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Forensic Accounting Core and Interdisciplinary Curricula Components in Australian Universities: Analysis of Websites

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Introduction

The proliferation of fraud activities evident in high profile cases such as Enron, Arthur Andersen, Xerox, WorldCom, HIH Insurance, Harris Scarfe, and OneTel, and the associated emphasis on expert witness and litigation consulting, underscore the need for forensic accounting education and training (Van Akkeren et al., 2013). Forensic accounting is a growing interdisciplinary specialisation, the preparation for which has attracted significant attention (Ainsworth, 2001; Apostolou et al., 2010). Although the demand for forensic accounting has dramatically increased, the supply of forensic accounting education has not kept pace with it (Daniels et al., 2013) and there is little consistency in developing forensic accounting curricula. Individual curriculum design seems to be motivated by varying philosophical orientations about the perceived optimal approach (Smith and Crumbley, 2009). This study aims to explore forensic accounting curricula construction within Australian higher education. We investigated the major topics of the Australian forensic accounting curricula and compared these to the fundamental features of the forensic accounting curriculum which have been posited in the literature.

A major obstacle facing forensic accounting is that education programs worldwide have not kept pace with the demand for this service (DiGabriele, 2008). However, recently a dramatic rise in the availability of forensic accounting education and a major paradigm shift among colleges and universities has occurred (Seda and Kramer, 2014). Despite this, some universities have opted to delay adopting such programs (Matson, 2016) and there seems to be little consensus on how to uniformly integrate forensic accounting into the accounting curricula (Smith and Crumbley, 2009; Seda and Kramer, 2014).

In Australia, the forensic accounting profession has received attention from the professional accounting associations. CPA Australia manage the Forensic Accounting and Investigation Discussion Group (FAIDG), while the Chartered Accountants Australia and New Zealand (CA ANZ) has the Business Valuation Special Interest Group (BVSIG) and the Forensic Accounting Special Interest Group (FASIG), the latter of which has been replaced by the National Forensic Accounting Committee. Most recently, CA ANZ has collaborated with Macquarie University in administrating that university's forensic accounting specialisation. According to CA ANZ's website, this collaboration provides an educational pathway to strengthen members' existing chartered accountant qualification. Completion of the program demonstrates that the members have met minimum experience requirements in this area, with numerous advantages to the learners such as, expanding learners' career opportunities and expanding learners' network.

The Australian educational environment is undergoing significant reform, especially in accounting education (Freeman and Hancock, 2011). Consequently, there is a promising environment for forensic accounting, both in terms of education and practice. Currently, universities in Australia provide a diverse range of courses to teach forensic accounting programs. However, Akkeren et al., (2013) reported that some universities provide a separate program in forensic accounting (diploma or masters), while others teach one or two courses of forensic accounting within their accounting programs.

This study is motivated by the rapidly increased demand for the forensic accounting profession as well as the extensive reforms in the regulation of higher education in both Australia and worldwide (Helliar, 2013). Based on the extant literature, this research examines two questions in relation to forty Australian universities' websites. Firstly, what are the core curricula components and knowledge? Second, what are the nature and types of integrated interdisciplinary knowledge that at included in forensic accounting programs? Thus, the article contributes to the forensic accounting literature by exploring the directions that Australian universities have taken in forensic accounting education. This study also may help instructors to improve forensic accounting courses content.

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The remainder of this article is structured as follows: the literature review is discussed in the next section; and the following section explains the research method used in this study; followed by introducing the findings of the study are introduced in the next section; and the final section contains a summary and conclusion.

Literature Review

Curriculum and instruction design have received important attention from accounting education researchers (Apostolou et al., 2015, 2016). The body of forensic accounting literature is increasing and is U.S. centric (Huber, 2012; Seda and Kramer, 2015). Currently, there is a paucity of Australian academic research that explores the curricula components of forensic accounting (Chen and Van Akkeren, 2012; Van Akkeren et al., 2013; Seda and Kramer, 2014; Van Akkeren and Tarr, 2014; Tarr et al., 2016). Therefore, we reviewed literature from existing international forensic accounting studies relevant to curriculum content knowledge. In this section we provide a review of the international initiatives to design a forensic accounting curriculum. We also supply a review of the key topics of each core and interdisciplinary component as posited by the literature in the field. Finally, we provide a summary of the literature.

