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**ACCOUNTING EDUCATION IN GREECE DURING  
THE GFC (2009-2016)**

**DIMITRIOS V. SISKOS**

**March 2019**



## Abstract

The structure of accounting education in Greece is facing nowadays many significant challenges since the GFC (Global Financial Crisis) has left behind many critical educational burdens. At the same time, there is an increase in accounting omissions and malpractices of ethics both in the public and in the private sector of Greece complicating the consequences of the crisis. These facts motivated the author to study on restructuring accounting education by devising a new educational framework that could be applied to Greek universities and colleges with the purpose of preparing finest and ethical professionals. Data were collected through interviews and questionnaires administered to professors and professionals in Greece. The study reveals that the accountancy programs as currently structured are outdated and inappropriate in terms of helping graduates acquire the skills and competencies needed in the real world. In addition, the respondents recognize many ethical lessons learnt derived from the GFC. The study also indicates an obvious potential to introduce further innovations in the content, delivery and assessment of a new accounting curriculum. In practice, the author recommends a new educational framework, which would significantly respond to the marketplace demands through integrating and/or redesigning content and teaching mechanisms in the higher education accountancy programs.

*Keywords:* Accounting Education; Restructuring; Global Financial Crisis, Ethics, Greece



## Table of Contents

Abstract .....	2
List of Figures .....	7
List of Tables .....	8
List of Abbreviations .....	11
List of Appendices .....	12
Dedication .....	13
Chapter 1: Overview .....	14
Problem Statement .....	15
Purpose of Research .....	17
Significance of the Study .....	18
Research Design.....	20
Research Questions.....	23
Assumptions and Limitations .....	24
Operational Definitions.....	25
Chapter 2: Literature Review .....	28
Theoretical Orientation .....	29
Accounting profession in Greece.....	29
Relation between Greek financial crisis and accounting.....	31
Accounting education: preventing a crisis in the Greek economy .....	31
How has the world responded to a similar financial crisis?.....	35
The structure of accounting education in Greece .....	38
Economic Chamber of Greece – Role and Requirements .....	41

Critique of Previous Research .....	43
Research on accounting curricula of Greek tertiary education .....	44
Research on recent challenges facing accounting education .....	46
Research on new content of accounting education in Greece after crisis .....	47
Research on new teaching methods in accounting programs in Greece .....	52
Traditional teaching methods for accounting programs .....	57
Modern teaching methods for accounting programs .....	61
The psychology in teaching accounting courses .....	67
Discussion on teaching methods .....	70
Summary .....	71
Chapter 3: Methodology .....	73
Research Design .....	74
Research Questions .....	76
Population and Sampling Strategy .....	76
Research Instrument .....	80
Data Collection Procedures .....	82
Data Analyses .....	86
Summary .....	88
Chapter 4: Analysis and Presentation of Results .....	89
Demographic Statistics .....	90
Details of Analysis and Results .....	94
Theme one and subthemes .....	96
Theme two and subthemes .....	102

Theme three and subthemes.....	109
Theme four and subthemes .....	125
Theme five - Demographic differences in responses.....	128
Summary of Results .....	131
Chapter 5: Conclusions and Recommendations .....	137
Summary of the Results .....	138
Discussion of the Results .....	145
Conclusions and Practical Recommendations .....	156
Recommendations for Further Research.....	167
Limitations .....	170
References.....	174
Appendices.....	200



## **List of Figures**

<i>Figure 1. Connection between accounting education and financial crisis.....</i>	<i>19</i>
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## List of Tables

Table 1	<i>Operational Definitions</i> .....	25	<b>Error! Bookmark not defined.</b>
Table 2	<i>Financial Crises 1970-2008</i> .....	35	
Table 3	<i>Greek Higher Education Institutes</i> .....	39	
Table 4	<i>Classification of Modules in Greek Higher Education Accounting and/or Finance Curricula</i> .....	45	
Table 5	<i>Traditional Teaching Methods used in Accounting Lessons</i> .....	58	
Table 6	<i>Modern Teaching Methods used in Accounting Lessons</i> .....	61	
Table 7	<i>Background Information for the Professors</i> .....	78	
Table 8	<i>Background Information for the Professionals</i> .....	80	
Table 9	<i>Sample Demographics: Gender</i> .....	90	
Table 10	<i>Sample Demographics: Type of University</i> .....	90	
Table 11	<i>Sample Demographics: Location of University</i> .....	91	
Table 12	<i>Sample Demographics: Years of Teaching Experience</i> .....	91	
Table 13	<i>Sample Demographics: Position in University</i> .....	91	
Table 14	<i>Sample Demographics: Age</i> .....	92	
Table 15	<i>Sample Demographics: Gender</i> .....	92	
Table 16	<i>Sample Demographics: Type of Organization</i> .....	92	
Table 17	<i>Sample Demographics: Position in Organization</i> .....	93	
Table 18	<i>Sample Demographics: Location</i> .....	93	
Table 19	<i>Sample Demographics: Years of Experience in the Field</i> .....	94	
Table 20	<i>Sample Demographics: Age</i> .....	94	

