

Forensic Accountant Skills: An Empirical Investigation in the Malaysian Forensic Accounting Education Curriculum

Aida Maria Ismail*

Faculty of Accountancy, University Teknologi MARA, PuncakAlam Campus, Selangor, Malaysia

Farah Amylea Azizan

Faculty of Accountancy, University Teknologi MARA, PuncakAlam Campus, Selangor, Malaysia

FadzlinaMohd Fahmi

Faculty of Accountancy, University Teknologi MARA, PuncakAlam Campus, Selangor, Malaysia

Abstract

Existing forensic accounting graduates in developing countries that practice the current forensic accounting curriculum showed lack of knowledge, skills and abilities in fraud detection and prevention as compared to graduates in developed countries. The Accounting curricular should provide students with the basic theoretical framework for understanding *Audit Investigation, Fraud Examination and Forensic Accounting* and, simultaneously, provide students with knowledge and techniques. Currently, Universities do not include suitable syllabus that meet the requirement of forensic accounting firms. Therefore, matching expectations of employers and suitable curricular content for the development of forensic accountant knowledge and skills are crucial. Thus, coverage of forensic accounting syllabus and the quality of forensic accountant practitioner becomes an issue. The objective of this study is to investigate the relationship between forensic accounting course and forensic accountant skills. A total of 96 individuals completed the questionnaire that was used for the analysis adapted mainly from the course outcome of Forensic Accounting and Financial Criminology Master's degree programme in one of the public universities in Malaysia. The result of this study indicated that auditing courses have no significant relationship towards forensic accountant skills despite having positive relationship, whilst fraud examination courses and forensic accounting courses have significant positive relationship towards forensic accountant skills. The results of this study should aid in setting the future direction and the role of forensic accounting practices and education. Forensic accounting education plays a vital role in preparing forensic accountant for the working world.

Keywords: Accounting education; Accounting curriculum; Audit investigation; Fraud examination; Forensic accounting; Forensic accountant skills.



CC BY: [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/)

1. Introduction

In 1946, Maurice Peloubet created history when he published his essay entitled "Forensic Accounting: Its place in Today's Economy". This is when the term Forensic Accounting was first introduced (Enofe *et al.*, 2013). Forensic accounting was first developed in the early 1900s, to safeguard businesses expanding in North America, but there was no specific accounting practice explicitly dealing with forensic or fraud issues. In addition, the term forensic accountant did not exist then. Accountants record the financial transactions of a company or an individual, while an auditor analyzes the financial records to verify an accountant's work. An accountant has a daily role, while an auditor audits a company either quarterly or annually. However, the forensic accountant role comes after accountants and auditors fail to perform their jobs upon companies' request, enforcement agencies or individuals (Palmer *et al.*, 2004). Initially, the forensic accountant's job was to count company assets and review company accounts for fraud. In Malaysia, forensic accounting institutions or associations lacked proper recognition since the forensic accounting industry was not encouraged to conform with the standardize code of ethics or standards of practice. As the time goes by, the forensic accounting field explored in depth by academicians as well as practitioners. The evolution of forensic accounting became rapid when earlier academic studies conducted during the 1980's brought about the formalized procedures of forensic accounting (Rezaee *et al.*, 1992; Rezaee and Burton, 1997).

Forensic accounting is a socio-professional activity which comprises accounting and law, and has its specific values and functions (Dong, 2011). Forensic accounting practice involves commercial crime cases such as white-collar crime. Many white-collar crime cases require forensic accountants or fraud examiners as an expert witness or investigator. According to Association of Certified Fraud Examiner (2016) forensic accountants possess a combination of accounting knowledge with investigative skills in investigation of financial crime cases or as an expert witness in the court of law. Additionally, according to the American Board of Forensic Accounting (2016) the term forensic accountant refers to a professional who performs an orderly analysis, investigation, inquiry, test, inspection, or examination in an attempt to obtain the truth and form an expert opinion. Its goals are limited to giving expert advice, that is, an expert report or accounting expert evidence, through investigations or identification (Albrecht *et al.*, 2003). There are also other terms associated with forensic accountants such as fraud examiner and

*Corresponding Author

investigator but their job requirement is similar (Rezaee *et al.*, 1992; Rezaee and Burton, 1997). They are also referred to as forensic auditors or investigative auditors which comprise accounting, auditing, and investigative skills to conduct investigations of theft and fraud (Crumbley and Heitger, 2015).

According to Association of Certified Fraud Examiners (2016a) and National Association of Forensic Accountants (2016) forensic accountants are employed by public accounting firms' forensic accounting divisions, consulting firms specializing in risk consulting and forensic accounting services, lawyers, law enforcement agencies, insurance companies, government organizations and financial institutions. Its ultimate goal is to safeguard the property of a legal subject. Forensic accounting can implement powerful legal, economic, social, and political functions. Therefore, forensic accounting positions require at least one to three years of accounting experience. Most of the forensic accountants obtain their experience by working as a general accountant. Based on their experience, a forensic accountant is responsible to perform forensic study to trace funds and identify assets for recovery, conduct forensic analysis of financial data, prepare forensic accounting reports from financial findings and prepare analytical data for litigation and testify as needed (Dong, 2011).

