.

Search for Knowledge

Search for knowledge focuses on the auditor's curiosity and interest to further their knowledge (Hurtt, 2010). Unlike questioning mind where there is some sense of disbelief or doubt, Hurtt (2010) holds that the search for knowledge revolves around furthering an auditor's general knowledge without a purpose or specific solution in mind.

Interpersonal Understanding

Interpersonal understanding focuses on how an auditor evaluates and understands the motivation and integrity of the client (Hurtt 2010). An audit client's motives can play a significant role in whether the client provides misleading, inaccurate, and/or incomplete information (Hurtt, 2010). Having the ability to understanding a client's motives is important when evaluating audit evidence and challenging assumptions (Hurtt, 2010).

Self-Determination

Self-determination is the ability of an auditor to come to their own decision without the outside influence and persuasion of others (Hurtt, 2010). Self-determination focuses on the auditor's ability to arrive at a conclusion regarding the quantity and quality of evidence necessary to accept a hypothesis without being improperly swayed or easily accepting the claims of others (Hurtt, 2010). Self-determination is often referred to as autonomy (Hurtt, 2010).

Self-Confidence

Self-confidence is the belief that an auditor has in one's own abilities (Hurtt, 2010). Boush, Friestad, and Rose (1994) emphasize that low self-esteem is correlated with a lack of confidence in relying on one's own judgement. Bousch et al. (1994) also suggest that self-esteem is needed to challenge and question what is presented, rather than accept it. Hurtt (2010) concludes that auditors with higher self-confidence have greater resistance to a client's attempts at persuasion, and more willingness to challenge the client's assumptions and conclusions. Self-confidence is often referred to as self-esteem (Hurtt, 2010).

What Influences Professional Skepticism?

Research seeks to determine if an auditor's professional skepticism is an innate ability, personal characteristic, or the result of professional experience, education, and training (Nelson, 2009; Hurtt, 2010; Liu, 2018). An auditor's ability to exercise professional skepticism is likely a combination of all three factors; however, this paper focuses solely on the impact that experience, education, and training have on an auditor's professional skepticism.

Nelson (2009) describes how an auditor's experiences encountering errors and fraud increase an auditor's professional skepticism. An auditor's familiarity of patterns of evidence suggesting a higher risk of material misstatements promotes an auditor's professional skepticism (Nelson, 2009). Experience can be described as general audit experience, industry-specific experience, experience in a certain role, and experience in a certain task (Hurtt, 2010).

Peecher, Schwartz and Solomon (2007), and Knechel, Salterio and Kochetova-Kozloski (2010) suggest when senior personnel with an understanding of the client's business and industry are assigned to an audit, the audit quality improves because of these auditors' ability to make skeptical judgements. Similarly, Moroney (2007) finds that auditors perform better when dealing with clients in their industry specialization. Low (2004) finds that auditors are better able to assess audit risk when they have experience in the industry.

Skeptical judgement is the recognition of a potential issue by an auditor that requires more work or effort (Hurtt, Brown-Liburd, Earley, & Krishnamoorthy, 2013). Hurtt et al. (2013) emphasize that an auditor's knowledge and experience can help when formulating skeptical judgements. Using these judgements, auditors can then take the necessary steps of modifying their own behavior, which is known as skeptical action (Hurtt et al., 2013). Both skeptical judgement and skeptical action play a critical role in the audit process (Hurtt et al., 2013).

Brewster (2012) finds that auditors with better developed and more accessible memories concerning industry-related evidence are more equipped to resist client persuasion. Yet, some studies show the complete opposite, stating that experience actually decreases an auditor's level of professional skepticism (Shaub & Lawrence, 1999; Payne & Ramsey, 2005; Grenier, 2011). Due to either an overconfidence or a complacency, Payne and Ramsay (2005), Grenier (2011), and Shaub and Lawrence (1999) find the same pattern of exercising less professional skepticism in more experienced auditors. Thus, it should be noted that although experience does seem to have a positive correlation with increased professional skepticism, this is not the case in all situations (Shaub & Lawrence, 1999; Payne & Ramsey, 2005; Grenier, 2011).

Another important factor contributing to an auditor's professional skepticism is training (Hurtt et al., 2013). Hurtt et al. (2013) assert that on-the-job training is not enough for auditors to understand and effectively improve their professional skepticism. Additionally, it is important for inexperienced auditors to receive training regarding skeptical judgement and skeptical action (Hurtt et al., 2013). Hurtt et al. (2013) also assert that auditors who are trained to question their own thought processes and unconscious biases are better able to make skeptical judgements and actions.

The training that forensic accountants and lawyers receive encourage the use of skepticism (Pinsker, Pennington, & Schafer, 2009; Carpenter, Durtschi, & Gaynor, 2011). Training auditors to think of a situation from a specialist's point of view, such as a forensic accountant or a lawyer, show promise of increasing an auditor's professional skepticism (Pinsker et al., 2009; Carpenter et al., 2011). For example, Carpenter et al. (2011) find that students who have taken a forensic accounting class are better able to exercise professional skepticism. The

positive effects of their training and knowledge persist seven months after the class is over (Carpenter et al., 2011).

Pinsker et al. (2009) find that law students are able to stay unbiased even when acting in an advocacy position for hypothetical clients. Since law school teaches students to think from both sides of the issue, and to support positive and negative positions on issues, law students have a higher professional skepticism than other students (Pinsker et al., 2009).

Liu (2018) holds that simply teaching accounting is not enough to improve the professional skepticism of accounting students. Liu (2018) holds that the education of auditors must be infused with ethics, either throughout the accounting course or in a stand-alone ethics course, if auditors are expected to develop the ability to exercise professional skepticism better than the rest of the student body population.

CHAPTER 2

METHOD

This study focuses on the impact that experience, education, and training may have on an audit student's professional skepticism. This section presents the method for: 1) the population; 2) administering the pre-intervention survey; 3) conducting the intervention; and 4) administering the post-intervention survey.

The Population

The population for the study is the 80 auditing students enrolled in four sections of an undergraduate auditing class. The data come from pre-intervention and post-intervention surveys, which I administer to undergraduate accounting students. The surveys focus on the students' professional skepticism before and after a classroom intervention. Participation in the study is optional. The instructor gives students extra credit for participating in the study. I expect most students to participate in the study. I also collect demographic characteristics such as gender, ethnicity, academic performance, status in college, and future plans to name on the students.

Administering the Pre-Intervention Survey

The study begins with a pre-intervention survey, wherein I ask auditing students about their abilities to exercise professional skepticism. The instructor presents the survey as an

announcement on the auditing classroom's online homepage, and students have the option of completing the survey for extra credit points.

Using the Hurtt (2010) instrument, I attempt to measure whether the students possess a questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-determination, and self-confidence. I administer the 30-question survey shown in Appendix A using Qualtrics. I gather what students report as their professional skepticism in six categories, using a 7-point Likert scale. I modify the original Hurtt (2010) survey by adding a neutral option that is scored as four.

Conducting the Intervention

After completing the pre-intervention survey, the students complete a series of class assignments, designed to elicit professional skepticism. Using a simulated set of audit workpapers filled with errors, fraud, and missing documents, the students are asked to analyze the documents for discrepancies. The intervention intends to replicate a real-life audit experience in a professional setting. The assignment is mandatory for the class but is not used as data in the study. The intervention is shown in Appendix B.

After identifying the discrepancies, the students ask the audit client (e.g., the researcher and classroom instructor) for information about the discrepancies. The audit client replies with implausible and vague explanations and provides the students with the wrong documents when asked for missing documents. The students have the opportunity to ask three rounds of questions with one week separating each round. At the conclusion of the intervention, the instructor reviews the error and fraud-filled workpapers with students.

The assignment (intervention) gives the students the opportunity to exercise skepticism. The assignment is likely the first experience most students have examining a set of client workpapers. The assignment also gives me the ability to observe the professional skepticism exercised by the students. I want to observe whether the students continue to repeat the same questions until they receive plausible answers and the correct documents. Even if the observations and the intervention are not used as data in the study, I am curious to observe the behaviors of the students. Again, the intervention is administered as a graded class assignment, but I do not analyze or report the data from the intervention as part of the study.

Administering the Post-Intervention Survey

The final part of the study is the post-intervention survey shown in Appendix C. The post-intervention survey asks students to report how well they believe they performed on the simulated audit assignment (e.g., the intervention described above). The instructor presents the survey as an announcement on the auditing classroom's online homepage, and students have the option of completing the survey for extra credit.