Curricula Models: Developing a Forensic Accounting Curriculum

Rezaee and Burton (1997) suggested four modules of forensic accounting education: which include topics such as investigation and law, fraud and fraud auditing, the financial reporting process and ethics. The U.S. based National Institute of Justice (NIJ) took the initiative to develop forensic accounting as a field of practice in 2003 as a result of the financial collapse of high-profile corporations such as Enron, WorldCom, and Adelphia, and other similar fraud scandals (Kranacher et al., 2008; Seda and Kramer, 2015). This proposed curriculum has been tested and implemented in many U.S. universities (Curtis, 2008a; Fleming et al., 2008; Young, 2008). The primary intended outcome of the NIJ's program was to assist with a standard body of knowledge for forensic accounting and develop a model curriculum design for the field.

More specifically, Fleming et al., (2008) describe the course content knowledge of the Forensic Accounting and Fraud Investigation (FAFI) Graduate Certificate at West Virginia University (WVU), which was supported by the NIJ. FAFI encompasses twelve credit hours[1] over four courses[2] of study. The first course focuses on: types of fraud, documents, sources of evidence, and analysis of internal and external fraud schemes with an emphasis on the skills needed to detect and investigate fraud. The second deals with: the digital control environment, prevention and deterrence, digital evidence, digital detection and investigation including data mining, digital presentation and reporting tools, cybercrime, and electronic case management tools. The third and fourth courses concerntrate on auditors' and fraud examiners' responsibilities to: detect fraud, investigative techniques, interviewing skills, legal concepts, evidence management, criminology, and ethics.

Most recently, the American Institute of Certified Public Accountants (AICPA) proposed a more condensed curriculum for forensic accounting. This iniatitive came in response to the increased demand for forensic accounting services and was an attempt to contribute to the future of the forensic accounting profession. The program aims to prepare students to become forensic accountants equipped to serve clients and their employers. It is designed to be a three credit course covering all essentials. The major topics included are: professional ethics and responsibilities, civil and criminal procedure, evidence, discovery, litigation services, engagement and practice management, fraud prevention, detection and response, bankruptcy, digital forensics, matrimonial forensics, financial statement misrepresentation, economic damages, and valuation. The curriculum corresponds with the certified financial forensics (CFF) exam content specification outline, which offers guidelines for educators to enhance their forensic accounting courses and for students to gain foundation level knowledge in forensic accounting.

The Core and Interdisciplinary Curricula Components

Forensic accounting as an interdisciplinary specialisation focuses on a balance between the disciplines of: accounting, law (Tarr et al., 2016; Botes and Saadeh, 2018), fraud and criminology (Daniels et al., 2013), ethics (Curtis, 2008b), psychology, sociology (Ramamoorti, 2008), intelligence, information systems, and information technology (IT) forensics (Pearson and Singleton, 2008; Murthy, 2010). Maintaining the balance between these integrated disciplines is the key to success in designing a forensic accounting curriculum (Kresse, 2008). These are now discussed in more detail, with what is generally seen as the core components presented first.

[1] Credit hour refers to the weight of the whole program.
[2] Course is used here to refer to a thirteen-week semester-based system of learning that together form the educational program.

Fraud

Fraud is often seen as the main topic of forensic accounting research and education. Consequently, the substantial role played by forensic accountants in the detection and investigation of fraud activities is an important component to be covered in the curriculum. The NIJ's proposed curriculum provides a comprehensive coverage of the fraud topics which a student of forensic accounting should learn (Kranacher et al., 2008). These include: investigative techniques, proactive approaches to preventing, deterring, and detecting fraud, occupational fraud and abuse (Curtis, 2008b; Fleming et al., 2008), interviewing and interrogation techniques (Gates et al., 2011; Porter and Crumbley, 2012), procurement fraud (Curtis, 2008a; Kresse, 2008), the basic fraud triangle (LaSalle, 2007; Trompeter et al., 2012), the key elements of fraud, red flags and fraud symptoms (Singleton and Singleton, 2010), fraud risk assessment (Brickner et al., 2010), asset misappropriation (Lehmann, 2015), corruption, false representations and fraud in financial statements (Sofianti et al., 2014), and fraud in a digital environment (Pearson and Singleton, 2008). LaSalle (2007) argues that student understanding of appropriate fraud detection procedures would be enhanced if they were exposed to theoretical concepts such as the fraud triangle. This view has been supported by Brickner et al. (2010) who advocate incorporating fraud into the education program for all accounting students regardless of their chosen career path. In addition Lehmann (2015) states that graduate students with an educational understanding of fraud report that this helped them to be more effective in their jobs, especially in developing fraud risk assessments and strategies to minimize the opportunity for fraud.