Table 21 <i>Perceived Benefits of Restructuring Accounting Education on an Ethical Basis</i> .....	104
Table 22 <i>Future Demand in Four Areas</i> .....	110
Table 23 <i>Current Content of the Accounting Curricula</i> .....	110
Table 24 <i>New Courses in the Accounting Curricula</i> .....	111
Table 25 <i>Career Opportunities in Forensic Accounting</i> .....	111
Table 26 <i>Fraud Cases Impact</i> .....	112
Table 27 <i>Employment Opportunities in Forensic Accounting</i> .....	112
Table 28 <i>More Interest and Demand for Green Accounting</i> .....	113
Table 29 <i>Employment Opportunities in Auditing</i> .....	113
Table 30 <i>How do you Integrate Ethics into your Accounting Curriculum?</i> .....	115
Table 31 <i>If you do not currently offer any Ethics Coverage, when are you planning to do so?</i> .....	116
Table 32 <i>How do you Integrate Forensic Accounting into your Accounting Curriculum?..</i>	116
Table 33 <i>If you do not currently offer any Forensic Accounting Coverage, when are you planning to do so?</i> .....	117
Table 34 <i>How do you Integrate Auditing Coverage into your Accounting Curriculum? .....</i>	117
Table 35 <i>If you do not currently offer any Auditing Coverage, when are you planning to do so?</i> .....	117
Table 36 <i>How do you Integrate Green Accounting Coverage into your Accounting Curriculum?</i> .....	118
Table 37 <i>If you do not currently Offer any Green Accounting Coverage, when are you planning to do so?</i> .....	118

Table 38 <i>The Educational Level which the above Accounting Courses should be offered</i>	118
Table 39 <i>Importance of Learning Mechanisms in Teaching Ethics</i>	118
Table 40 <i>Importance of Learning Mechanisms in Teaching Forensic Accounting</i>	118
Table 41 <i>Importance of Learning Mechanisms in Teaching Auditing</i>	118
Table 42 <i>Importance of Learning Mechanisms in Teaching Green Accounting</i>	121
Table 43 <i>Obstacles in Integrating Ethics, Forensic Accounting, Auditing and Green Accounting Courses</i>	122
Table 44 <i>Differences in Regards of the Type of University they Teach</i>	129
Table 45 <i>Differences in Regards of their Professional Experience, Job Position and the Type of Company they Work</i>	130
Table 46 <i>Proposed Additions to the Current Accounting Curriculum</i>	165

## **List of Abbreviations**

ERP	Enterprise Resource Planning
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
HSA	Hellenic Statistical Authority
IFRS	International Financial Reporting Standards
OECD	Organization for Economic Co-operation and Development
SAP	Systems, Applications and Products
SMC	Swiss Management Centre

## **List of Appendices**

Appendix A Individual Consent - Professionals.....	196
Appendix B Individual Consent - Professors.....	198
Appendix C Interview Protocol -Professionals.....	200
Appendix D Four-Page Questionnaire sent to Selected Professors .....	204

## **Dedication / Acknowledgement**

I dedicate this work to my family! I would also like to thank Professor John Marangos who was my mentor in this work.

## **Chapter 1: Overview**

### Accounting Education in Greece During the Global Financial Crisis

Accounting, as one of the most basic frameworks in business world, can be applied to all job specialties and its significance has been promoted in recent years. As such, the role of professional accountants in commercial success is vital. However, the recent financial crisis in Greece was a sequence of many accounting omissions and unethical actions, following the global trend. Greece has been affected more by the global financial turmoil beginning in 2007 than any other country (Kentikelenis, Karanikolos, Papanicolas, Basu, McKee, & Stuckler, 2012).

Education, during any period in Greek history, has always played an important role for the development of the society, providing the effective human resources for improvement in all fields (Huy, 2012). From the first written creations of Greek civilization, there is a profound urge in the Greek people for learning, fostering their intellectual abilities (Minos & Karayannis, 1997). Hence, Greece should invest in education to meet the crisis competencies and to evoke change by improving the lives of individuals and communities (Brandt & McCullough, 2011). As Nelson Mandela states (Earle, 2007), “education is the most powerful weapon which you can use to change the world” (p. 256).

Therefore, the need for change in education with a model for accounting education, as well as examples of how to improve accounting education, has to be taken care (French & Coppagare, 2011). The purpose of this study is to examine the role of accounting education in Greece and to elucidate how education can be used as a positive force in preventing financial crisis by focusing on new technical skills all embraced by ethical features.



## **Problem Statement**

The structure of accounting education in Greece and in the world is facing nowadays many significant challenges since the recent financial crisis has left behind many critical educational burdens. During the last decade there were many authors who connected the recent financial crisis in Greece with accounting omissions and manipulations in financial statements both in public and private sector, all of them based on unethical behavior (Brewer, Sorensen & Stout, 2014). The consequences of such actions include increasing unemployment, real incomes reduced by 20% to 50%, increases in lay-offs, dismissals, closures and mergers of public or private organizations ranging from schools and universities through to hospitals, as well as the implementation of very tight recruitment restrictions (Markantonatou, 2013).