1.1. Motivation of the Study

All over the world, forensic accounting institutions or associations are established together with standardized code of ethics or standards of practice for forensic accountant. The Association of Certified Fraud Examiner (ACFE) founded in 1988, is the world's largest anti-fraud organization and premier provider of anti-fraud training and education which is based in Austin, Texas (Association of Certified Fraud Examiners, 2016a). In addition, The Institute of Certified Forensic Accountants (ICFA) is a professional body for development of the multidisciplinary profession of forensic accounting aimed to promote and develop the profession of forensic accounting to the public and to those people involved in providing forensic advice and guidance to their clients. This Institute represents accounting professionals who work in the forensic arena. They focus on professional values and high ethical standards, plus providing the opportunity for study and career advancement in the field of forensic accounting.

Malaysian has seen an increase number of corruption offender, 552 cases reported in 2014 then the number increases to 841 cases in 2015 (Malaysian Anti Corruption Commission, 2016). According to Datuk I.G. Chandran (MACC Investigation Division Director) the demand for forensic accountant has increase in the recent year due to the increase in the number of corruption cases (Ramadhan, 2015). He further commented that '*there is a certain aptitude and specific skills needed to become a forensic accountant*'. This statement is also supported by many scholars that conduct a study on necessary skills possess by forensic accountant (Davis *et al.*, 2010; McMullen and Sanchez, 2010). These problems give rise to the quality of forensic accountant practitioner.

In 2005 developed model for Forensic Accounting Curricular was established. However, not all the university used the developed model of Forensic Accounting curriculum. Question arises whether educational institutions are able to produce graduates that match the market demand. There is a growing gap persisted between the roles of a professional accountant in the current industry and what is being taught in the accounting education (Carnes and Gierlasinski, 2001). Findings from Johnson-rokosu (2015) discover that existing forensic accounting graduate in developing countries shows lack of knowledge, skills and abilities in fraud detection and prevention as compare to graduate in developed countries. In Malaysia, there is a limited number of Universities offering Forensic Accounting courses. Among the Universities that offer Master in Forensic Accounting and Financial Criminology course are Universiti Teknologi MARA, SEGI College and Asia Pacific University of Technology and Innovation. Currently, Universiti Teknologi MARA Selangor campus is the only public university to offer Master in Forensic Accounting and Financial Criminology programme. This programme is based on the collaboration between Universiti Teknologi MARA with the Malaysia Anti-Corruption Commission to develop expertise in forensic accounting fields in the country. The trust and competency issues circling the investigation of the case have contributed towards the core idea to conduct this study on knowledge and skills that forensic accountant possess.

This study aims to examine forensic accounting curriculum that include auditing course, fraud examination course and forensic accounting course on forensic accountant skills. Specifically, this study aims:

- To examine whether there is a significant relationship between auditing course and forensic accountant skills.
- To examine whether there is a significant relationship between fraud examination course and forensic accountant skills.
- To examine whether there is a significant relationship between forensic accounting course and forensic accountant skills.

3. Literature Review

3.1 Auditing Course and Forensic Accountant Skills

Audit is a process, a set of operations, collection, analysis and evaluation of information to obtain reasonable assurance on compliance of information or statements with predetermined criteria. The main role of an auditor is to render an opinion on whether a company's financial statements are presented fairly, in all material respects, in accordance with the financial reporting framework (Arens *et al.*, 2012). Performing forensic audit is one of the ways to detect red flags, which ordinary accountants failed to discover that leads to fraud or error in financial crime cases. However, there is often an auditing misconception regarding the role of the auditor when society perceived their role is to detect fraud (Carnes and Gierlasinski, 2001).

A model curriculum in forensic accounting and fraud investigation was developed by [West Virginia University \(2005\)](#) which illustrated clearly the auditing course content and auditing skill set requirements as a forensic auditor that was agreed upon by experts in the forensic accounting field. This model is useful for educational institution, stakeholder organizations, faculty and students as a reference for educational syllabus. As for forensic accounting investigation, an investigator or forensic accountant must also apply auditing knowledge and skills.

[Ong and Teik \(2013\)](#), conducted a study by adapting the model curriculum developed by West Virginia University as research instrument to form a basis of determining syllabus sufficiency through learning objectives in auditing. Factor analysis was used to reduce the items in the questionnaire to best represent the appropriate independent. A brief comparison between different higher learning institutions in Malaysia, students with and without internship experience, and test of ethical conduct was performed. Findings included sufficient coverage in the areas of auditing in Malaysian higher learning institutions. Auditing courses is the common course offered in most accounting curriculum syllabus in Malaysia. However, if forensic accounting techniques are injected in an audit, it would be capable of increasing the ability of the auditor to detect fraud and thus, help bridge the audit expectation gap.