Law and Business Valuation

Forensic accounting is often concerned with identifying activities which are not legal. Therefore, forensic accounting educators are encouraged to pay attention to the adversarial nature of forensic accounting services. Legal frameworks, regulatory and court procedures are important components of the curriculum (Marychurch, 2006; Curtis, 2008b). Heitger and Heitger (2008) argue that a forensic accounting student should be able to function well in the heat of battle in the adversarial environment of litigation. Hence, educators and curricula designers should take criminal law into consideration and should separate this from business law or the legal environment of business. This view is supported by Curtis (2008a) who concludes that significant attention should be given to legal and regulatory components in the forensic accounting curriculum. Prior studies have suggested that legal and regulatory training dealing with expert witnessing and testifying, cross-examination, communications, and report preparation (Seda and Kramer, 2015) be included in the curriculum.

Business valuation is a specialisation that forensic accountants may also practise (DiGabriele, 2012). Many cases brought to the court's attention require testimony by an expert in business valuation (Durtschi and Rufus, 2017). In this regard, students are required to have fundamental knowledge about the appropriate framework and methodology to use in order to justify the valuation decision, whether it is for quantifying loss and damage or delivering a calculation of asset values (Heitger and Heitger, 2008).

IT Forensics

The use of digital investigative and analytical techniques is a significant component in any forensic accounting course (Murthy, 2010). Consequently, it is essential for students to have an awareness of how to use technology in their future careers (Van Akkeren et al., 2013). Pearson and Singleton (2008) summarize the content knowledge for fraud and forensic accounting in a digital environment, which includes prevention and deterrence of IT risk and cybercrime, how IT is used in fraud, rules and laws of digital evidence, detection and investigation tools and techniques, and using IT to report and communicate results in the legal environment.

Interdisciplinary Components: Ethics, Criminology, Psychology, and Sociology

Although prior researchers have stressed the interdisciplinary nature of forensic accounting, there is little agreement on what should be integrated into the curricula as an interdisciplinary component. Some argue that forensic accounting's interdisciplinary character has led to challenges in embedding its curricula in the higher education sector (Rezaee et al., 2004; Chen and Van Akkeren, 2012). Some researchers have referred to criminology (Daniels et al., 2013), ethics (Curtis, 2008b), psychology, and sociology (Ramamoorti, 2008) as the interdisciplinary components within the forensic accounting curricula. According to Kresse (2008), finding a proper balance between the disciplines of accounting, law, psychology, sociology, and criminology is a challenging task for all forensic accounting curriculum designers, as each discipline has much to learn from the others.

Since forensic accounting encompasses investigating fraudulent activities, providing testimony at trial and cross-examination within the court, the highest ethical standards are essential for practitioners (Kern and Weber, 2016). Accordingly forensic accounting students should be familiar with the relevant ethical principles (Kleinman and Anandarajan, 2011). Surveys of forensic accountant competencies have neglected the ethical side of forensic accounting

work, while many papers in the field seem to equate ethics with the law and code of conduct (Howieson, 2018). Ethical situations relevant to forensic accounting are not commonly discussed within business ethics courses (Curtis, 2008b). Therefore, this should be addressed within the forensic accounting curriculum. The integration of pertinent criminology, psychology and sociology will assist forensic accounting students to understand the behavioral roots of such criminals, in order to provide better fraud risk assessment and fraud prevention (Trompeter et al., 2012). The rationale behind incorporating sociology within the forensic accounting curricula derives from the role that forensic accounting plays in mitigating the impact on society from such crimes (Ramamoorti, 2008).