The concept of “creative accounting” describes how accounting professionals make use of their knowledge in order to manipulate the figures in the annual accounts (Rada, 2014). In Greece, “creative accounting” was practiced many years before the crisis, despite the detailed accounting regulation (Baralexis, 2004). Research also highlighted the lack of the necessary fiscal consolidation during the past fifteen years, when Greece was experiencing high growth rates, in relation to the continuous false reporting of fiscal accounting data (Kouretas & Vlamis, 2009). All of these issues undermined the Greece’s government credibility. For example, in mid-October 2009, the newly elected government announced that the budget deficit for 2009 was estimated to be 12.7% of GDP while the previous government was arguing in September 2009 that deficit would not be higher than 6.5% of GDP (Kouretas & Vlamis, 2009). At the same time, large companies overstated profits to satisfy the demand for external financing, while the small companies understated profit in order to reduce company taxes (Baralexis, 2004). Moreover, auditors detected manipulation in accounts for depreciation, forecast payment defaults, forecast

staff severance pay, participation in other companies and fiddling accounts for tax purposes (Spathis, Doumpos, & Zopounidis, 2004).

The connection between the recent financial crisis and accounting irregularities is documented as well on a global scale. It is widely known that the 'credit crunch', which began in USA in August 2007, turned into a crisis when Lehman Brothers failed in September 2008 (Allen & Moessner, 2011). The findings suggested that Lehman acted unethically by violating credibility standards in its use of Repo 105 transactions and violating the accounting requirements by manipulating the financial statements. Repo 105 is an aggressive and deceitful accounting off-balance sheet device which was used to temporarily remove securities and troubled liabilities from Lehman's balance sheet, while reporting fallaciously its quarterly financial results to the public (Jeffers, 2011).

Therefore, it is efficient to act proactively as restructuring accounting education which could serve this purpose and prevent future accounting omissions along with serious malpractices of ethics. Ravenscoft and Williams (2004) rightly wonder who trained the professionals of all of these scandals, exactly what were they trained to do, and how educators should modify the content and teaching methods. Marangos (2002) stressed that the survival of the economics education would depend on how successful economics is in adjusting to the new conditions and on altering the emphasis of teaching materials from being hypothetical to incorporate problem solving techniques. The last ascertainment should be considered seriously in Greece, as most graduates from departments of economics become accountants. Nevertheless, many US schools or educators recognized an opportunity for growth in their response to the scandals and made changes to their curriculum (Titard, Braun, & Meyer, 2004). However, in Greece the curriculum has been the same as it was before crisis, and thus it is essential to

redefine the education of accounting along with the role that accountants play in financial markets.

### **Purpose of Research**

The impact of accounting education on business success, companies and the society has been the subject of much discussion and speculation both in the popular and academic press (Robinson & Sexton, 1994). However, literature shows that students' perception of accounting education generally is daunting. Marangos (2006) stated that economics courses are often viewed as: abstract and theoretical, difficult to study, not relevant to 'real world' or 'real life' issues, lacking an ethical dimension, lacking interdisciplinary synergies and not being associated with a high profile profession reducing successful career prospects. Another study identified that the school environment is an important factor, which could strengthen the negative attitudes of students (Byrne, Marann, & Pauline, 2005). In addition, Nira and Yoram (2006) mark that even though choosing the profession of accounting is more popular among first year students, this tendency is getting weaker closer to graduation. Brewer, et al. (2014) studied the ways accounting educators could better prepare students to deliver an enterprise performance management value proposition through integrated competency-oriented curricula. This would include three levels of competencies: foundational competencies, broad management competencies and accounting competencies.

Moreover, recent studies highlighted the gap between the accounting teaching methods and practice as a concern for all educators. As such, the results of research by Ricio (2008) showed the usage of 94% of traditional lecture, while new technologies such as Internet research and Lab room presented a usage rate below 50%. Considering that in real life, students are going to work with highly sophisticated accounting systems, such as those based in Enterprise

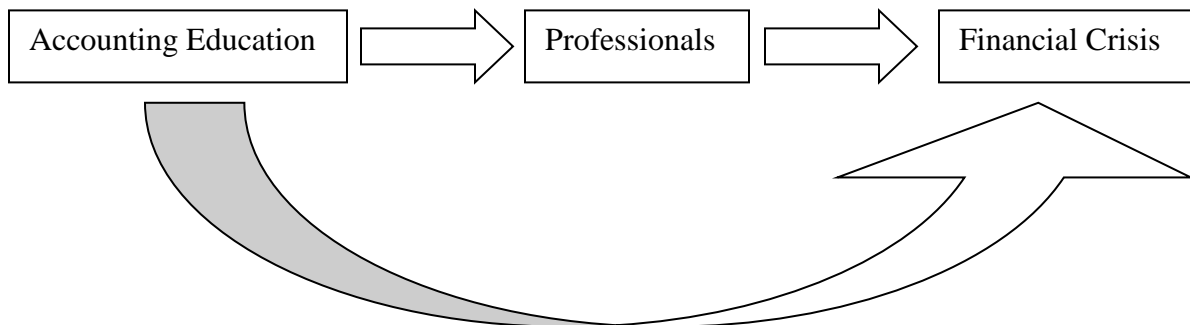
Resource Planning (ERP), Systems Applications and Products (SAP) or other integrated technologies, it is obvious that this aggravates the gap between education and real life applications. Last, it is necessary to emphasize the ethical features of accounting rather than only to technical skills. People are creative enough to find ways to bypass accounting standards.