Knowledge refers to the forensic accountant and the auditor's attribute and proficiency competences necessary and relevant to discharge technical and innovative tasks, especially with respect to identifying and analysing methods and procedures for fraud prevention, detection and response from the public sector environment. Knowledge of forensic accountant and auditor is positively related to task performance and fraud risk assessment ([Muse and Popoola, 2014](#)). It clearly shows that as forensic accountants acquire more knowledge in relation to fraud detection, prevention and response, the individual level of fraud risk assessment task performance increases.

3.2. Fraud Examination Course and Forensic Accountant Skills

Fraud is a deception that includes the elements of a representation, about material point, which is false, and intentionally, or recklessly so, which is believed, and acted upon by the victim and to the victims damage ([Albrecht et al., 2003](#)). Fraud examination is a methodology for resolving fraud allegations from inception to disposition. Based on [Association of Certified Fraud Examiner \(2012\)](#) the fraud examiners' role involves obtaining evidence and taking statements, writing reports, testifying to findings, and assisting in the detection and prevention of fraud.

A model curriculum in forensic accounting and fraud investigation developed by [West Virginia University \(2005\)](#) illustrated clearly the fraud examination course content and fraud examination skill set requirements based on experts view in the forensic accounting fields. In a fraud examination engagement, fraud examiners apply their fraud examination knowledge and skills to explore the financial crime cases. This model is useful for educational institutions, stakeholders, organizations, faculties and students as a reference for educational syllabus and standards of practice.

The accounting curriculum of higher learning institutions in Malaysia is insufficient with fraud examinations based on the findings of [Ong and Teik \(2013\)](#) who adapted the model curriculum developed by West Virginia University as their research instrument to form a basis of determining sufficiency of fraud courses here. However, the study only tested the perception aspect of students and results, which depended on the students' aptitude in learning. This study provided a brief comparison between different higher learning institutions in Malaysia, students with and without internship experience, and test of ethical conduct that was conducted to gain their response.

In another study by [Johnson-rokosu \(2015\)](#), respondents included stakeholders in accounting education and professional accountants from forensic accounting services, were asked to indicate the extent to which they agreed that fraud education has a positive impact on student expertise. From the findings in this study, 71% of the respondents indicated that inclusion of fraud examination course has positive impact in increasing students' fraud related judgment. Moreover, a study found that there is significant agreement among stakeholders on the effectiveness of forensic accounting in fraud control, improving financial reporting and internal control. 143 respondents consisted of accountants, management staffs, practicing auditors and shareholders responded to the questionnaire survey conducted by [Modugu and Anyaduba \(2013\)](#).

3.3. Forensic Accounting Course and Forensic Accountant Skills

Forensic accounting is the use of professional accounting skills in matters involving potential or actual civil or criminal litigation, [Association of Certified Fraud Examiner \(2012\)](#) which is a combination of accounting and law. A forensic accountant's expertise is needed in the court of law as an expert witness, and also to assist the investigation team in solving financial crime cases.

A study by [Ong and Teik \(2013\)](#), analysed the relationship between final year accounting students' perception of fraud education and the overall sufficiency of the three areas in higher-learning institutions. This study included forensic accounting course content and forensic accounting skills set requirements as a forensic accountant. The result of the study indicated that accounting curriculum provides sufficient coverage in the areas of forensic accounting.

Aside from seminars and training, added knowledge in forensic accounting would influence forensic accountant's skills. A forensic accountant is a certified member of any forensic accounting association or has a Master's degree, and is able to solve financial crime cases accurately and report to the regulators or clients on time. Individuals who have completed a course that focuses on forensic accounting have more accurate fraud judgments than students who have not completed the course ([Carpenter et al., 2011](#)). This study requires students to complete the case-based questionnaire seven months after the last day of class, and these participants were asked again to

complete the questionnaire via email for follow-up. Forensic accounting course raises a student's level of skepticism in completing their task. Indeed, formal education has positive relationship with forensic accountant skills.

Continuous education may be motivated by demographic factors such as salary and seniority position. In addition, employers also send their employees for training or short courses to improve their competency level and also employee skills (Hurt, 2007). A study took place in the Nigerian forensic accounting industry by Johnson-rokосу (2015) indicated that accounting graduates trained under the existing curriculum in developing countries exhibit little knowledge, skills and abilities in fraud detection, prevention and deterrence compared to graduates in developed nations. However, infusing forensic accounting core competency will have significant effect on student expertise and performance.

3.4. Hypothesis Development

The first independent variable that was examined in the study is auditing course, which solely focuses on syllabus itself. Based on previous studies, there are significant results regarding the relationship between auditing course and forensic accountant skills. The setting of the study is in the USA on perceived importance of skills and characteristics of forensic accountants. This is followed by education requirements, demand for forensic accountants, and finally the need for computer forensic techniques and software tools. Fraud professionals agree that forensic accountant skills can be acquired through courses to gain competitive advantage. The association between forensic accountant skills can be acquired through auditing courses (McMullen and Sanchez, 2010).