Literature Summary

This study builds on and contributes to work in forensic accounting curricula components. The majority of studies in the field have focused on U.S. forensic accounting curricula (Curtis, 2008a, 2008b; Heitger and Heitger, 2008; Kranacher et al., 2008; Young, 2008; O'Bryan, 2009; Smith and Crumbley, 2009; Carpenter et al., 2011; Seda and Kramer, 2015; Kern and Weber, 2016), while there has been little evidence about the structure of the curricula in other countries (Van Akkeren et al., 2013; Seda and Kramer, 2014). Thus, this study provides important insight into forensic accounting options for higher education in Australia. The detailed analysis of core and interdisciplinary content provides another contribution. Numerous studies have identified fraud as the main topic in most forensic accounting programs, with some concentration on the law. Little analytical attention has been given to digital forensic analysis and business valuation. We address this issue by demonstrating that such components are related both to forensic accounting education and to its practice.

Research Method

We contribute to the literature by providing insight into the directions that forensic accounting education has taken, which may help educators in developing their forensic accounting education offerings. We reviewed the websites of forty Australian universities to ascertain the extent to which forensic accounting courses or programs of study are provided and to determine the educational models employed (stand-alone courses or programs of study). The website analysis method has been used by researchers predominantly in the U.S. to explore the structure of forensic accounting curricula (Rezaee et al., 2004; Hylton Meyer et al., 2010; Moulding, 2010; Seda and Kramer, 2014, 2015; Wang et al., 2016).

Data

The data gathering procedures started by identifying Australian universities that provide or have provided at least one course of forensic accounting. In the process of reviewing the websites, we commenced by locating the accounting, commerce or business programs of study then examined the structure of those programs in order to locate courses, minors, majors, or program in the field of forensic accounting.[3] Two programs and one course were located outside of accounting departments or business schools.

The scope of this article includes programs and stand-alone courses in forensic accounting, which reside in various schools within universities. We found few forensic programs and courses outside of accounting departments and/or business schools. These offerings were generally associated with the interdisciplinary components of forensic accounting such as criminology. For example, Charles Sturt University offers articulation sets in Fraud, Financial Crime, and Investigations from its Graduate School of Policing and Security. These courses are heavily focused on national and international crimes. Similarly, the University of Technology Sydney offers Forensic Trust Accounting within the Bachelor of Design, Architecture, and Building. This course content exposes students to the principles of maintaining accounting records under the relevant statutory and regulatory requirements.

The university websites provided various ways to search for courses and programs. Therefore, we developed different strategies to complete the website survey. The keywords and keywords strings that were used encompassed: forensic, accounting, forensic accounting, investigation, fraud, expert witness, cybercrime, business valuation, and IT forensics. Once we identified the courses and programs, we accessed the online course specification and program curricula to obtain a description of the related courses' and/or curriculum's components.

[3] In Australia, there is no one word that is used consistently by universities to describe the single thirteen-week content for a semester of learning within an educational program. Some universities use either 'unit' or 'subject' or 'course' or the terms interchangeably. For the purpose of this paper, the term 'course' is used to describe a single subject thirteen-week period which constitutes a semester of learning within an educational program.

Analysis and Validity

We have reviewed all Australian university websites (n=40); the primary data for analysis is the information posted on these websites as related to the search terms. The content generally included forensic accounting curricula, handbooks and syllabi. Based on the features of the forensic accounting curricula that have been posited in the literature, we deductively analysed our data using qualitative thematic analysis via the NVIVO 11 software program.

NVIVO is a computer-assisted qualitative data analysis software (CAQDAS) and a code-and-retrieve index system. NVIVO is designed to allow users to conduct advanced analyses of electronic text data (Durian, 2002). The role of NVIVO in this study is to support the researchers in managing, arranging, as well as coding of qualitative data in a systematic manner. We used NVIVO to code the website data and attach nodes to sections of the text. Nodes are used in this study to store coding about topics, concepts and themes. We also used NVIVO to conduct analyses such as search functions, text-string and text pattern searches.