### **Significance of the Study**

Accounting education is strongly related to the recent financial crisis in Greece, since some of the main root causes of the crisis were accounting omissions and manipulations in financial statements all embraced by unethical actions (Brewer, et al., 2014). The global financial crisis, epitomized by the recession of 2009 in Greece, raises the question of whether and how should accounting educators respond. To prevent a future financial crisis, the accounting professors in Greece should consider certain changes in the accounting curriculum with the goal of preparing finest and ethical professionals. This new curriculum should cultivate the necessary skills and competencies of the future accounting professionals in line with contemporary developments in areas such as ethics, forensic accounting, information systems, auditing and green accounting (Santouridis, Tsifora, Trivellas, & Nikolopoulos , 2014). Accounting education, as one of the most significant parts of the broader area of financial science, should take the lead into adjusting its structure to fulfill the gap between what is taught in higher learning education and the skills required for success in accounting profession (Brewer, et al., 2014).

The significance of this study is crucial to many fields, including the economy, unemployment, society coherence, development and competitiveness. Since it was the accounting education which trained the professionals, whose actions was one root cause of the

recent financial crisis, it is rather plausible to connect accounting education with the financial crisis (see Figure 1).



*Figure 1.* Connection between accounting education and financial crisis.

As such the value of an updated accounting education curriculum becomes extremely critical and important for the society given the large consequences of the recent financial crisis. By now, the tectonic damage left by the recent financial crisis of 2009 in Greece, has been well documented. According to the Hellenic Statistical Authority (2015) figures, during February of 2015 the number of employed people amounted to 3,347,358 and of the unemployed in 1,205,857. Employment rose by 1.6% compared with February 2014 and decreased by 4.2% compared to February 2012 (Aspridis, Sdrolias, Blanas, Kyriakou, & Grigoriou, 2013). Many Greeks suffered big pay cuts, tax hikes and reduced pensions imposed by successive governments on the orders of international lenders. Unfortunately, the harsh austerity measures imposed on the Greek public since the depths of country's financial crisis have led to a sustained increase of 26.5% in 2011 of Greek people suicides compared to 2010 and 43% compared to 2007, the year before the crisis began (Aspridis, et al., 2013). Greek births have fallen by 10% since 2007 compared with 2012 while the Greek immigrants to countries mainly in Western and Northern Europe and America exceed approximately 120,000 people during the years 2009 to 2011 (Aspridis, et al., 2013).

## **Research Design**

This study used qualitative research to gain new perspectives on accounting education in Greece and to gain more in-depth information that may be difficult to obtain quantitatively (Hoepfl, 1997). Particularly, it sought to gain deeper understanding of the new aspects in accounting education in Greece in regards to the causes and demands of the recent financial crisis. To succeed in this, it was required to focus on the existing experiences of individuals and, consequently, determine the perceptions under which these experiences originate. Some of the main characteristics of the phenomenological approach is to focus on the lived experiences of individuals (Sun, 2009), as well as to identify phenomena through how they are perceived by the actors in a situation (Lester, 1999). Adding an interpretive dimension to this phenomenological approach, it used as the basis for practical theory regarding accounting students to become more competitive, to optimize their business profile and to effectively contribute to the society. The sample for the current study consists of 15 accounting professors who work in public or private universities in Greece and 10 accounting professionals. According to Kleiman (2004), purposeful and criterion sampling methods are particularly suited to the phenomenological inquiry. As such, with an aim to listen to the experiences of those individuals, the current research employed the two aforementioned strategies for sampling. During the purposeful sampling strategy, the researcher invited via e-mail the individuals to ensure that they are able to share personal knowledge and inform an understanding of the research problem (Creswell, 2007). In order to make sure that criterion sampling would work effectively, it was important the participants to share certain characteristics: a) for the 15 professors, have a minimum experience of three years in teaching accounting courses, hold a Ph.D. degree and work in different universities or colleges

in Greece, b) for the 10 professionals, hold a bachelor degree in accounting, work as accountants for at least five years in Greece, work in different companies or are self-employed.

In a phenomenological study in which the sample includes individuals, who have experienced the phenomenon, it was important to notify the rights of the participants and to obtain their written permission to be studied (Creswell, 2007). As such and prior to collecting any data, the researcher obtained approval from each of the participants to conduct the study. Initially, all email communications have been completely confidential (Sun, 2011), referring the central purpose of the study and the procedures to be used in data collection. In addition, there was a specific note in the invitation that informed participants about crucial ethical considerations, in order to ensure that individuals are voluntarily participating in the research with full knowledge of relevant risks and benefits (Smith, 2003).