The post-intervention survey is a modified version of a survey developed by Robinson, Curtis, and Robertson (2018). Using the modified survey instrument, I ask students to assess how well they exercised skepticism while working on the simulated audit. For example, the students are asked if they exercised a questioning mind, suspended judgement, and searched for knowledge while working on the assignment. I modify the Robinson et al. (2018) questions to reflect the intervention given to the students in this study. I also collect demographic such as gender, ethnicity, academic performance, status at college, GPA, and plans after graduation.

The Variables

Using the Hurtt (2010) survey as the pre-intervention survey and the Robinson et al. (2018) survey as the post intervention survey, I gather data about professional skepticism in six categories, which include 1) questioning mind; 2) suspension of judgement; 3) search for knowledge; 4) interpersonal understanding; 5) self-determination; and 6) self-confidence.

Questioning Mind

Kwock, Ho, and James (2016) examine professional skepticism in Chinese accounting students attending a Chinese university before and after a classroom assignment. The students are divided into two groups, one of which completed a KPMG case study on skepticism before responding to the Hurtt (2010) survey instrument (Kwock et al., 2016). The second group does not complete the KPMG case study (Kwock et al., 2016). Kwock et al. (2016) find the intervention does not increase the students' questioning mind, which the researchers attribute the neutral impact to cultural differences.

Ciolek and Emerling (2019) compare the ability to exercise a questioning mind in ACCA-accredited (Association of Chartered Certified Accountants) accounting students and management students from their first year at the university to their last year and find a greater increase in the questioning mind of accounting students. Based on these findings, I expect the intervention to improve a questioning mind in the students.

Suspension of Judgement

Kwock et al. (2016) do not find the classroom intervention to improve the suspension of judgement in the Chinese students. Kwock et al. (2016) attribute the neutral impact to cultural

differences and the use of American teaching materials on international students. Likewise, Ciolek and Emerling (2019) find no difference in the ability of accounting and management students to suspend judgement. Based on the findings above, I expect the intervention to have no impact on the students' suspension of judgement.

Search for Knowledge

Kwock et al. (2016) administer an intervention on Chinese students and find the intervention does not increase the students' search for knowledge. Kwock et al. (2016) attribute the neutral impact to cultural differences. Conversely, Ciolek and Emerling (2019) find that the accounting students have higher increases in their search for knowledge than the management students. Based on the findings above, I expect the intervention to increase students' search for knowledge.

Interpersonal Understanding

Kwock et al. (2016) do not find an improvement in the Chinese students' interpersonal understanding after a classroom intervention and attribute the lack of impact to cultural differences. Conversely, Ciolek and Emerling (2019) see an increase in the accounting students' interpersonal understanding compared to the management students. Based on the findings above, I expect the intervention to improve the students' interpersonal understanding.

Self-Determination

Kwock et al. (2016) find an improvement in the self-determination of Chinese students after a classroom intervention. By contrast, Ciolek and Emerling (2019) find no changes in the

self-determination of accounting and management students. Based on the findings above, I expect the intervention to increase students' self-determination.

Self-Confidence

Taplin, Singh, Kerr, and Lee (2018) administer ethics-related interventions through short role-plays to auditing students and find the intervention helps audit students become more aware of the ethical issues they may encounter in the field. Ciolek and Emerling (2019) also see an increase in the self-confidence of students who received an intervention. By contrast, Kwock et al. (2016) do not find an increase in self-confidence after their intervention to international students. Based on these findings, I expect the intervention to increase the students' self-confidence.

CHAPTER 3

RESULTS

After administering the pre-intervention survey, the intervention, and the post-intervention survey, I analyze the results using Microsoft Excel. This section presents the: 1) demographics of the population; 2) pre-intervention survey results; and 3) post-intervention survey results.

Demographics of the Population

Table 1 shows the demographics of the population. The students range in age from 19 to 24, with a mean age of 21 years. Most of students are male (65%) with an average GPA of 3.56. Most are seniors (95%), in-state students (72%), and white (65%). Thirty-two percent plan to go into the field of auditing after graduation, while 22 percent plan to enter the fields of fraud examination or forensic accounting.

Table 2 shows the results of students' previous education and experience in auditing, forensic accounting, fraud examination, and ethics, as well as their plans after graduation. Ninety-three percent have never taken a course in forensic accounting or fraud examination, and most do not have any experience in audit, fraud examination, or forensic accounting. However, 63 percent of the students have taken a stand-alone ethics or philosophy course and 70 percent plan on becoming a certified public accountant after graduation.

Of the 80 auditing students enrolled in the four sections of the undergraduate auditing classes, 77 students participated in the pre-intervention survey and 57 students participated in the post-intervention survey. Fifty-seven students reported their demographic information.

Table 1. Demographics

Demographics[1]				
Age (years)	Low	Mean	High	
	19	21	24	
Gender	Male	Female		
	65%	35%		
GPA (4.0 scale)	Mean			
	3.56			
Status	Seniors	Juniors		
	95%	5%		
Ethnicity	White	Asian	Black	Other
	65%	30%	3%	4%
Status	Domestic in-state	Domestic out-state	International	Unknown
	72%	16%	10%	2%
Plans after Graduation	Auditing	Not Sure	Fraud Examination/ Forensic Accounting	None of these fields
	32%	37%	22%	9%

[1] Sample size is n = 57, which is a 100% participation rate on all questions.

Table 2. Education, Experience, and Plans

Question	Response[1]		
	Yes	Not Sure	No
Are you currently enrolled in or have you ever taken a forensic accounting or fraud examination course?	4 7%	0 0%	53 93%
Do you have any experience in audit, fraud examination, or forensic accounting (include internship experience)?	17 30%	2 3%	38 67%
Have you ever taken a stand-alone ethics or philosophy course (do not include ethics or philosophy topics taught as a small part of another course)?	36 63%	3 5%	18 32%
Do you plan to go into auditing, fraud examination or forensic accounting after graduation?	30 53%	14 24%	13 23%
Do you plan to become a certified public accountant after graduation?	40 70%	13 23%	4 7%
Are you currently enrolled in or do you plan to enroll in a graduate program within the next five years?	29 51%	8 14%	20 35%

[1] Sample size is n = 57, which is a 100% participation rate on all questions.

Pre-Intervention Survey Results

A key to being successful in the field of auditing is for auditors to have a high level of professional skepticism. Although a student's innate ability and personal characteristics factor into a student's professional skepticism, this study focuses on whether a student's experience, education, and training can improve their professional skepticism.

Tables 3 through 9 show the results of the pre-intervention survey based on a 7-point Likert scale, where 1 is "Strongly Disagree" and 7 is "Strongly Agree." I calculate the mean, average of the means, standard deviation, and significance using Microsoft Excel. The higher the mean, the more strongly the students agree with the statement. For reversed items, skeptical students will disagree with the statements and this will be reflected in lower means. When scoring the reversed items, I obtain the reversed scores by subtracting the original mean from 7.0. The higher the reversed score, the more the students disagree with the statement.

For means higher than 4.0, I use a single-tailed t-test to determine if students' responses are statistically significant. I interpret statistically significant means higher than 4.0 to suggest that students are exercising professional skepticism. I likewise use single-tailed t-tests to analyze means less than 4.0. I interpret statistically significant means less than 4.0 to suggest that students are not exercising professional judgement.

Table 3 shows the 30-question survey instrument divided into the six categories developed by Hurtt (2010). Table 3 shows the mean and standard deviation for all the categories, which include a questioning mind, suspension of judgement, search for knowledge, interpersonal understanding, self-determination, and self-confidence.