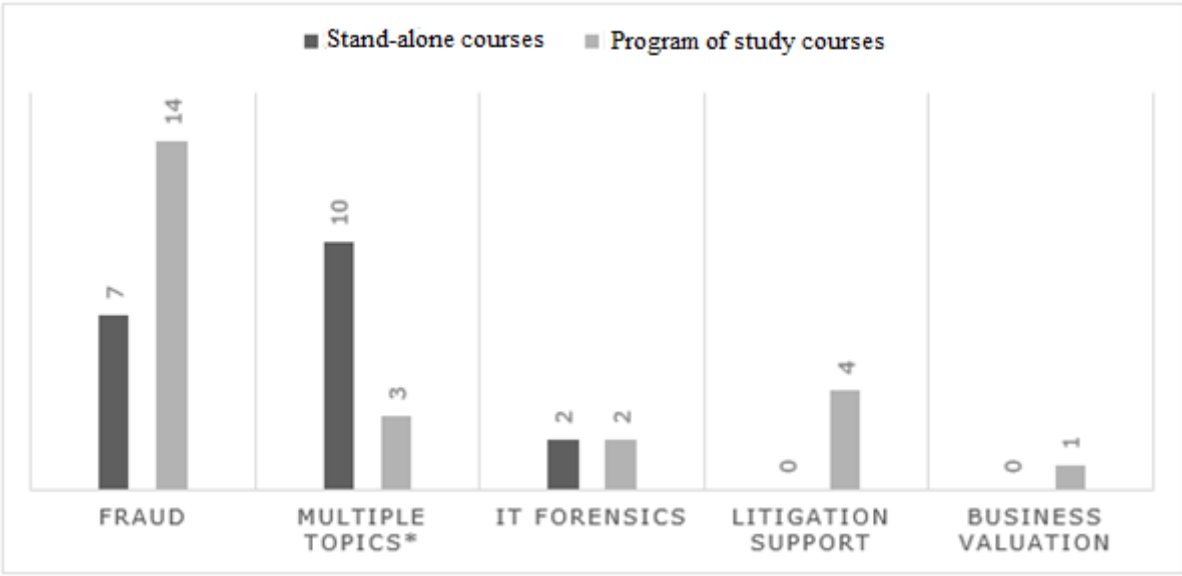
The analysis of curriculum focused mainly on reviewing the core content knowledge and the interdisciplinary integration. Describing and interpreting phenomena based on results generated by analysing qualitative data requires rigour and robust validity checks (Maxwell, 1992). In this study, researchers have scrutinized the trustworthiness, confirmability, and authenticity during all research phases, including the preparation, organization, and reporting of results. Additionally, all Australian universities were reviewed to satisfy the external validity of the data so that the results of the study may be generalized.

Findings and Discussion

A web-based analysis of forensic accounting curricula in Australian universities revealed significant variations in curricula design and content knowledge. Our analysis covers the courses and programs of forensic accounting within Australian universities. As shown in Appendices A and B, we identified nineteen stand-alone courses of forensic accounting offered by thirteen universities. In addition, four universities offer five programs which encompass twenty-four courses in total. Three universities have ceased to offer forensic accounting courses and one university dropped it as a program of study. Within the courses, we found four core topics. Figure 1 illustrates the topics of the forensic accounting courses across universities.

Chen and Van Akkeren (2012) found that a specialized university qualification in forensic accounting is not common in Australia. In addition, Van Akkeren et al., (2013) stated that forensic accounting education exists only in four Australian universities. Thus, our findings show an increase in forensic accounting education within Australian higher education.

Figure 1: Topics in Forensic Accounting Education



* Multiple topics refer to the courses that include more than one core or interdisciplinary component.

Forensic Accounting Core Content Knowledge Analysis

Accounting and Auditing Knowledge

Accounting and the investigation of fraud constitute the fundamental basis for all forensic accounting education; accounting is assumed as prerequisite knowledge. Understanding accounting concepts facilitates students' knowledge of accounting transactions and records. Forensic accounting courses aim to extend this knowledge to understand the forensic process from an accounting perspective and understand how accounting supports investigation (Kranacher et al., 2008). For example, courses offered by RMIT University enable students to differentiate between the purpose of auditing and forensic accounting and the relationship between them. Students will develop an understanding of the fraud triangle and its application to the audit risk model in business as well as an understanding of forensic accounting codes of conduct, audit standards and common concepts of fraud, corruption, and other forms of dysfunctional behavior. The RMIT University website provides the following information about the content of the course ACCT1111 Assurance and Forensic Accounting:

> The course aims to develop a conceptual and practical approach to auditing and forensics to ensure you gain a complete understanding of the audit and forensic investigation process for accountants.