Similar to Kaur and Garg (2010), the 10 professionals selected for interviews contacted by phone to coordinate a date, time, and location to conduct the interview. The researcher followed-up with another e-mail to confirm the interview date and time. The interviews of the 10 professionals were conducted to a quiet and private place outside their workplace. Each interview took approximately 30-40 minutes and was digitally recorded to make sure that participants' perspectives are captured accurately. Prior to the interviews, participants signed the Individual Informed Consent (see Appendix A) form which informed them about the purpose of the interview and study, length of time to conduct the interview, process to review the transcripts, and asked for permission to tape record the interview (Kaur & Garg, 2010). The interviews principally focused on gaining information on the participants' lived experiences in accounting education and its impact on accounting profession. The researcher asked 3 open-ended questions to each group along with 11 sub questions. Last, the personal interviews

transcript was provided to the participants for review. Using member checking, they could provide clarification or revise the interview transcript within 72 hours of receipt of the transcript document.

Regarding the 15 accounting professors, the researcher contacted them by phone to inform about the purpose of the study and to ask for their participation. Since they agreed to participate, the researcher used two different research instruments, interviews and questionnaires, in order to conduct the survey. The questionnaires were used in the first place, followed by interviews on a sample as a check and to fill out certain features of the questionnaire replies. Interaction among techniques in this way is typical of qualitative research (Creswell & Plano, 2010). Ideally, there was a qualitative 'check' on a sample of questionnaire replies to see if respondents were interpreting items in the way intended. Specifically, the researcher sent them a questionnaire with 6 demographic questions, 20 multiple choice questions and 16 open ended questions. All of them focused on gaining information on the participants' lived experiences in accounting education and its impact on accounting profession. Wherever was geographically possible the researcher went to the professors' offices to conduct interviews based on their responses, eliciting supplementary information about research. This enabled the researcher develop a level of detail about the place and to be highly involved in actual experiences of the participants. The interviews principally focused on gaining supplementary information on the questionnaires' responses about accounting education and its impact on accounting profession. To those who were impossible to visit in their office, the researcher discussed with them about the questionnaire via Skype or phone. Along with the questionnaires, the researcher sent by e-mail, or gave hand by hand during the interviews, the Individual Informed Consent form (see



Appendix B) which informed them about the purpose of the study, length of time to complete the questionnaire and process to review the transcripts (Kaur & Garg, 2010).

The study followed APA's ethical principles of psychologists and code of conduct (APA, 2002). Following Principle C: integrity, the participants were initially informed that the interviews would be recorded and processed in a future stage (APA, 2002). Due the fact that many contacts were made during working hours, professional standards of conduct and formal behavior was adhered through the whole procedure. Based on Principle E: respect for people's rights and dignity, which highlights the necessity of confidentiality (APA, 2002); the researcher was trustworthy when needed and tolerant when the participant refused to speak or to answer about ethical subjects. During the in-depth interviews and the questionnaires, the researcher built an individual report per participant, which depicted their experience to accounting education, their position about the new educational aspects coming out from the global financial crisis and their recommendations for improving the existing educational structure. To enhance the credibility of the study, member checking was used asking the participants via e-mail to check- confirm or alter that profile for accuracy and clarity (Park, 2006).

### **Research Questions**

This research attempts to answer one main question:

R1: How should accounting educators alter the content and teaching methods in Greece in the post crisis era?

Further, this research provides answers to three sub-questions:

R1a: What is the current relation between accounting education and accounting profession in Greece?

R1b: What are the new features in the accounting profession that occurred during and after the global financial crisis?

R1c: What strategic orientation should the accounting education devise in the post crisis era?

### **Assumptions and Limitations**

The research of this study was limited to the educational system of Greece. This includes the public Universities (AEIs) and Technical Universities (TEIs) of the broader area of Greece, as well as a number of surrounding private colleges. Another limitation was that the sample for the current study consisted of 15 accounting professors who work in higher learning accounting programs and 10 professionals. Perhaps the most significant limitation of this study is that the results are difficult to be generalized to a larger group. Because phenomenology represents a deep slice of the experiences of a small number of people, generalizing the results to larger groups is not easily possible (Lester, 1999). Since the experiences are coming from a small faculty group and a small professional group, the results may not accurately reflect the experiences of faculty at any other university or college or may not represent the experiences of other professionals.

In order to make sure that criterion sampling would work effectively, it was important the participants to share certain characteristics: a) for the 15 professors, have a minimum experience of three years in teaching accounting courses, hold a Ph.D. degree and work in different universities or colleges, b) for the 10 professionals, hold a bachelor degree in accounting, work as accountants for at least five years and work in different companies. All these were to ensure that each of them shares different experiences and to reduce possible bias.

Acting as a human instrument (Denzin & Lincoln, 2003), the researcher initially described himself to participants informing them that he works as an accountant for the past ten

years in the industry sector in Greece and as a professor of accounting for the past five years in non-permanent positions. He also disclosed relevant aspects of self, as that his lived experiences qualified his ability to conduct the research even if they might influence his judgment altering the outcomes. Therefore, there was a high risk of researcher bias. In order to reduce such bias, the researcher clearly defined both risk and outcome, as well as he used standardized protocols during the data collection (Pannucci & Wilkins, 2011).