There is evidence that shows auditing course provide sufficient coverage for the accounting syllabus based on the West Virginia University Forensic Accounting Curriculum Model. The association of auditing course and forensic accountant skills with the job satisfaction is seen to be relevant. However, this study indicates forensic accounting syllabus is part of the accounting syllabus. The evidence does support forensic accountant skills is acquired together with auditing courses offered (Ong and Teik, 2013).

The shape of the accounting syllabus does determine the skills possessed by the graduates. Competent audit investigators are able to conduct forensic audit procedures and report a proper conclusion based on the evidence they acquired. Broader knowledge in relation to fraud detection, prevention and response has significant impact in the individual level of risk assessment and task performance (Muse and Popoola, 2014). Hence, based on collected of findings on the relationship between auditing course and forensic accountant skills, the first hypothesis is drawn:

H1: There is a significant relationship between auditing course and forensic accountant skills

The second independent variable to be examined in the study is fraud examination course. Based on previous studies, it was agreed that fraud examination course influence forensic accountant skills. There is insufficient coverage in the forensic accounting skills that is due to the lack of awareness on the importance in fraud education. As a result, there is shortfall of practitioner and educator in the forensic accounting field. Fraud education builds a foundation of fraud examination skills (Carnes and Gierlasinski, 2001).

However, current fraud examination course coverage is still insufficient in accounting syllabus as compared to the developed model of accounting curriculum (West Virginia University, 2005). Therefore, sometimes students are unprepared to engage in fraud examination. Since there are certain skills and aptitude required as a fraud examiner, incompetence in knowledge skills and experience would cause financial crime cases to be acquitted. In order to prepare students to engage in fraud examination, an appropriate fraud examination course must be developed. Inclusion of fraud examination course has positive impact in increasing student fraud related judgment (Johnson-rokосу, 2015).

Modugu and Anyaduba (2013), conducted a study on forensic accounting knowledge with fraud control and improving financial reporting. The study found that there is a significant agreement amongst stakeholders on the effectiveness of forensic accounting in fraud control, improving financial reporting and internal control.

Apart from that, Muse and Popoola (2014) conducted a study to determine the impact of task performance, fraud risk assessment and forensic accountants. The findings indicated respondents' agreed that performance measurement can be improved considering the impact of forensic accountant skills. Hence, based on findings collected on the relationship between fraud examination course and forensic accountant skills, the second hypothesis is drawn:

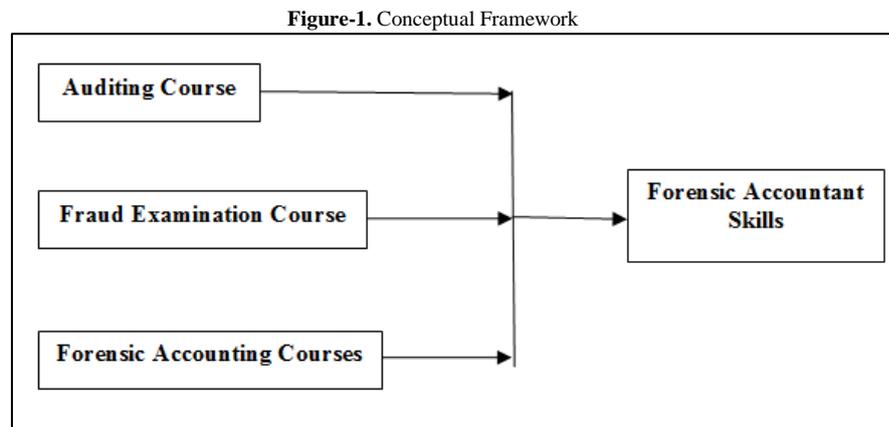
H2: There is a significant relationship between fraud examination course and forensic accountant skill

The third independent variable to be examined in the study is forensic accounting course. Based on previous studies, previous literatures agreed that forensic accounting course influence forensic accounting skills. Among the important skills of a forensic accountant are basic accounting skills, social skills and problem solving skills. However, these core skills are insufficient requirements for forensic accountants, while there are significant differences in the relevant skills of forensic accountants, as given by previous researchers with the current study (Digabriele, 2008). In order to acquire those skills, accountants must attend forensic accounting course since this course will help students to evaluate risk accurately and increase professional skepticism. Nevertheless, infusing forensic accounting core competency has positive relationship with student expertise and performance (Johnson-rokосу, 2015).