Fraud

Fraud matters are not just the dominant topic of forensic accounting research (Huber and DiGabriele, 2015), we found that fraud is also the main subject of forensic accounting education. All the universities that provide forensic accounting education focus on fraud. Out of forty-three courses, twenty-one (forty-nine percent) primarily discuss fraud issues. In fraud education, students are exposed to the investigation side of forensic accounting practice and to the array of tools and techniques that are necessary for it. By way of an introduction to the theory and concepts underpinning fraud topics, students are exposed to the nature and types of fraud and financial crimes at different levels such as those committed by individuals, companies, and at the government level.

The fraud courses generally focus on the fraud triangle (pressure, opportunity and rationalisation) as a theoretical basis for understanding the reasons for fraud and its causes. Integrated topics cover many content areas: fraud investigations, detection and prevention, anti-money laundering, counter-terrorist financing, asset tracing and recovery, white-collar crime and combating financial crime; financial failures, financial statement manipulation, consumer fraud, credit card fraud, in-house financial crime prevention, tax evasion, Ponzi and pyramid schemes and forms of management and employee abuse; and drivers of fraud, techniques and emerging trends of fraud, motivations for fraud, symptoms of fraud, scope and scale of fraud. As an example, the La Trobe University website provides details of the course content in ACC3FOA Forensic Accounting:

> In this subject, you will focus on the investigative side of fraud examination as part of an introduction to theory and concepts underpinning this topic.

Law

Some coverage for the litigation role of forensic accountants is evident; four courses specifically include this knowledge. The University of Wollongong, in a course now discontinued, exposed forensic accounting students to the litigation framework in Australian and international legal jurisdictions, which is considered essential knowledge to those wishing to become forensic accounting practitioners (Heitger and Heitger, 2008). In law related courses, students should demonstrate a sound understanding of the theoretical and operational concepts and methodologies relevant to independent forensic accounting expert work in investigation and resolution of disputes or suspicions of inappropriate behavior and follow statutory and common law requirements and directions of courts.

We find the major content in litigation courses covers the following topics: methods and techniques for gathering evidence, adducing, admissibility, evaluation and presentation of evidence in a manner most suitable for the court, the purposes of a relevant matter and the law of evidence; the expert witness role, the key elements of an expert witness report and cross-examination of an independent expert report; and criminal and civil jurisdictions from a national and international legal perspective. The University of Wollongong's website provides details of the course content in the course ACCY951 Forensic and Litigation Framework.

> This subject will address the role of law in dealing with cases of fraud or misconduct, and the legal framework within which the forensic accounting process, from preliminary stages, to investigation and ultimately to prosecution or litigation.

Business Valuation

We find that courses at most Australian universities pay less attention to forensic accountants' roles in business valuation. This lacking is in contrast with a course offered by Macquarie University within the Graduate Diploma in Forensic Accounting, which primally covers loss and damage and other dispute engagements. The University of Melbourne and the University of Wollongong emphasize quantifying loss and damage functions within one course of their respective programs. The University of Melbourne's website describes the content of the course ACCT90026 Forensic Business Processes:

> Specific issues in dispute analysis are covered including, the quantification of loss, business valuation in the context of disputes, and the preparation of expert witness reports.

However, students should also be exposed to the nature and purpose of forensic accounting in business valuation (DiGabriele, 2012). Students should gain theoretical and practical knowledge to justify the methodology used in the valuations process and calculation of economic loss. Training in this area is insufficient and there is potential for more efforts from academics to teach this in a way that equips a student to deal with real work duties.

IT Forensics

IT forensics received attention in four courses, which seems minimal considering the importance of this knowledge to forensic accounting practitioners (Pearson and Singleton, 2008). All four of these IT forensics courses are offered by the Queensland University of Technology (QUT). In IT forensics, students are introduced to a broad range of tools and techniques for digital data analysis. The integrated topics cover the following content: design and development of computerized accounting systems including all system cycles; cybercrimes, accounting controls in an electronic environment and e-commerce fraud; data analysis using advanced MS office and SAS software, data mining visualisation and warehouses, cloud computing, GPS and mobile applications; and decision support systems, forensic and business intelligence applications and issues, social networking technologies for business intelligence and forensic investigation, triangulating and documenting evidence. Queensland University of Technology's website provides the following information about the course AYN453 Financial Forensics and Business Intelligence:

> The aim of this course is to provide students with an understanding of the features, uses and design strategies for IT-enabled managerial decision support, business intelligence systems and forensic investigation.