Table 3. Pre-Intervention Survey Results

Category	Question	n	Mean[1]	Std. Dev.
Questioning Mind	My friends tell me that I usually question things that I see or hear.	72	3.71**	1.01
	I frequently question things that I see or hear.	74	4.43***	0.75
	I often reject statements until I have proof they are true.	76	4.12	0.97
Suspension of Judgement	I take my time when making decisions.	72	4.64***	0.85
	I do not like to decide until I have looked at all the readily available information.	71	4.65***	0.86
	I dislike having to make decisions quickly.	73	4.04	1.04
	I like to ensure that I have considered most available information before making a decision.	72	4.69***	0.74
	I wait to decide on issues until I can get more information.	72	4.79***	0.83
Search for Knowledge	I think that learning is exciting.	68	4.51***	0.95
	I relish learning.	67	4.10	1.02
	Discovering new information is fun.	65	4.95***	0.79
	I like searching for knowledge.	69	4.48***	1.02
	The prospect of learning excites me.	67	4.66***	0.94
	I enjoy trying to determine if what I read or hear is true.	67	4.43***	0.92
Interpersonal Understanding	I like to understand the reason for other people's behavior.	71	4.46***	0.78
	I am interested in what causes people to behave the way that they do.	63	4.65***	0.88
	The actions people take and the reasons for those actions are fascinating.	70	4.41***	0.89
	I seldom consider why people behave in a certain way. (R)[2]	76	4.00	0.97
	Other people's behavior does not interest me. (R)[2]	75	4.27**	0.77
Self-Determination	I tend to immediately accept what other people tell me. (R)[2]	76	4.28**	0.85
	I usually accept things I see, read, or hear at face value. (R)[2]	76	3.78*	0.91
	I often accept other people's explanations without further thought. (R)[2]	77	3.04***	0.89
	It is easy for other people to convince me. (R)[2]	75	3.81*	0.89
	I usually agree with what others in my group think. (R)[2]	75	3.59***	0.71
	I usually notice inconsistencies in explanations.	71	4.11	0.88
Self-Confidence	I have confidence in myself.	69	4.30**	0.92
	I do not feel sure of myself. (R)[2]	76	4.21*	1.08
	I am self-assured	71	3.87	1.07
	I am confident in my abilities.	69	4.49***	0.89
	I feel good about myself.	76	4.45***	1.02

[1] This table shows the results of the pre-intervention survey based on a 7-point Likert Scale where 7 indicates strong agreement. The higher the mean, the more the student agrees with the statement.

[2] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.

* P-value is significant at .05 level.

** P-value is significant at .01 level.

*** P-value is significant at .001 level.

Questioning Mind

Table 4 shows that, contrary to expectations, the results suggest students do not exercise a questioning mind. This conclusion is supported by the lack of significance of the average of the means for a questioning mind. The study finds that students do not reject statements until they have proof that the statements are true. There is a statistically significant difference in students questioning the things they see or hear, but the students' friends are unlikely to tell them that they question things. This finding suggests that students do not exercise a questioning mind.

Table 4. Questioning Mind Results (Pre-Intervention)

Category	Question	n	Mean	Std. Dev.
Questioning Mind	My friends tell me that I usually question things that I see or hear.	72	3.71**	1.01
	I frequently question things that I see or hear.	74	4.43***	0.76
	I often reject statements until I have proof they are true.	76	4.12	0.98
	Average of the Means:		**4.09**	

** P-value is significant at .01 level.
*** P-value is significant at .001 level.

Suspension of Judgement

Table 5 shows that, contrary to expectations, students do suspend judgement until they get the information necessary to make decisions. Previous research finds little support for students being able to suspend judgement. The results of this study show a statistically significant difference in the average of the means for suspending judgement. This study finds that students do take their time to make decisions and do gather all the information available before making decisions. These results suggest that students exercise professional skepticism by suspending judgement.

Table 5. Suspension of Judgement Results (Pre-Intervention)

Category	Question	n	Mean	Std. Dev.
Suspension of Judgement	I take my time when making decisions.	72	4.64***	0.86
	I do not like to decide until I have looked at all the readily available information.	71	4.65***	0.86
	I dislike having to make decisions quickly.	73	4.04	1.05
	I like to ensure that I have considered most available information before making a decision.	72	4.69***	0.74
	I wait to decide on issues until I can get more information.	72	4.79***	0.84
	Average of the Means:		**4.56*** **	

*** P-value is significant at .001 level.

Search for Knowledge

Table 6 shows that, as expected, students report an enthusiastic search for knowledge. The results show a statistically significant difference in the average of the means for the search for knowledge. Students say that discovering new information is fun and that they are excited about the prospect of learning. The results indicate that students are enthusiastic about learning and the search for knowledge.

Table 6. Search for Knowledge Results (Pre-Intervention)

Category	Question	n	Mean	Std. Dev.
Search for Knowledge	I think that learning is exciting.	68	4.51***	0.95
	I relish learning.	67	4.10	1.03
	Discovering new information is fun.	65	4.95***	0.80
	I like searching for knowledge.	69	4.48***	1.02
	The prospect of learning excites me.	67	4.66***	0.95
	I enjoy trying to determine if what I read or hear is true.	67	4.43***	0.92
	Average of the Means:		**4.52*** **	

*** P-value is significant at .001 level.

Interpersonal Understanding

Table 7 shows that, as expected, students have a high interest in understanding human behavior. The results show a statistically significant difference in the average of the means for

interpersonal understanding. For example, the first three statements show that students are interested in learning why people do the things they do. The last statements indicate that students are not disinterested in understanding human behavior. These results suggest that students exercise skepticism by having a high interest in understanding interpersonal behavior.

Table 7. Interpersonal Understanding Results (Pre-Intervention)

Category	Question	n	Mean	Std. Dev.
Interpersonal Understanding	I like to understand the reason for other people's behavior.	71	4.46***	0.79
	I am interested in what causes people to behave the way that they do.	63	4.65***	0.88
	The actions people take and the reasons for those actions are fascinating.	70	4.41***	0.89
	I seldom consider why people behave in a certain way. (R)[1]	76	4.00	0.98
	Other people's behavior does not interest me. (R)[1]	75	4.27**	0.78
	Average of the Means:		**4.35*** **	

[1] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.
** P-value is significant at .01 level.
*** P-value is significant at .001 level.

Self-Determination

Table 8 shows that, contrary to expectations, students do not exercise self-determination. This conclusion is supported by the significance of the average of the means for self-determination being lower than four. Students report a hesitancy to immediately accept what other people tell them, while at the same time report a willingness to accept the explanations of others without further thought. Students also report a willingness to go along with the group (groupthink) and say that it is easy for others to convince them. These results find that students do not exercise self-determination.

Table 8. Self-Determination Results (Pre-Intervention)

Category	Question	n	Mean	Std. Dev.
Self-Determination	I tend to immediately accept what other people tell me. (R)[1]	76	4.28**	0.86
	I usually accept things I see, read, or hear at face value. (R)[1]	76	3.78*	0.92
	I often accept other people's explanations without further thought. (R)[1]	77	3.04***	0.90
	It is easy for other people to convince me. (R)[1]	75	3.81*	0.90
	I usually agree with what others in my group think. (R)[1]	75	3.59***	0.72
	I usually notice inconsistencies in explanations.	71	4.11	0.89
	Average of the Means:		**3.76*** **	

[1] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.
* P-value is significant at .05 level.
** P-value is significant at .01 level.
*** P-value is significant at .001 level.

Self-Confidence

Table 9 shows that, as expected, students have high self-confidence. The results show a statistically significant difference in the average of the means for self-confidence. Students say they feel good about themselves and are confident in their abilities. Self-confidence is a necessary characteristic of professional skepticism, as without it, auditors would not have the courage needed to probe the implausible explanations given by clients. The results suggest that students exercise professional skepticism by possessing self-confidence.

Table 9. Self-Confidence Results (Pre-Intervention)

Category	Question	n	Mean	Std. Dev.
Self-Confidence	I have confidence in myself.	69	4.30**	0.93
	I do not feel sure of myself. (R)[1]	76	4.21*	1.09
	I am self-assured	71	3.87	1.08
	I am confident in my abilities.	69	4.49***	0.90
	I feel good about myself.	76	4.45***	1.02
	Average of the Means:		**4.26*** **	

[1] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.
* P-value is significant at .05 level.
** P-value is significant at .01 level.
*** P-value is significant at .001 level.

Post-Intervention Survey Results

Throughout the semester, the students engage in classroom discussions about the importance of professional skepticism. The students complete several writing assignments on professional skepticism and work on an audit simulation designed to give the students experience exercising professional skepticism. I administer the post-intervention survey immediately after the students complete the audit simulation (e.g., the intervention).

The post-intervention survey is derived mainly from Robinson et al. (2018) and asks only about the students' questioning mind, suspension of judgement, and search for knowledge. I add an additional category called "Other" to ask students about their ability to exercise professional skepticism on the audit simulation (e.g., the intervention).