Apart from that, individuals who have formal education that focuses on forensic accounting have more accurate fraud judgments than students who do not (Carpenter *et al.*, 2011). Therefore, there is an association between forensic accounting course and forensic accounting skills. A previous study in Iraq found that forensic accounting education has positive relationship with the effectiveness of detecting financial corruption. The hypothesis is accepted due to a significant positive correlation between the forensic accounting education and the effectiveness of detecting financial corruption activities (Alabdullah *et al.*, 2013). Hence, based on findings collected from the relationship between forensic accounting course and forensic accountant skills, the third hypothesis is drawn:

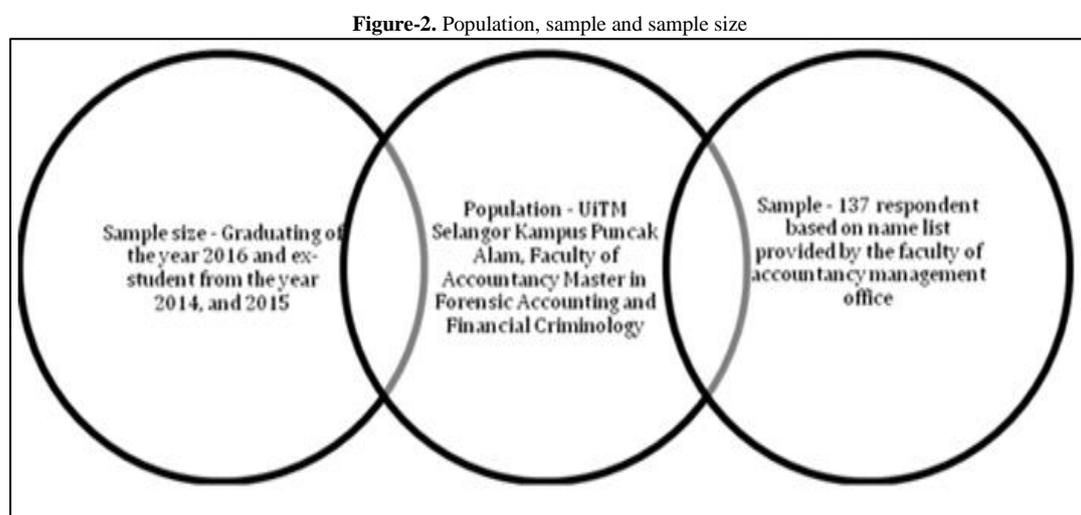
H3: There is a significant relationship between forensic accounting course and forensic accountant skills**3.5. Conceptual Framework**

Figure 1 shows the conceptual framework of this study, which illustrates the relationship between the independent variables and dependent variable of this study. The independent variables of this study is forensic accounting course consist of auditing, fraud examination and forensic accounting aligned with the measurement of variables for this study. Therefore, the independent variables are expected to explain the dependent variable. The dependent variable is forensic accountant skills and it is organized into auditing skills, fraud examination skills and forensic accounting skills in the measurement of variables. The relationships between knowledge and skills possessed by the forensic accountant will be produced as a result which contributes to the study and explains the objectives and questions in the study. The conceptual framework is adapted based on a study by Ong and Teik (2013).

**4. Methodology**

Primary data was collected from the questionnaire, which consists of two parts. Part 1 covers the demographic information include gender, age, sector, field, working experience and position. As for Part 2 the questionnaire measures the independent variables of the study which are auditing course, fraud examination course, forensic accounting course. It also measures the dependent variable of the study which includes auditing skills, fraud examination skills and forensic accounting skills. A likert scale determines the respondents opinion based on these scales ranging from ‘1 = strongly disagree’ to ‘5 = strongly agree’. The “strongly agree” answer for the independent variables, indicates that the respondent’s agreement on knowledge acquired based on the courses vice versa with “strongly disagree” answer. As for the dependent variables, the “strongly agree” answer indicates that the respondent’s possess particular the skills vice versa with “strongly disagree” answer. The “uncertain” answer indicates that there is high potential of respondents who did not care on the integrity factors and score in their organization that shows low level of awareness on integrity by the respondents. The research instrument requires approximately 20 to 30 minutes for the respondents to answer.

The sampling covers all the students of Forensic accounting and financial criminology Master’s degree programme in the public university identified which comprises of part-time and full-time students who have experience working in the accounting industry. 137 questionnaires were distributed based on registry containing a list of all students from 2014 until 2016. The population, sample and sample size for this study is simplified as Figure 2. Data were analyzed based on the questionnaires collected. SPSS version 18 from IBM was used in the analysis. Figure 2 below shows the population, sample and sample size of the study.



5. Results and Discussion

5.1. Reliability Test

Table 1 shows reliability analysis for all variables tested. Firstly, for auditing course, the findings showed the Cronbach's Alpha for the overall scale is .731 which indicated that the internal consistency for reliability between 5 scaled items is good (Field, 2013). Since the internal consistency for all questions is good, there is no need to delete any questions regarding this variable. The questions for this variable also correlated with each other.

The Cronbach's Alpha for the overall scale of fraud examination is .768 which indicated that the internal consistency for reliability for all 6 scaled items is acceptable (Field, 2013). Since the internal consistency for all questions is acceptable, there is no need to delete any questions regarding this variable. In addition, the questions for this variable also correlated with each other.

Subsequently, for the forensic accounting course, the Cronbach's Alpha for the overall scale is .562 which indicated that the internal consistency for reliability for all 9 scaled items is excellent (Field, 2013). Since the internal consistency for all questions is excellent, there is no need to delete any questions regarding this variable. The questions for this variable also correlated with each other.