Interdisciplinary Courses: embedding of Ethics and Criminology

These courses focus on forensic accounting's unique role in a diverse range of business disciplines. Of the thirteen interdisciplinary courses identified, ten of these are stand-alone and three are courses within forensic accounting programs. The ethical and criminology aspects of the forensic accounting work received significant attention within the courses and programs of forensic accounting education, whereas there is scant attention to integrating psychology and sociology.

Ethics and Sociology

In this area, students will be exposed to content knowledge such as ethical and legal principles, socially responsible behavior, ethical dimensions of the anti-money laundering, counterterrorist financing, fraud investigation, and financial crime. Forensic accounting students in the Queensland University of Technology are required to appreciate ethical principles when analysing and responding to business issues in national and international contexts. For students to make an informed ethical decision and think critically about the ethical dimensions of different forensic accounting roles, they also need to understand how ethics can affect and guide real forensic accounting work. Queensland University of Technology's website provides the following content details for its Graduate Certificate in Business—Forensic Accounting Program:

> Demonstrate and apply knowledge of ethical and legal principles and practices in analysing and responding to business issues.

Criminology and Psychology

Both the Master of Forensic Accounting offered by the University of Wollongong and the Master of Fraud and Financial Crime offered by Charles Sturt University provide students with knowledge of criminology. Students conceptualize the indicators of inappropriate behavior to initiate and plan investigations to prove or refute such suspicions. Such university programs and courses of forensic accounting concentrate on the application of criminology theories to previous corporate financial scandals.

The integration of criminology within forensic accounting courses yields many opportunities for students to reflect. Firstly, it enables them to examine the factors that have led to the commission of financial crime activities. Second, it enables them to discuss and describe governance and ethics issues concerning business criminology. Finally, integrating criminology into these courses complies with the desired learning outcomes of representative articles in this field regarding the various investigative tools, skills and abilities for this role (Brickner et al., 2010; Kern and Weber, 2016). Sub-topics of criminology may include: existing forms of complex and sophisticated criminal activity such as drug trafficking, human trafficking, illegal arms trade and financial crime; emerging forms of criminality such as environmental crime, trafficking of cultural property, piracy and organ trafficking; and the nature of criminology and ethics with regard to fraud, the environment, and governance.

Summary and Conclusion

In this study, we explored the forensic accounting curricula construction within Australian universities by performing a thematic analysis on the curriculum as presented on university websites. This study has considered the major topics of the ideal forensic accounting curricula as described by the literature to inform its investigation about the status quo of programs and courses in Australia.

Our findings highlight core and interdisciplinary curricula components; we demonstrate the necessity of accounting and auditing as prerequisite knowledge for any student wishing to engage in a forensic accounting course. As supported by literature we have explored the incidences of fraud, litigation, business valuation, and IT forensics as core components and criminology and ethics as interdisciplinary components within the forensic accounting courses and programs of study. We found that significant attention has been given to fraud which corresponds with the prior international research in this field (Seda and Kramer, 2015; Tiwari and Debnath, 2017). However, there is little coverage of the role of forensic accounting in courts and the legal framework in which forensic accountants practice. In this regard, universities should revise their offerings to sufficiently cover the substantial legal duties of forensic accounting including expert witness roles, dispute resolution, preparing expert reports and responding to cross-examination.

We note that courses lack topics covering business valuation and IT forensics content, both of which are necessary for practical forensic accounting work. Business valuation includes, for example, quantification of loss and damage, wrongful death and personal injury, insolvency and bankruptcy, business interruption, insurance claims, mergers and acquisitions, and delivering an opinion and estimation of assets and liabilities values. However, only one university provides a whole business valuation course, while two universities include a module within their forensic accounting courses. Only one university offers substantive IT forensics. This limits students' exposure to one of the most desired work skill areas, technological skills (Murthy, 2010). Practitioners in the field depend on many computerized systems and software to assist them in duties such as fraud investigation, data analysis, and data visualisation. In regard to interdisciplinary integration, our findings show a primary focus on ethics and criminology and little attention to psychology and sociology.

The implications of these results are important to practitioners, standard setters, accounting researchers and educators as they provide directions for the redesign of forensic accounting curriculum. We suggest that the forensic accounting profession would benefit by exposing its students to the specialized forensic accounting knowledge that is in demand across a broad range of industries and sectors such as business valuation, expert witness, business intelligence, and dispute resolution. Another suggestion is to develop curricula that integrates more aspects of psychology and sociology in order to enhance students' comprehension of the behavioral roots of criminal conduct and the social impact of fraud.