### **Operational Definitions**

This section includes a discussion of the key concepts to be used in this study. These concepts serve to provide a context for the current research project and are defined according to their application to this study. To avoid alternative meanings, Booth, Colomb, and Williams (1995) suggested a clear delineation of terminology used in research as showed in Table 1.

Table 1

#### *Operational Definitions*

Term	Definition
AEI	University.
TEI	Technical University.
Accounting	Recording and reporting of financial transactions, including the origination of the transaction, its recognition, processing, and summarization in the Financial Statements.
Accountant	A person who trained to prepare and maintain financial records.
Audit	A careful review of financial records to verify their accuracy.
Cash flow	The amount of actual cash generated by business operations, which usually differs from profits shown.
College	A postsecondary institution of higher education granting students a minimum of an associate degree.
Course	A discrete subject studied during one semester or quarter.

Corporate governance	Corporate governance involves an authoritative system to provide organizational structure to the firm (Colley, Doyle, Logan & Stettinius, 2005).
Creative accounting	The process of intentionally exploiting or violating the law to present financial statements according to one's interests (Baralexis, 2004).
Curriculum	The body of courses and other formally established learning experiences which constitute a program of study.
E.C.G.	Economic Chamber of Greece
Financial Statement	A record containing the balance sheet and the income statement.
Forensic Accounting	A form of investigative accounting which examines financial records in order to find evidence for a lawsuit or criminal prosecution.
Fraud	While there are different types of fraud, the basic working definition of fraud is "A knowing misrepresentation of the truth or concealment of a material fact to induce another to act to his or her detriment" (Garner, 2004, p. 685). Within the context of this study, references to financial fraud denote reporting of audited financial statements of public corporations to the U.S. Securities and Exchange Commission (SEC) referred to as Fraudulent Financial Reporting (FFR).
GAAP	Generally Accepted Accounting Principles.
Green or environmental accounting	A term for environmental and natural resource accounting, which incorporates environmental assets and their source and sink functions into national and corporate accounts (Bartelmus, 2008).
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards.
Learning Styles	The different ways people think and feel as they solve problems, create products, and interact. Learning styles models tend to concern themselves with the process of learning: how individuals absorb information, think about information, and evaluate the results (Montgomery, Moody, & Sherfield, 2001).

Risk

The possibility of loss; inherent in all business activities. High risk requires high return. All business decisions must consider the amount of risk involved.

University

An institution of higher learning and research consisting of several units which offer programs leading to advanced degrees.

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## **Chapter 2: Literature Review**

The recent financial crisis in Greece and other Western economies combined with the conduct of serious malpractices in the finance sector, brought into light long time unresolved systemic issues. Accounting and finance in higher education could not be left unaffected from these developments and calls for deep reforms have been made (Santouridis, et al., 2014).

Accounting education is strongly related to the recent financial crisis in Greece, since some of the main root causes of the crisis were accounting omissions and manipulations in financial statements all embraced by unethical actions (Brewer, et al., 2014). The global financial crisis in Greece, epitomized by the recession of 2009 in Greece, raised the question of whether and how should accounting educators respond.

The literature review in Chapter two explores the theoretical and empirical basis of this study in detail, as well as investigates the approaches taken and conclusions reached by other researchers. Specifically, it presents the literature addressing the various aspects of the accounting profession and accounting education in Greece. The literature review is broken down into three major sections. First, in order to provide context for the exploration and documentation of an educational program that is specifically focused on the preparation of accountants, the theoretical orientation examines the history of the accounting profession in Greece, its relevance to the recent financial crisis, the role of accounting education in Greece as to prevent recessions and the global respond to international crisis as lessons learned for Greece. Second, the review of literature explores the current and new content of the existing accounting programs by focusing on Greek Universities as well the current and new teaching methods used to educate the accounting students. Third, to build support for the current study and to further introduce certain changes in the accounting curriculum with purpose to prepare finest and ethical professionals in

the post crisis era, the third section of the literature review examines research on areas such as courses and teaching methods on ethics, forensic accounting, information systems, auditing and green accounting (Santouridis, et al., 2014).

## **Theoretical Orientation**

### **Accounting profession in Greece.**

The history of accounting is thousands of years old. A number of authors on the history of accounting suggested that the original 'inventors' of bookkeeping and in particular double entry bookkeeping, were either the Ancient Greeks or the Phoenicians (Yamey, 1980). In Greece, the accounting profession appeared in the 5th century B.C., when Greece used "public accountants" to allow its citizenry to maintain real authority and control over their government's finances (Palliam, 2010). Members of the Athens Popular Assembly legislated on financial matters and controlled receipt and expenditure of public monies through the oversight of ten state accountants (Sucher & Alexander, 2002).

According to Saidu (2013), the most important Greek contribution to accountancy was its introduction of coined money about 600 B.C. According to Violet and Alexander (2009), the developing city-states' affluence and political structure necessitated an accounting system that assigned social responsibility. However, widespread use of coinage took time following the evolution of accounting. The first ones who used accounting within their work were Bankers, which in Greece they appear to have been more developed than in other societies. They applied many accounting rules such as keeping account books, changing and loaning money, and even arranging for cash transfers for citizens through affiliate banks in distant cities (Sucher & Alexander, 2002). During the same period it can be find the first mention of the word "logistis" (accountant) and "logismos" (accountability) used in a similar context as today (Boeckh, 1976).