Finally, for the dependent variable which is for the forensic accountant skills based on the Cronbach's Alpha for the overall scale is .772 indicated that the internal consistency for reliability for all 21 scaled items is good (Field, 2013). Since the internal consistency for all questions is good, there is no need to delete any questions regarding this variable. Furthermore, the questions for this variable also correlated with each other. Thus, the Cronbach's Alpha for the overall scale is .963 which indicated that the internal consistency for reliability for all 40 scaled items is excellent (Field, 2013).

Table-1. Instrument Validation - Reliability Test

	Number of Questions	Cronbach's Alpha
Auditing Course	5	.731
Fraud Examination Course	5	.713
Forensic Accounting Course	9	.562
Forensic Accountant Skills	21	.772

5.2. Test of Normality

Normality test described the distribution of score whether it is approximately normal or not, value of skewness and kurtosis will be measured to determine the distribution. The further the value is from zero, the more likely it is that the data are not normally distributed. According to Field (2013) the rule of thumb for skewness is if the value is less than 1 or -1, it is considered as significantly skewed, -2 to -1 or 1 to 2 considered as moderately skewed and lastly, if the value is less than -2 or larger by 2, it is considered heavily skewed. However, normality threshold of ± 2.0 and ± 7.0 for skewness and Kurtosis respectively in assessing multivariate normality.

Based on Table 2, the value of skewness for all variables ranged from -.733 to -1.816. Thus, the skewness value is less than 2, it is indicated as moderately skewed. Negative values of skewness indicated too many high scores in the distribution, whereas positive values indicated a built-up of low score. Meanwhile, the value of kurtosis for all variables is ranged from 1.221 to 6.712. Positive value indicated a pointy and heavy-tailed distribution, whereas negative values indicated a flat and light-tailed distribution. Besides this, the central limit theorem means that there are a variety of situations in which normality is assumed regardless of the shape of sample data (Field, 2013). In sample size situations, the accepted value for a normally distributed score starts from a sample size of 30 because sample size of 30 is considered a large sample (Field, 2013). Therefore, all data for the purpose of this study are considered normal as demonstrated in Table 2. Based on overall test of normality, it can be assumed that all the data are normally distributed based on the normality assumption interpretation discussed.

Table-2. Test of Normality

	Mean	Std. Deviation	Skewness	Kurtosis
Auditing Course	20.02	2.93	-.733	1.221
Fraud Examination Course	20.5833	3.38	-1.858	6.712
Forensic Accounting Course	35.45	5.89	-1.707	5.475
Forensic Accountant Skills	82.49	13.14	-1.816	6.040

5.3. Correlation Analysis

Correlation analysis will be used to determine the association between the independent variable, which are auditing course, fraud examination course, and forensic accounting course with the dependent variable that is forensic accountant skills. Correlation analysis determines a relationship between two variable as well as determining its magnitude and direction. It is a way of measuring the extent to which two variables are related and pattern of responses across variables. Hence, in this study, employed Pearson Product Moment Correlation Coefficient (r) since the level of variables for this study is interval (Field, 2013). The values of the correlation coefficients vary between +1.00 and -1.00. Both of these extremes represented perfect relationship between variables, and 0.00 represented the absence of a relationship. Based on correlation coefficient interpretation from Field (2013), if correlation value is $\pm .90$ to ± 1.00 it is considered a very high positive/negative relationship, followed by $\pm .70$ to $\pm .90$ as high positive/negative relationship, followed by $\pm .50$ to $\pm .70$ which showed moderate

positive/negative relationship, $\pm .30$ to $\pm .50$ which showed a low positive/negative relationship and lastly, $\pm .00$ to $\pm .30$ which is considered little, if any correlation.

Based on Table 3, there are moderately positive correlation between auditing course and forensic accountant skills ($r=0.630$), it is significant at $p < .001$. As for fraud examination course and forensic accountant skills, there is also a moderately positive correlation ($r=0.651$), it is also significant at $p < .001$. Meanwhile, forensic accounting course is highly positive correlated with forensic accountant skills ($r=0.820$), significant at $p < .001$. Overall, all the tested independent variables showed a positive correlation towards forensic accountant skills. A positive relationship means that individuals obtaining high score on one variable tend to obtain high scores on a second variable vice versa (Field, 2013).

Table-3. Correlation Analysis

	TOT_AC	TOT_FEC	TOT_FAC	TOT_FAS
Auditing Course Sig	1	.590** .000	.590** .000	.630** .000
Fraud Examination Course Sig		1	.651** .000	.651** .000
Forensic Accounting Course Sig			1	.820** .000
Forensic Accountant Skills Sig				1

** . Correlation is significant at the 0.01 level (2-tailed). N=96

5.4. Regression Analysis

Table 4 shows analysis of variance (ANOVA) table, while the result shows significant of variable used in the study towards the dependent variable based on F ratio and the associated significant value of that F-ratio. Based on Table 4, F is 74.345 which is significant at $p < .001$. There is less than 0.1% chance that an F-ratio this large would happen if the null hypothesis were true (Field, 2013). Therefore, the regression model results in significantly better prediction of forensic accountant skills rather than using its mean value. Nevertheless, the regression model overall predicts forensic accountant skills significantly well.