Tables 10 through 14 show the results of the post-intervention survey. The results are measured with a 7-point Likert score, where 1 indicates "Strongly Disagree" and 7 indicates "Strongly Agree." I calculate the mean, average of the means, standard deviation, and significance using Microsoft Excel. The higher the mean, the more strongly the students agree

with the statement. For reversed items, skeptical students will disagree with the statements and this will be reflected in lower means. When scoring the reversed items, I obtain the reversed score by subtracting the original mean from 7.0. The higher the reversed score, the more the students disagree with the statement.

For means higher than 4.0, I use a single-tailed t-test to determine if students' responses are statistically significant. I interpret statistically significant means higher than 4.0 to suggest that students are exercising professional skepticism. I likewise use single-tailed t-tests to analyze means less than 4.0. I interpret statistically significant means less than 4.0 to suggest that students are not exercising professional judgement.

Table 10 shows the results of the post-intervention survey, including the mean and standard deviation for all four categories, which include a questioning mind, suspension of judgement, search for knowledge, and other.

Table 10. Post-Intervention Survey Results

Category	Question	n	Mean[1]	Std. Dev.
Questioning Mind	While working on the course assignment about professional skepticism, I was doubtful about the answers I got from the client.	57	2.26***	1.05
	While working on the case, I frequently questioned things I saw or read.	57	4.98***	0.93
	While working on the case, I tended to reject the client's answers unless I had documentary evidence to support they were true.	54	4.70***	0.94
Suspension of Judgement	While working on the case, I took my time when making decisions.	49	5.18***	0.75
	While working on the case, I tried to consider most of the available information before making decisions.	50	4.98***	0.73
	While working on the case, I did not like having to make decisions quickly.	52	4.12	1.17
	While working on the case I waited to make decisions until I could get more information.	53	4.60***	0.76
Search for Knowledge	While working on the case, I was less skeptical about my client's documents than I expected myself to be. (R)[2]	56	4.54***	0.76
	While working on the case, I expected that my client's answers to my questions would give me a better chance to analyze the documents than they did.	52	4.63***	0.83
	While working on the case, I thoroughly analyzed the documents to identify discrepancies.	47	5.43***	0.57
	While working on the case, I was often frustrated with the responses of the client to my questions but continued to probe for better answers.	51	5.02***	0.83
Other	I am satisfied with the amount of professional skepticism I exercised while working on the case.	52	4.62***	0.88
	The case helped me see how important it is to exercise professional skepticism on an audit.	46	5.15***	0.78
	The case was successful in helping me learn how to exercise professional skepticism.	47	4.81***	0.94
	The case was successful in helping me to become more aware of professional skepticism.	45	5.09***	0.84
	Now that I have worked the case, I am better able to probe a client's evasive and implausible explanations than I would be if I had not worked the case.	49	4.90***	0.91

[1] This table shows the results of the post-intervention survey based on a 7-point Likert Scale where 7 indicates strong agreement. The higher the mean, the more the student agrees with the statement.

[2] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.

*** P-value is significant at .001 level.

Questioning Mind

Table 11 shows that, contrary to expectations, students were unable to exercise a questioning mind on the audit intervention. While students say they questioned the things they saw or read and rejected the client's explanations until they obtained corroborating documentary information, they also report they were not doubtful about the answers or documents supplied by the client. This result is unexpected and suggests that students trusted the client too much. The results suggest that the students did not exercise a questioning mind during the intervention.

Table 11. Questioning Mind Results (Post-Intervention)

Category	Question	n	Mean	Std. Dev.
Questioning Mind	While working on the course assignment about professional skepticism, I was doubtful about the answers I got from the client.	57	2.26***	1.06
	While working on the case, I frequently questioned things I saw or read.	57	4.98***	0.94
	While working on the case, I tended to reject the client's answers unless I had documentary evidence to support they were true.	54	4.70***	0.94
	Average of the Means:		**3.98**	

*** P-value is significant at .001 level.

Suspension of Judgement

Table 12 shows that, contrary to expectations, students took their time making decisions while working on the audit intervention and considered all the available information before making decisions. The students say they took their time when making decisions and sought all the information possible before making decisions. The results suggest that students did suspend judgement during the intervention.

Table 12. Suspension of Judgement Results (Post-Intervention)

Category	Question	n	Mean	Std. Dev.
Suspension of Judgement	While working on the case, I took my time when making decisions.	49	5.18***	0.75
	While working on the case, I tried to consider most of the available information before making decisions.	50	4.98***	0.74
	While working on the case, I did not like having to make decisions quickly.	52	4.12	1.18
	While working on the case I waited to make decisions until I could get more information.	53	4.60***	0.77
	Average of the Means:		**4.71*** **	

*** P-value is significant at .001 level.

Search for Knowledge

Table 13 shows that, as expected, the students analyzed the documents to identify the discrepancies. The students expected the client's answers to their questions to be better than the answers they received, and the students were more skeptical about the client's documents than they expected themselves to be. These findings suggest that the students searched for knowledge during the audit intervention.

Table 13. Search for Knowledge Results (Post-Intervention)

Category	Question	n	Mean	Std. Dev.
Search for Knowledge	While working on the case, I was less skeptical about my client's documents than I expected myself to be. (R)[1]	56	4.54***	0.76
	While working on the case, I expected that my client's answers to my questions would give me a better chance to analyze the documents than they did.	52	4.63***	0.84
	While working on the case, I thoroughly analyzed the documents to identify discrepancies.	47	5.43***	0.58
	While working on the case, I was often frustrated with the responses of the client to my questions but continued to probe for better answers.	51	5.02***	0.84
	Average of the Means:		**4.88*** **	

[1] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.

*** P-value is significant at .001 level.

Other

Table 14 shows that, as expected, the audit intervention was successful in demonstrating the importance of professional skepticism. Students say the audit intervention helped them learn how to analyze client documents and to probe the vague and implausible answers given by the client. Overall, students were satisfied with the skepticism they exercised during the intervention and seem to have found the intervention useful in promoting the importance of skepticism.

Table 14. Other Results (Post-Intervention)

Category	Question	n	Mean	Std. Dev.
Other	I am satisfied with the amount of professional skepticism I exercised while working on the case.	52	4.62***	0.89
	The case helped me see how important it is to exercise professional skepticism on an audit.	46	5.15***	0.79
	The case was successful in helping me learn how to exercise professional skepticism.	47	4.81***	0.95
	The case was successful in helping me to become more aware of professional skepticism.	45	5.09***	0.85
	Now that I have worked the case, I am better able to probe a client's evasive and implausible explanations than I would be if I had not worked the case.	49	4.90***	0.92
	Average of the Means:		**4.90*** **	

*** P-value is significant at .001 level.

CHAPTER 4

DISCUSSION

Research seeks to determine if an auditor's professional skepticism is an innate ability, personal characteristic, or the result of professional experience, education, and training (Nelson, 2009; Hurtt, 2010; Liu, 2018). This study focuses on the impact that experience, education, and training can have on an audit student's professional skepticism. This section discusses the following findings: 1) the pre-intervention survey results; 2) the post-intervention survey results; and 3) a comparison of the pre- and post- invention surveys.

The Pre-Intervention Survey Results

The results of the pre-intervention survey displayed in Table 3 show that students have significant mean scores on all of the categories of the Hurtt (2010) survey instrument except for a questioning mind and self-determination. However, it is impossible for this study to determine if the professional skepticism exhibited by the students in question is the result of the students' innate abilities, personal characteristics, or experience, education, and training.

At this point in the study, the students have yet to receive the audit intervention, but 30 percent of the students have work experience in audit, fraud examination, or forensic accounting. Sixty-three percent have had a stand-alone course in ethics or philosophy. As Liu (2018) notes, accounting students that have an ethics education, either as a stand-alone course or integrated into their accounting courses exhibit higher skepticism. There is also evidence that inexperienced auditors are more skeptical than seasoned auditors (Shaub & Lawrence, 1999; Payne & Ramsey, 2005; Grenier, 2011). These factors may be conflating the results.

Another notable finding involves self-determination. Table 8 shows that when it comes to self-determination, students report a willingness to go along with the group. This is a serious and potentially detrimental characteristic for an auditor to possess. Groupthink is a phrase coined by Janis (1971) to describe people who are willing to go along with the group at any cost. It is an overwhelming drive toward social conformity and consensus (Janis, 1971). Groupthink is the antithesis of professional skepticism.