Later, when the Romans occupied Greece, the system of accounting was adopted and developed. Indeed, the next periods of Greek history have never been properly investigated and thus there is no information on the organization of the economy because Greece was mostly part of the Roman and much later, of the Ottoman Empire.

Later and after liberation from the Ottoman Empire, in 1835, a translation of the French Commercial Code was adopted as the Greek commercial and accounting code (Ballas, 1994). Much of this remains in use today. Since then, Greek accounting has almost always followed developments in France. This culminated in the adoption in 1980, virtually unchanged, of the French accounting principles (called “French Plan Comptable”) as the Greek General Accounting Plan (Ballas, 1994).

The most recent milestone in Greek accounting history is the decision taken in 2005 for all listed companies in the European Union (EU) to prepare their financial statements according to the International Accounting Standards (IAS) issued by the International Accounting Standards Board (IASB). That decision brought changes in the way financial statements are published as there are differences mostly in the depreciation, the valuation of goodwill, the treatment of accounts receivable and the pension obligations. Karatzimas, Zounta, and Kiriakidou (2011) argued that the introduction of new international standards brought great changes in the way that companies prepared their financial statements, especially in countries where the domestic accounting standards were stakeholder oriented, (e.g. Greece, Germany, France) since IAS are heavily influenced by the shareholder oriented AngloSaxon accounting model. The different roles of the accounting systems have several important implications for accounting standards. The Greek Generally Accepted Accounting Principles (GAAP) generally encourages a ‘prudent’ approach, while IAS promotes a ‘true and fair’ presentation of balance



sheets to facilitate decision making for investors, limiting such flexibility (Spathis & Georgakopoulou, 2007).

During the last decade there were many authors who connected the recent financial crisis in Greece with many accounting omissions and manipulations in financial statements both in the public and private sector, all of them based on unethical behavior (Brewer, et al., 2014).

However, it should be mentioned that despite the long history of the accounting science and its significant role throughout the financial crises, for many years accounting was considered a second-rate subject at Greek universities, and until 1992 there was no degree-level course in accounting or finance at any of the Greek universities (Ballas, 1994).

### **Relation between Greek financial crisis and Accounting.**

Greece experienced the financial crisis at its extreme in relation to the world economy and it was combined with the conduct of serious malpractices of business ethics in the banking and finance sector. A number of factors have contributed to the fiscal crisis that Greece has been experiencing since October 2009 (Kouretas & Vlamis, 2010). For example, during the last decade there were many authors who connected the recent financial crisis in Greece with many accounting omissions and manipulations in financial statements both in public and private sector, all of them based on unethical behavior (Brewer, et al., 2014). Moreover, Baralexis (2004) demonstrated that despite the detailed accounting regulation, creative accounting was practiced in Greece many years before crisis in both public and private sector.

On June 2000, Greece joined the Euro-zone adopting the Euro (€) as its national currency, and agreed to abide by the Maastricht rules on debt and deficit ratios (Aristotelous, 2008). These stipulate that no Eurozone member may have a debt greater than 60% of its Gross Domestic Product (GDP) or a budget deficit greater than 3% of GDP (Balzli, 2010). Instead of taking

advantage of this environment to adjust the economy, Greek budget deficits and debt levels had far exceeded the limits of the goals set by the Maastricht treaty. For example, Greek debt was about \$131 billion or 103.7% of GDP in 2001, far above the required 60%, while the deficit ratio was held under 3% through various accounting tricks throughout the early 2000s. This remained unknown as the Greek government acted unethically, publishing false data which came to light only during the 2009 elections (Vukoslavcevic, 2012). The newly elected government abandoned its practice of creative accounting and announced that the budget deficit for 2009 was estimated to be 12.7% of GDP, while the previous government was arguing in September 2009 that deficit would not be higher than 6.5% of GDP (Kouretas & Vlamis, 2010). Lastly, Cadman, and Mento (2011) disclosed that Goldman Sachs and the Greek government negotiated unusual terms for a loan from Goldman to the Greeks.

Research conducted by Baralexis (2004) regarding the creative accounting in Greece, indicated that despite the existence of detailed accounting regulation, creative accounting was practiced in Greece frequently, not only by exploiting the weaknesses of the law, and of the Generally Accepted Accounting Principles (GAAP), but also by violating them. GAAP is the common term for a uniform set of standards and principles used in business and personal accounting. At the same time, large private companies overstated profits to satisfy the demand for external financing, while the small ones understated profit in order to reduce company taxes (Baralexis, 2004). Moreover, auditors detected manipulation in accounts for depreciation, forecast payment defaults, forecast staff severance pay, participation in other companies and fiddling accounts for tax purposes (Spathis, Doumpos, & Zopounidis, 2004). All these scandals had important implications for investors, lenders, auditors and regulators and put the role of accounting professionals into the center of widespread debates.