Table-4. Anova Table of Performance

Model	Sum of Squares	Df	Mean Squares	F	Sig.
Regression	11609.288	3	3869.763	74.345	.000 ^b
Residual	4788.702	92	52.051		
a. Predictors: (Constant), Forensic Accounting Course, Auditing Course, Fraud Examination Course	16397.990	95			
b. Dependent Variable: Forensic Accountant Skill					

Table 5 shows the model summary for relationship between independent and dependent variables. This summary table provided the value of R and R square for the model that has been derived. For these data, R has a value of 0.841. Meanwhile, the observe R square is 0.708, indicating 70.8 percent of the variation in forensic accountant skills is explained by variation in the auditing course, fraud examination course and forensic accounting course.

Table-5. Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.841 ^a	.708	.698	7.21465
a. Predictors: (Constant), Forensic Accounting Course, Auditing Course, Fraud Examination Course			
b. Dependent Variable: Forensic Accountant Skills			

5.5. The Regression Model

The first objective of this study is to determine whether auditing course has significant relationship towards forensic accountant skills. Hence, based on the analysis, Table 6 shows there is no significant positive relationship between these two variables (coefficient = 0.080, $t = 1.016$, $p = 0.312$). Since the p-value is more than 0.05, thus hypothesis 1 is not accepted. This indicates that auditing course consists of audit investigation and risk management syllabus, which have no significant relationship towards forensic accountant skills despite having positive relationship.

The second objective of this study is to determine whether fraud examination course has a significant positive relationship towards forensic accountant skills. Hence, based on the analysis, Table 6 shows there is significant positive relationship between these two variables (coefficient = 0.199, $t = 2.686$, $p = 0.009$). Since the p-value is less than 0.05, thus hypothesis 2 is accepted. This indicates that fraud examination course that consists of legal accounting fraud examination, money laundering and specialized fraud, and taxation fraud syllabus has significant positive relationship towards forensic accountant skills.

The last objective of this study is to determine whether forensic accounting course has a significant relationship towards forensic accountant skills. Hence, based on the analysis, Table 6 shows there is significant positive relationship between these two variables (coefficient = 0.650, $t = 8.248$, p is less than 0.001). Since the p -value is less than 0.001, thus hypothesis 3 is accepted. This indicates that forensic accounting course that consists of legal aspects of forensic accounting, commercial crime investigation, and forensic accounting in public sector, have significant positive relationship towards forensic accountant skills.

Table-6. Regression Analysis

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.	Collinearity Statistics	
	B	Std Score	Beta			Tolerance	VIF
(Constant)	6.835	5.551		1.231	.221		
Auditing Course	.311	.306	.080	1.016	.312	.511	1.956
Fraud Examination Course	.892	.332	.199	2.686	.009	.511	1.958
Forensic Accounting Course	1.450	.176	.650	8.248	.000	.579	1.729

Dependent Variable: Forensic Accountant Skills

6. Conclusion

The problem statement of this study has raised several issues which are; Quality of forensic accountant graduates and coverage of forensic accounting syllabus. However, the results of this study provided significant relationship between forensic accounting course and forensic accountant skills. Therefore, this study gave a wider picture of the importance of the education system in producing competent forensic accountants, as well as a deeper understanding of the current forensic accounting syllabus offered. This insight information helps education institution to evaluate how good is their current forensic accounting syllabus in producing quality graduates in forensic accounting field. In Malaysia, there is a limited study in the forensic accounting field; hence this study will contribute knowledge in the forensic accounting field since there is a lack of literature in supporting Forensic Accounting education. This study provides valuable input in redesigning the current accounting curriculum to expose students to fraud-based learning environment and also incorporating forensic accounting courses. An improved curriculum will be able to address the quality of forensic accountant graduates and the coverage of forensic accounting syllabus offered by education institution.

Area that can be explore by future researchers is looking into forensic accounting course offered in both public and private universities in Malaysia and see the similarity and differences. The finding would enable universities to learn from each other and improve their curriculum. In addition, it will expand the current finding and involve larger respondents from ex-students of various universities to improve the relevancy of the findings.

Acknowledgement

We wish to thank the Institute of Quality and Knowledge Advancement and the Institute of Research Management and Innovation of Universiti Teknologi MARA for their support and funding.