The current study has the following limitations. First, some universities' websites provide inconsistent and inadequate information about the courses. Second, the information provided herein was correct at the time of reviewing universities' websites. Nevertheless, the researchers believe that this study will set the stage for more academic inquiries in the field of forensic accounting education within the context of Australian higher education. Further research will provide more opportunities to understand the reason for the variation that exists in Australian forensic accounting courses. Future researchers may investigate the different aspects of forensic accounting education to enhance and develop the profession as whole. The educational aspects of forensic accounting to be examined by future researchers may incorporate the pedagogical approaches and the associated learning objectives. Moreover, diverse cultural contexts or a larger sample of universities from other contexts would allow a refined understanding of the issue examined. This article addresses an important issue, the extent of forensic accounting offerings in Australia. Understanding how forensic accounting is taught in Australia contributes to improving the knowledge of forensic accounting education across the globe.

Appendix A: Australian Universities that Provide Stand-Alone Forensic Accounting Courses Only

University	Program of Study	Forensic Accounting Courses	Status
Deakin University	Master of Professional Accounting	• Governance and Fraud	Still Offered
Macquarie University	Master of Professional Accounting	• Emerging Issues in Financial Crime Fraud • Detection, Investigative Techniques	Still Offered Still Offered
Monash University	Master of Professional Accounting Master of Accounting	• Forensic Accounting and Fraud Examination	Still Offered
RMIT University	Bachelor of Business (Accountancy)	• Forensic Business Investigation • Assurance and Forensic Accounting • Forensic Accounting	Still Offered Still Offered Still Offered
University of South Australia	Stand-Alone Subject	• Failure, Fraud and Forensic Accounting	Discontinued
University of Southern Queensland	Master of Business	• Forensic Accounting	Discontinued
University of Technology Sydney	Bachelor of Design, Architecture And Building	• Forensic Trust Accounting	Still Offered
Western Sydney University	Master of Commerce (Accounting)	• Corporate Failure and Forensic Accounting	Discontinued
University of Melbourne	A Breadth Track Master of Accounting	• Business Forensics and Fraud • Forensic Business Processes	Still Offered Still Offered
Queensland University of Technology	Bachelor of Business (Accountancy) / Minor Option	• Forensic Digital Analysis • Governance, Fraud and Investigation • Forensic and Business Intelligence	Still Offered Still Offered Still Offered
La Trobe University	Bachelor of Business (Accountancy) / Minor Option	• Forensic Accounting	Still Offered
Griffith University	Master of Accounting	• Forensic Accounting	Still Offered
Swinburne University of technology	Bachelor of Accounting	• Forensic Accounting	Still Offered

Appendix B: Australian Universities that Provide Specific Forensic Accounting Programs of Study

University	Programs of Study	Forensic Accounting Courses	Status
Queensland University of Technology	Graduate certificate in business (forensic accounting)	• Electronic Commerce Cycles • Financial Forensics and Business Intelligence • Forensic Accounting and Investigation	Still Offered
Charles Sturt University	Master of fraud and financial crime (Articulation set)*	• Financial Crime Control and Risk Management • Foundations in Financial Crime • Forensic Accounting, Asset Tracing and Recovery • Investigating financial crime – prosecuting financial crime • Contemporary Issues in Financial Crime	Still Offered
	Master of Investigating (Articulation set)*	• Investigation Principles • Risk Management • Multi-Agency Investigation • Emerging Issues and Professional Practice in Trans-National Crime Investigation	Still Offered
University of Wollongong	Master of Forensic Accounting (Articulation set)*	• Introductory Forensic Accounting • Forensic and Litigation Framework • Fraud and Failure • Investigative Processes • Advanced Investigative Techniques • Independent Accounting Expert Reports • Evidence and the Forensic Accountant • Compliance, Assurance and Governance	Discontinued
Macquarie University	Graduate Diploma in Forensic Accounting	• Investigation Engagements • Loss and Damage and other Dispute Engagements • Forensic Accountants and the Courts • Forensic Accounting	Still Offered

*****The Master, Graduate Diploma, and Graduate Certificate make up an articulated set of courses and credit is given in each higher-level course for the subjects completed in the lower.

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