The finding from Table 8, which shows a propensity towards groupthink, is from the pre-intervention survey. The students have yet to work on the audit intervention. Later in the study, the students will work in small groups on the audit intervention and may be overcome by groupthink. The results of this finding suggest that the students may be vulnerable to groupthink when working in groups (e.g., audit teams).

The Post-Intervention Survey Results

The results of the post-intervention survey displayed in Table 10 show that the students improved their suspension of judgement and search for knowledge after the intervention. The students report that they are better able to suspend judgement and search for knowledge after the intervention. The students are also satisfied with how they exercised professional skepticism while working on the intervention in their groups.

An unexpected finding deals with a questioning mind. In the post-survey results, the students report that they did not particularly doubt the documents supplied by the client. In other words, the students report that they trusted the answers and documents given by the client. This

result, which is shown in Tables 10 and 11, is particularly troubling because it suggests a possible unwillingness or inability to exercise a questioning mind.

I attribute the overly trusting nature of the students to the fact that the instructor and teaching assistant played the role of the audit client during the intervention. Perhaps the students trusted the client's answers because they were delivered by people the students perceived as authority figures. Trust in authority figures is a concern on audits because new audit staff may see clients as authority figures. Afterall, clients possess superior knowledge about their data processing systems and organizations. Without the ability to exercise a questioning mind, auditors may not be able to perform their tasks with the necessary professional skepticism.

A Comparison of the Pre- and Post-Intervention Survey Results

In this section I compare the results of the pre- and post-intervention surveys. This section covers a questioning mind, suspension of judgement, and a search for knowledge. I use two-tailed t-tests and assume unequal variances to determine if students' professional skepticism increases after the intervention.

Questioning Mind

Table 15 compares the results of the pre- and post-intervention surveys for a questioning mind. A comparison of the average of the means for the pre- and post-intervention surveys shows a higher average of the means in the pre-intervention survey. However, the difference between the results for exercising a questioning mind in the pre-intervention and post-

intervention is statistically insignificant. This suggests that the intervention did not improve the students' questioning mind.

I believe the average of the means is lower in the post-intervention survey because the students were too trustful of the responses and documents they got from the client during the intervention. The troubling aspect of an overly trusting auditor is examined in the discussion of the post-intervention results above (e.g., see discussion of Tables 10 and 11).

Table 15. Comparison of Questioning Mind

Category	Question[1]	n	Mean[2]
Pre-Intervention Survey	My friends tell me that I usually question things that I see or hear.	72	3.71**
	I frequently question things that I see or hear.	74	4.43***
	I often reject statements until I have proof they are true.	76	4.12
	Average of the Means:		**4.09**
Post-Intervention Survey	While working on the course assignment about professional skepticism, I was doubtful about the answers I got from the client.	57	2.26***
	While working on the case, I frequently questioned things I saw or read.	57	4.98***
	While working on the case, I tended to reject the client's answers unless I had documentary evidence to support they were true.	54	4.70***
	Average of the Means:		**3.98**
	Degrees of Freedom:		**260**
	Two-Tailed t-test Assuming Unequal Variances p-value:		**.38**

[1] This table shows the results from the pre- and post-intervention surveys for a questioning mind with the addition of the average of the mean scores for each survey.
[2] The higher the mean, the greater the agreement with the statement.
*** P-value is significant at .001 level.

Suspension of Judgement

Table 16 shows the results from the pre- and post-intervention surveys for the suspension of judgement. A comparison of the average of the means for the pre- and post-intervention surveys shows a higher average of the means in the post-intervention survey. However, the difference between the average of the means in the pre-intervention and post-intervention

surveys is statistically insignificant. This finding suggests that the students do not get better at suspending judgement from the intervention.

I believe the average of the means is higher in the post-intervention survey than in the pre-intervention survey because the students took their time and considered all the possible information before coming to a decision during the intervention. But any gains in the suspension of judgement that the students may have learned to suspend judgement through the intervention are not great enough to make the difference in the means statistically significant.

Table 16. Comparison of Suspension of Judgement

Category	Question[1]	n	Mean[2]
Pre-Intervention Survey	I take my time when making decisions.	72	4.64***
	I do not like to decide until I have looked at all the readily available information.	71	4.65***
	I dislike having to make decisions quickly.	73	4.04
	I like to ensure that I have considered most available information before making a decision.	72	4.69***
	I wait to decide on issues until I can get more information.	72	4.79***
	Average of the Means:		**4.56*** **
Post-Intervention Survey	While working on the case, I took my time when making decisions.	49	5.18***
	While working on the case, I tried to consider most of the available information before making decisions.	50	4.98***
	While working on the case, I did not like having to make decisions quickly.	52	4.12
	While working on the case I waited to make decisions until I could get more information.	53	4.60***
	Average of the Means:		**4.72*** **
	Degrees of Freedom:		**401**
	Two-Tailed t-test Assuming Unequal Variances p-value:		**.07**

[1] This table shows the results from the pre- and post-intervention surveys for suspension of judgement with the addition of the average of the mean scores for each survey.
[2] The higher the mean, the greater the agreement with the statement.
*** P-value is significant at .001 level.

Search for Knowledge

Table 17 shows the results from the pre- and post-intervention surveys for a search for knowledge. A comparison of the average of the means for the pre- and post-intervention surveys

shows a statistically significant increase in the average of the means in the post-intervention survey. This finding suggests that the students are better at searching for knowledge after the intervention.

I believe the average of the means is higher in the post-intervention survey because the students thoroughly analyzed the documents when identifying discrepancies and continued to probe for better answers when the client's responses were inadequate. The results suggest that the intervention was successful at increasing students' ability to search for knowledge.

Table 17. Comparison of Search for Knowledge

Category	Question[1]	n	Mean[2]
Pre-Intervention Survey	I think that learning is exciting.	68	4.51***
	I relish learning.	67	4.10
	Discovering new information is fun.	65	4.95***
	I like searching for knowledge.	69	4.48***
	The prospect of learning excites me.	67	4.66***
	I enjoy trying to determine if what I read or hear is true.	67	4.43***
	Average of the Means:		**4.52*** **
Post-Intervention Survey	While working on the case, I was less skeptical about my client's documents than I expected myself to be. (R)[3]	56	4.54***
	While working on the case, I expected that my client's answers to my questions would give me a better chance to analyze the documents than they did.	52	4.63***
	While working on the case, I thoroughly analyzed the documents to identify discrepancies.	47	5.43***
	While working on the case, I was often frustrated with the responses of the client to my questions but continued to probe for better answers.	51	5.02***
	Average of the Means:		**4.91*** **
Degrees of Freedom:			**474**
Two-Tailed t-test Assuming Unequal Variances p-value:			**0.00*** **

[1] This table shows the results from the pre- and post-intervention surveys for search for knowledge with the addition of the average of the mean scores for each survey.
[2] The higher the mean, the greater the agreement with the statement.
[3] R indicates a reversed item. Skeptical students will disagree with the statement. I have already obtained the reversed score by subtracting the original mean from 7. The higher the reversed score, the more the student disagrees with the statement.
*** P-value is significant at .001 level.

The comparison of the pre- and post-intervention surveys suggest that a classroom assignment designed to give students first-hand experience exercising professional skepticism can increase their ability to search for knowledge but may not increase their ability to exercise a questioning mind or suspend judgement.

Public accounting firms hire thousands of college graduates as first-year audit staff directly out of college every year. New hires that participate in audit simulations, such as the one administered as the intervention in this study, may help students become better prepared to continue to question clients and probe further when given vague or implausible explanations.

CHAPTER 5

LIMITATIONS OF STUDY

The study has certain limitations. First, the study measures professional skepticism as reported by the students themselves. This makes the findings susceptible to social desirability bias (Edwards, 1953). Social desirability bias is the tendency of humans to report mostly good things about themselves (Edwards, 1953). As a result, the findings may not reflect how the students actually exercise professional skepticism.

Second, I did not match the identity of the students with their pre- and post-intervention survey results. Matching the pre- and post-intervention surveys would have allowed me to focus on the individual scores of students and their improvements. Also, using the Hurtt (2010) survey instrument for both the pre-intervention and post-intervention surveys would have allowed me to compare all six characteristics of professional skepticism.