References

- Alabdullah, T. T. Y., Alfadhl, M. M. A., Yahya, S. and Rabi, A. M. A. (2013). The role of forensic accounting in reducing financial corruption: A study in Iraq. *International Journal of Business and Management*, 9(1): 26–34. Available: <http://doi.org/10.5539/ijbm.v9n1p26>
- Albrecht, M., Albrecht, W., A., C. and Z., M. (2003). *Fraud examination*. (J. W. Calhoun, ed.). 4th Ed edn: Mason: Ohio.
- Arens, A., Randal, E. and Beasley, M. S. (2012). *Auditing and assurance services, An integrated approach*. Fourteenth Edition edn.
- Association of Certified Fraud Examiner (2012). *Fraud Examination Defined*.
- Association of Certified Fraud Examiner (2016). *Career path as a forensic accountant*. Available: <http://www.acfe.com/career-path-forensic-accountant.aspx>
- Association of Certified Fraud Examiners (2016a). *About the ACFE*. Available: <http://www.acfe.com/who-we-are.aspx>
- Carnes, K. C. and Gierlasinski, N. J. (2001). Forensic accounting skills: Will supply finally catch up to demand? *Managerial Auditing Journal*, 16(6): 378–82. Available: <http://doi.org/10.1108/02686900110395514>
- Carpenter, T. D., Durtschi, C. and Gaynor, L. M. (2011). The incremental benefits of a forensic accounting course on skepticism and fraud-related judgments. *Issues in Accounting Education*, 26(1): 1–21. Available: <http://doi.org/10.2308/iace.2011.26.1.1>
- Crumbley, D. and Heitger, L. S. G. (2015). *Forensic and investigative accounting*. 7th Ed edn.

- Davis, C., Farrell, R. and Ogilby, S. (2010). *Characteristics and skills of the forensic accountant*. Institute of Certified Public Accountants. Available: <http://www.aicpa.org/interestareas/forensicandvaluation/resources/practaidsguidance/downloadabledocuments/forensicaccountingresearchwhitepaper.pdf>
- Digabriele, J. A. (2008). An empirical investigation of the relevant skills of forensic accountants. *Journal of Education for Business*, 83(6): 331–38. Available: <http://doi.org/10.3200/JOEB.83.6.331-338>
- Dong, R. (2011). Research on legal procedural functions of forensic accounting. *Energy Procedia*, 5: 2147–51. Available: <http://doi.org/10.1016/j.egypro.2011.03.371>
- Enofe, A. O., Okpako, P. O. and Atube, E. N. (2013). The impact of forensic accounting on fraud detection. *European Journal of Business and Management*, 5(26): 2222–839.
- Field, A. (2013). Andy field discovering statistics using SPSS. *Lavoisier, Fr.* Available: <http://doi.org/10.1111/j.1365-2648.2007.04270.1.x>
- Hurt, B. (2007). Teaching what matters: A new conception of accounting education. *Journal of Education for Business*, 82(5): 295–99. Available: <http://doi.org/10.3200/JOEB.82.5.295-299>
- Johnson-rokosu, S. F. (2015). Integrating forensic accounting core competency into the study of accounting. Case of Nigeria Tertiary Institutions. *Academic Journal of Economic Studies*, 1(3): 38–64.
- Malaysian Anti Corruption Commission (2016). Statistics on Arrest. Available: <http://www.sprm.gov.my/index.php/en/enforcement/statistics-on-arrests>
- McMullen, D. A. and Sanchez, M. H. (2010). A preliminary investigation of the necessary skills , education requirements , and training requirements for forensic accountants. *Journals of Forensic & Investigative Accounting*, 2(2): 30-48.
- Modugu, K. P. and Anyaduba, J. O. (2013). Forensic accounting and financial fraud in nigeria: An empirical approach. *International Journal of Business and Social Science*, 4(7): 281–89.
- Muse, O. and Popoola, J. (2014). Impact of task performance fraud risk assessment on forensic skills and mindsets; Experience from Nigeria. *International Journal of Business and Social Science*, 5(9): 9.
- Ong, D. and Teik, L. (2013). A study of Malaysian accounting education in higher-learning institutions, Is Malaysia preparing undergraduates. 1(1): 68–84.
- Palmer, K. N., Ziegenfuss, D. E. and Pinsker, R. E. (2004). International knowledge, skills, and abilities of auditors/accountants. *Managerial Auditing Journal*, 19(7): 889–96. Available: <http://doi.org/10.1108/02686900410549411>
- Ramadhan, S. (2015). Certified accountants perceptions of forensic accounting education : The case of Bahrain. 4(2): 109–18. Available: <http://doi.org/10.5923/j.ijfa.20150402.01>
- Rezaee, Z. and Burton, E. J. (1997). Forensic accounting education, insights from academicians and certified fraud examiner practitioners. *Managerial Auditing Journal*, 12(9): 479–89.
- Rezaee, Z., Lander, G. and Gavin, T. (1992). Forensic accounting in the curriculum. *Managerial Auditing Journal*, (June 1991): 25-29.
- West Virginia University (2005). Education and Training in Fraud and Forensic Accounting, A Guide for Educational Institutions, Stakeholder Organizations, Faculty, and Students. NCJRS Publication No.NIJ 21-71589. 1–70. Available: <http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Education+and+Training+in+Fraud+and+Forensic+Accounting:+A+Guide+for+Educational+Institutions,+Stakeholder+Organizations,+Faculty,+and+Students#0>