I did not use the intervention itself as data for the study. I did not observe the students during the intervention or record the extent to which the students exercised skepticism during the intervention. Observing and measuring the students throughout the intervention would have helped reduce the social desirability bias mentioned above.

Finally, the Covid-19 pandemic required the students to complete the audit intervention in a remote environment. In a normal school year, the students would have taken the surveys and worked on the audit intervention in class. The Covid-19 pandemic required the class the be taught remotely and possibly effected the outcome of the results.

CHAPTER 6

CONCLUSION

Professional skepticism is a combination of an auditor's innate abilities, personal characteristics, professional experiences, education, and training (Nelson, 2009; Hurtt, 2010; Liu, 2018). A key question is whether professional skepticism can be improved classroom assignments. This study attempts to measure the self-reported levels of professional skepticism in audit students before and after a class assignment designed to enhance skepticism. The assignment, or intervention, emphasizes the importance of skepticism and gives students the opportunity to exercise skepticism in a simulated audit.

The results show that the intervention did not help students increase their ability to exercise a questioning mind. Although students say they frequently questioned the things they saw or read, they also report that they were not doubtful about the answers or documents supplied by the client. This unexpected finding suggests that students may put too much trust in authority figures. It is concerning to think that students may see clients as authority figures on audits. Particularly as new hires, inexperienced auditors may defer to a client's explanations and judgements due to the client's superior knowledge of the business operations.

The results show that students are better able to search for knowledge after the intervention. Before the intervention, the results indicate that students are enthusiastic about learning and the search for knowledge. After the intervention, the results show a significant increase in the average of the means, suggesting the intervention is successful at increasing enthusiasm for learning and the search for knowledge.

Another unexpected finding is that when it comes to self-determination, the students are susceptible to groupthink. This human drive towards group consensus is potentially detrimental

for an auditor to possess because it is the antithesis of professional skepticism. Without the ability to exercise a questioning mind and the avoidance of groupthink, auditors may not be able to perform their tasks with the professional skepticism needed to prevent audit failures.

The results show that the intervention did not help students increase their ability to suspend judgement. The characteristics of interpersonal understanding and self-confidence are not compared after the intervention. Overall, the findings suggest that classroom exercises that simulate the audit experience can enhance certain aspects of professional skepticism.

Public accounting firms hire thousands of new first-year audit staff directly out of college. It is important for new auditors to exercise professional skepticism. New hires that participate in audit simulations, such as the one administered as the intervention in this study, may be better prepared to question clients and probe further when they are given vague or implausible explanations by clients.

APPENDIX A: Pre-Intervention Survey

The Pre-Intervention Survey							
	Strongly Agree						**Strongly Disagree**
Q1: I often accept other people's explanations without further thought.	1	2	3	4	5	6	7
Q2: I feel good about myself.	1	2	3	4	5	6	7
Q3: I wait to decide on issues until I can get more information.	1	2	3	4	5	6	7
Q4: The prospect of learning excites me.	1	2	3	4	5	6	7
Q5: I am interested in what causes people to behave the way that they do.	1	2	3	4	5	6	7
Q6: I am confident in my abilities.	1	2	3	4	5	6	7
Q7: I often reject statements until I have proof they are true.	1	2	3	4	5	6	7
Q8: Discovering new information is fun.	1	2	3	4	5	6	7
Q9: I take my time when making decisions.	1	2	3	4	5	6	7
Q10: I tend to immediately accept what other people tell me.	1	2	3	4	5	6	7
Q11: Other people's behavior does not interest me.	1	2	3	4	5	6	7
Q12: I am self-assured	1	2	3	4	5	6	7
Q13: My friends tell me that I usually question things that I see or hear.	1	2	3	4	5	6	7
Q14: I like to understand the reason for other people's behavior.	1	2	3	4	5	6	7
Q15: I think that learning is exciting.	1	2	3	4	5	6	7
Q16: I usually accept things I see, read, or hear at face value.	1	2	3	4	5	6	7
Q17: I do not feel sure of myself.	1	2	3	4	5	6	7
Q18: I usually notice inconsistencies in explanations.	1	2	3	4	5	6	7
Q19: I usually agree with what others in my group think.	1	2	3	4	5	6	7
Q20: I dislike having to make decisions quickly.	1	2	3	4	5	6	7
Q21: I have confidence in myself.	1	2	3	4	5	6	7
Q22: I do not like to decide until I have looked at all the readily available information.	1	2	3	4	5	6	7
Q23: I like searching for knowledge.	1	2	3	4	5	6	7
Q24: I frequently question things that I see or hear.	1	2	3	4	5	6	7
Q25: It is easy for other people to convince me.	1	2	3	4	5	6	7
Q26: I seldom consider why people behave in a certain way.	1	2	3	4	5	6	7
Q27: I like to ensure that I have considered most available information before making a decision.	1	2	3	4	5	6	7
Q28: I enjoy trying to determine if what I read or hear is true.	1	2	3	4	5	6	7
Q29: I relish learning.	1	2	3	4	5	6	7
Q30: The actions people take and the reasons for those actions are fascinating.	1	2	3	4	5	6	7

APPENDIX B: Intervention Work Papers and Question Form

AUDIT WORK PAPERS

GENERAL SHOE COMPANY
Client-Prepared Bank Reconciliation
December 31, 2019

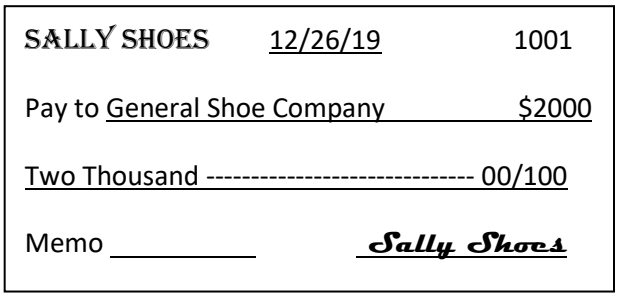
Balance per Bank	Dec 31			$28,375
Plus: Deposits in Transit	Dec 31		$4,500	
	Dec 31		1,525	$6,025
Less: Outstanding Checks	Dec 10	#1280	$2,200	
	Dec 16	#1281	675	
	Dec 16	#1285	850	
	Dec 21	#1289	2,500	
	Dec 21	#1292	7,200	$11,395
Balance per Books	Dec 31			$20,895

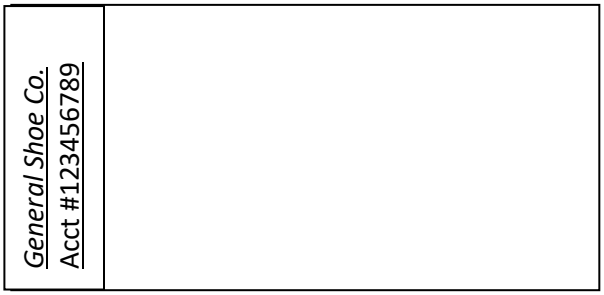
First National Bank Cut-Off Statement
December 15, 2019 to January 15, 2020

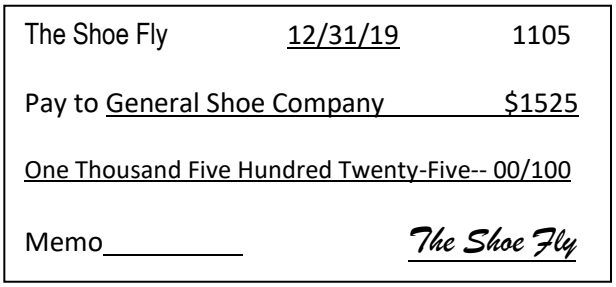
	Date	Credits	Ck#	Debits	Balance
Beginning Bal	12/15/19				$41,375
	12/17/19		#1284	$2,900	
	12/19/19		#1283	700	
	12/21/19		#1288	2,100	
	12/22/19		#1286	3,700	
	12/23/19		#1290	2,000	
	12/26/19	$2,000	#1287	1,400	
	12/28/19		#1291	1,000	
	12/29/19		#1282	1,200	28,375
Note Collection	01/03/20	3,000			31,375
Deposit	01/04/20	1,525			32,900
	01/05/20		#1281	675	32,225
	01/13/20		#1285	850	31,375
	01/14/20		#1289	2,500	28,875
	01/15/20		#1292	7,200	21,675
Ending Bal	01/15/20				$21,675

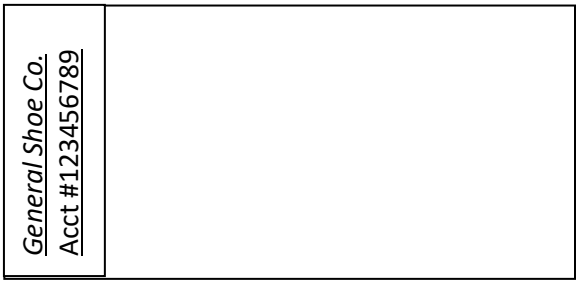
GENERAL SHOE COMPANY Partial Cash Receipts Journal				
Customer	Date			Amount
Sally Shoes	Dec 26			2,000
The Shoe Fly	Dec 31			1,525
Loan from officer	Dec 31			4,500

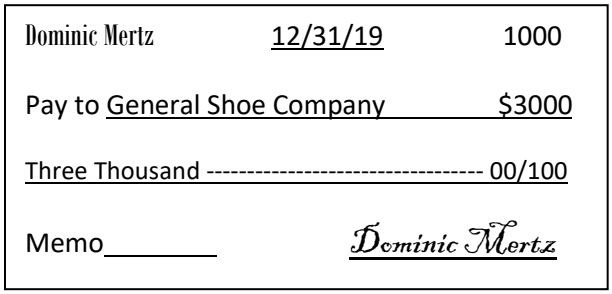
IMAGES OF CHECKS RECEIVED AS CASH RECEIPTS (Front/Back)

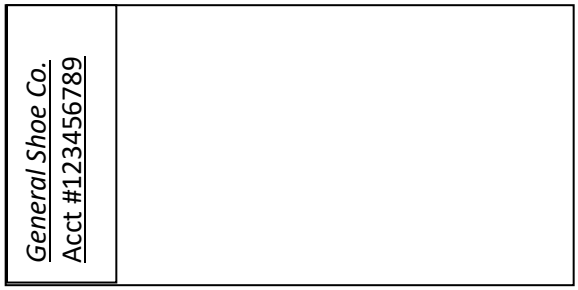












GENERAL SHOE COMPANY Partial
Check Register

Vendor (payee)	Date	Check #		Amount
ABC Corp	Dec 10	#1280		2,200
Scuff Leather	Dec 16	#1281		675
Cardinal Canvas	Dec 16	#1282		1,200
P&P Mobile	Dec 16	#1283		700
Standard Adhesive	Dec 16	#1284		2,900
Kay Janitorial Service	Dec 16	#1285		850
Kenny's Painting	Dec 21	#1286		3,700
Quality Leather Supply	Dec 21	#1287		1,400
Best Products	Dec 21	#1288		2,100
Lucky Leather	Dec 21	#1289		2,500
Void	Dec 21	#1290		0
Bailey Consulting	Dec 21	#1291		3,000
Duck Soles Leather	Dec 21	#1292		7,200

PHOTOCOPIES OF CANCELED CHECKS (CASH DISBURSEMENTS)

General Shoe Company 12/10/19 1280

Pay to ABC Corp $2,200

Two Thousand Two Hundred ----------00/100

Memo_____ *General Shoe Company*

ABC Corporation
#987583465

General Shoe Company 12/16/19 1281

Pay to Scuff Leather $675

Six Hundred Seventy-Five_----------00/100

Memo_____ *General Shoe Company*

Scuff Leather
#758176847619

General Shoe Company 12/16/19 1282

Pay to Cardinal Canvas $1,200

One Thousand Two Hundred ----------00/100

Memo_____ *General Shoe Company*

Cardinal Canvas
#89685969

General Shoe Company 12/16/19 1283

Pay to P&P Mobile $700

Seven Hundred ----------00/100

Memo _____ *General Shoe Company*

P&P Mobile
#9976977

General Shoe Company 12/16/19 1284

Pay to Standard Adhesive $2,900

Two Thousand Nine Hundred ----------00/100

Memo _____ *General Shoe Company*

Standard Adhesive
#9586987984087

General Shoe Company 12/16/19 1285

Pay to Kay's Janitorial Service $850

Eight Hundred Fifty ----------00/100

Memo _____ *General Shoe Company*

Kay's Janitorial
Acct # 9037639

General Shoe Company 12/21/19 1286

Pay to Kenny's Painting $3,700

Three Thousand Seven Hundred ---------00/100

Memo _____ *General Shoe Company*

Ken's Painting
Account #95934

General Shoe Company 12/21/19 1287

Pay to Quality Leather Supply $1,400

One Thousand Four Hundred ----------00/100

Memo _____ *General Shoe Company*

Quality Leather
#9689879

General Shoe Company 12/21/19 1288

Pay to Best Products $2,100

Two Thousand One Hundred ----------00/100

Memo _____ *General Shoe Company*

Best Products
Account #87987

General Shoe Company 12/21/19 1291

Pay to Bailey Consulting $1,000

One Thousand ----------00/100

Memo_____ *General Shoe Company*

Pay to Order of

Patricia Patrick

Bailey Consulting

Patricia Patrick

General Shoe Company 12/21/19 1292

Pay to Duck Soles Leather $7,200

Seven Thousand Two Hundred ----------00/100

Memo_____ *General Shoe Company*

Duck Soles

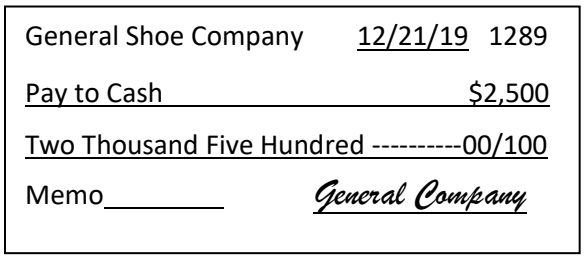
Acct #36839

AICPA STANDARD BANK CONFIRMATION

First National Bank		General Shoe Company			
Account Name	Acct #	Interest Rate			Balance
Checking Account – 12/31/19	#123456789	1.2%			$28,375

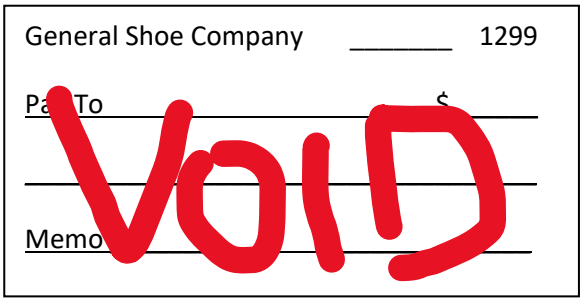
This check is given to students the first time that they request to see Check #1289.

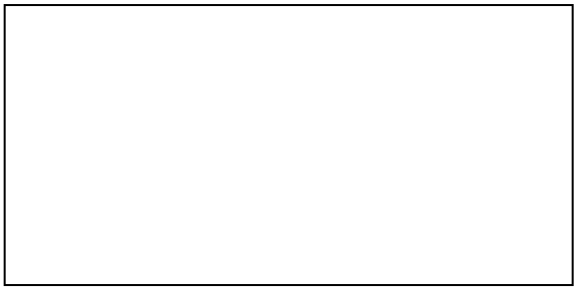
Here is the missing check you requested:



This check is given to students the first time that they request to see Check #1290.

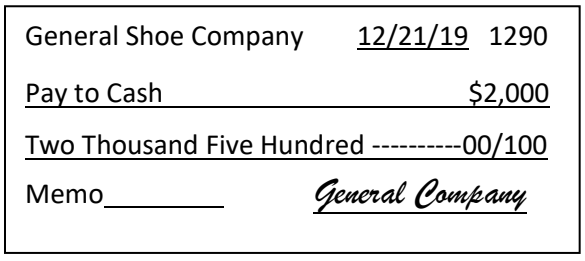
Here is the missing check you requested

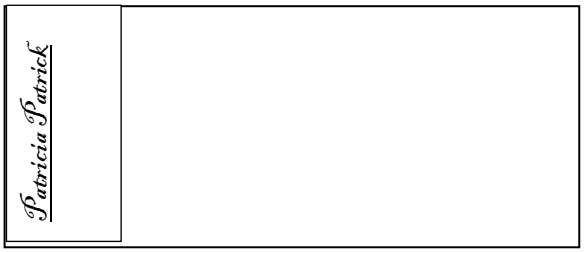




This check is given to students when they follow up their request to see Check #1290.

Here is the missing check you requested





QUESTION FORM

Please submit your list of questions on Canvas by the scheduled due dates. The purpose of this form is to document the questions you ask at your hypothetical meetings with the client. Your questions will serve as the basis for your grade. Late submissions will NOT be accepted.

Each round is limited to 3 to 5 questions. Use class time to ask general questions about how the audit procedures are performed. Use this form to ask about specific discrepancies in the workpapers. Please do not reveal specific discrepancies in class or to people outside of your group.

We (the client) will answer your questions asap via Canvas. You will not learn your scores on each set of questions or your ranking until the end of the project.

Name (type name of all group members here):				Poss	Earn
ROUND ONE - Due Date					
Question 1: Answer:					
			Score	3	
Question 2: Answer:					
			Score	3	
Question 3: Answer:					
			Score	3	
			Subtotal – Round One	9	
ROUND TWO - Due Date					
Question 1: Answer:					
			Score	3	

Question 2: Answer:					
			Score	3	
Question 3: Answer:					
			Score	3	
Question 4: Answer:					
			Score	1	
Question 5: Answer:					
			Score	1	
			Subtotal - Round Two	11	
ROUND THREE - Due Date					
Question 1: Answer:					
			Score	3	
Question 2: Answer:					
			Score	3	
Question 3: Answer:					
			Score	1	

Question 4: Answer:					
			Score	1	
Question 5: Answer:					
			Score	1	
			Subtotal - Round Three	9	
			Grand Total All Rounds	29	
			Ranking (Poss Ranks = 6, 3 or 0)	6	
			Grand Total All Rounds and Ranking (35 Max)	35	

Note: We are looking for certain questions to be asked in a certain order. The above scores in the "possible" column indicate the maximum possible points for the right questions. Not all questions are deserving of these points. Some questions are not deserving of any points. So, choose your questions wisely and ask your best questions first.

APPENDIX C: Post-Intervention Survey

The Post-Intervention Survey- Professional Skepticism Questions							
	Strongly Agree						**Strongly Disagree**
Q1: While working on the course assignment about professional skepticism (e.g., the cash workpapers hereinafter referred to as the case), I was doubtful about the answers I got from the client (e.g., the researchers).	1	2	3	4	5	6	7
Q2: While working on the case, I frequently questioned things I saw or read.	1	2	3	4	5	6	7
Q3: While working on the case, I tended to reject the client's answers unless I had documentary evidence to support they were true.	1	2	3	4	5	6	7
Q4: While working on the case, I took my time when making decisions.	1	2	3	4	5	6	7
Q5: While working on the case, I did not like having to make decisions quickly.	1	2	3	4	5	6	7
Q6: While working on the case, I tried to consider most of the available information before making decisions.	1	2	3	4	5	6	7
Q7: While working on the case I waited to make decisions until I could get more information.	1	2	3	4	5	6	7
Q8: While working on the case, I expected that my client's answers to my questions would give me a better chance to analyze the documents than they did.	1	2	3	4	5	6	7
Q9: While working on the case, I thoroughly analyzed the documents to identify discrepancies.	1	2	3	4	5	6	7
Q10: While working on the case, I was often frustrated with the responses of the client to my questions but continued to probe for better answers.	1	2	3	4	5	6	7
Q11: While working on the case, I was less skeptical about my client's documents than I expected myself to be.	1	2	3	4	5	6	7
Q12: I am satisfied with the amount of professional skepticism I exercised while working on the case.	1	2	3	4	5	6	7
Q13: The case helped me see how important it is to exercise professional skepticism on an audit.	1	2	3	4	5	6	7
Q14: The case was successful in helping me learn how to exercise professional skepticism.	1	2	3	4	5	6	7
Q15: The case was successful in helping me to become more aware of professional skepticism.	1	2	3	4	5	6	7
Q16: Now that I have worked the case, I am better able to probe a client's evasive and implausible explanations than I would be if I had not worked the case.	1	2	3	4	5	6	7

The Post-Intervention Survey- Demographic Questionnaire						
	Response Choices					
Q1: Are you currently enrolled in or have you ever taken a forensic accounting or fraud examination course?	Yes		Not Sure		No	
Q2: Do you have any experience in audit, fraud examination, or forensic accounting (include internship experience)?	Yes		Not Sure		No	
Q3: Do you plan to go into auditing, fraud examination or forensic accounting after graduation?	Yes		Not Sure		No	
Q4: Do you plan to become a certified public accountant after graduation?	Yes		Not Sure		No	
Q5: Are you currently enrolled in or do you plan to enroll in a graduate program within the next five years?	Yes		Not Sure		No	
Q6: Have you ever taken a stand-alone ethics or philosophy course (do not include ethics or philosophy topics taught as a small part of another course)?	Yes		Not Sure		No	
Q7: Are you most interested in auditing, fraud examination, or forensic accounting?	Auditing	Fraud Examination	Forensic Accounting	All of Them	None of Them	Not Sure
Q8: Please enter your GPA as a 3-digit number (e.g., 2.85)	[Insert Number]					
Q9: Please enter your age as a whole 2-digit number.	[Insert Number]					
Q10: What is your school status?	Junior		Senior		Other	
Q11: What is your gender?	Male		Female		Other	
Q12: Which best describes your ethnicity?	White	African American	American Indian/ Alaska Native	Asian	Native Hawaiian/ Pacific Islander	Other
Q13: Which best describes your domestic/international status?	Domestic In-State	Domestic Out-of-State		International		Prefer Not to Say

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ACADEMIC VITA

DOMINIC MERTZ

EDUCATION

The Pennsylvania State University | Schreyer Honors College — **University Park, PA**
Smeal College of Business | Bachelor of Science in Accounting — *Class of May 2021*
College of the Liberal Arts | Bachelor of Arts in Criminology
Smeal College of Business | Minor in Economics

WORK EXPERIENCE

Air Products & Chemicals — **Trexlertown, PA**
IT Internal Audit Intern — *May 2019 – Aug 2019*

- Assisted in performing over 70 IT SOX Audit tests, concerning mostly general IT controls, through various means - inspection, observation, and re-performance
- Prepared work papers, excel worksheets, and collected evidence necessary in accordance with department procedures for documenting work performed and conclusions reached
- Supported meetings with control owners, documenting the purpose of the controls, taking screenshots as evidence for reports, and questioning any possible concerns that arose

Ki'netik Fitness — **State College, PA**
Consultant — *Aug. 2018 – Dec. 2018*

- Collaborated with 9 other students to consult executives at Ki'netik Fitness in order to draft and finalize a business plan
- Attended weekly meetings to discuss the company's financials, target market, competition, industry landscape and strategy to reach their long- and short-term goals
- Conducted an industry analysis, evaluating current industry trends, success factors, and recommending areas of improvement

Galen Glen Winery — **Andreas, PA**
Tasting Room Staff Member — *Summer 2014 – Present*

- Communicated details and statistics about the winery, the people, and the products to patrons, as well as supported in the giving of wine tastings to around 200 customers/day
- Supported with routine tasting room duties, such as clean-up and handling cash, but also with preparing food and wine pairings during specialty events, such as case club events and wine classes

Laborer

- Supported with the management of 20 acres of grapevines and the care of 12 different grape varieties in order to ensure the best growth of premium grapes throughout the growing season
- Assisted with the bottling of 17,000 gallons of wine per year, the planting new grape vines, and picking grapes during harvest

LEADERSHIP & ACTIVITIES

Penn State IFC/Panhellenic Dance Marathon (THON) — **University Park, PA**
Dancer Relations Committee Member (DRCM) — *Oct 2017 – March 2018*

- Collaborated with over 30 DRCMs, meeting weekly to discuss our role and responsibilities, raise money for the Four Diamonds, and spread awareness for childhood cancer
- Collaborated with hundreds of other THON members to support over 700 dancers throughout the 46-hour THON weekend leading to improved communication skills and a higher degree of adaptability

Penn State Thespian Society — **University Park, PA**
Active Member | Scenic Crew — *Aug 2018 – Present*

- Collaborated with over 100 Thespians members with the production of two mainstage shows for the Penn State community
- Assisted with designing the set for two mainstage shows and MasquerAIDS, including painting, gluing, and sanding scenery and props, as well as blocking and setting up scenery

INTERESTS

Interests: Competitive soccer, reading legal thrillers, playing board games, and spending quality time with friends and family.