### **Accounting Education: Preventing a crisis in the Greek economy.**

Regarding the recent financial crisis in Greece, many authors (Santouridis, et al., 2014; Tsamadias & Prontzas, 2012) have highlighted that if accounting illiteracy could not be pointed at as the main root cause for the Greek crisis, it has certainly played a key role in worsening of its effects. Indeed, insufficient accounting skills have probably enlarged the scope of the Greek crisis and exacerbated individual situations, while lack of sufficient accounting education may have brought individuals to react in unexpected ways (OECD, 2010). However, the crisis has put the emphasis on both accounting literacy and the need to develop efficient accounting education initiatives to address these gaps (OECD, 2005).

Research confirms the fact that it is rather necessary to focus on education, specifically on accounting education, to build the appropriate competencies for the new generations preventing a new a crisis in the Greek economy. Specifically, there is strong evidence, which supports the connection between education and economic growth, stability or recovery the last fifty years (Tsamadias & Prontzas, 2012). Bowles (1971) estimated the contribution of education to economic growth at 3% for the period 1951–1961, with Lianos and Milonas (1975) obtaining similar results for the period 1961–1971. Caramanis and Ioannides (1980) reckoned this contribution between 3% and 5%, while Psacharopoulos and Kazamias (1985), employing data from sampling family budgets, estimated the contribution at the level of 2%. Dimakos (1996) calculated the input of education to economic growth for the periods 1961–1971 and 1971–1981 at 2.9% and 3.1%, respectively, and Magoula and Prodromidis (1999) showed that the relative contribution of higher education to growth in relation to the contribution of primary education has risen: from the 1960s to the 1980s, total contribution to economic growth has increased from a low 0.16% to a high 2.25%.

Similarly, as an important segment of tertiary education in Greece through crisis, the accounting education should have been the driving force for a new beginning of the Greek nation in such a critical moment. However, Pegkas (2012) read the warning signs in accounting education in Greece at the beginning of 21<sup>st</sup> century and stressed that although the accounting education quantity expanded, the accounting curricula was facing a series of problems such as the low quality of the content and low effectiveness of the teaching methods at all levels. Unfortunately, the beyond financial crisis disclosed many educational shortcomings and confirmed that position.

As proactively evidenced notably by OECD (2005) research, accounting students are now seeking competing skills to better understand the implication of various accounting matters on their daily life. Moreover, as stressed by Lusardi and Tufano (2009), most students are learning through experience and even more so through adverse experience. For instance, Sumit, Driscoll, Gabaix, and Laibson (2006a) supports that generations of accounting students who were confronted with great inflation, are more likely to understand this concept and to react in a more proactive manner if the situation occurs again. In this respect, it could be expected that the current and future accounting students who are facing the Greek crisis these years may become more careful about the use of accounting ethics and have developed forensic, auditing and green accounting skills. Lusardi and Tufano (2009) also suggest that they might also be in a better position to transmit this basic knowledge to next generation. On the other hand, Lyons and Neelakantan (2008) found that people also tend to forget fast and that lessons need to be repeated in various forms to prove efficient. In addition to the above, accounting students should be equipped with the necessary tools and solutions to better anticipate future crisis situation and know where to find information on remedial measures. To do this, Kermis and Kermis (2011)

suggested accounting educators to help prepare students to make the transition from unfocused high school seniors to contributing members of a professional service team.

### **How has the World responded to a similar Financial Crisis?**

The world has experienced at least nine financial crises since the 1970's (see Table 2) which almost no scholars have anticipated. However, these crises may certainly be viewed as tests of the functions of accounting. All of them had serious effects on individuals, governments and organizations in most countries of the world and it has been discussed in literature of accounting (Shiller, 2008; Krugman, 2009).

Table 2

#### *Financial Crises 1970-2008*

Period	Location
1970	The surge in bank loans to Mexico and other developing countries
1985-1989	The bubble in real estate in Japan
1985-1989	The bubble in real estate and stocks in Finland, Norway and Sweden
1992-1997	The bubble in real estate and stocks in Thailand, Malaysia, Indonesia and several other Asian countries
1990-1993	The surge in foreign investment in Mexico
1995-2000	The bubble in over the counter stocks in the United States
1980s	The savings and loan crisis in the United States
1987	The stock market crash in United States
2008	The recent financial crisis, an international crisis

*Note.* Adapted from Kindleberger, C., & Robert A. (2005). *Manias, Panics, and Crashes: A History of Financial Crises*, 5th Edition. New York, NY: Wiley.

Changes in world economy caused by the global financial crisis, the requirements for sustainable development, the emergence of information as a critical resource and the associated

technological progress have changed significantly the role that accounting and finance professionals are called to play after crisis (Santouridis, et al., 2014). The collapse of country economies and multinational giants alongside associated accounting scandals inflamed once more the discussion on business ethics and put the role of accounting and finance professionals into the center of widespread debates (Santouridis, et al., 2014). In that context, it is interesting to report that a rough Google search in January 2010 with the keyword financial crisis and accounting gave about 9 million results; the corresponding figure in May 2011 was about 11 million results (Olson, 2011). This data demonstrates very clearly that many persons in the world connected the financial crisis to accounting matters. Hence, a relevant question is of course what contributions the growing number of accounting academics has made in order to develop knowledge about accounting in context of financial crisis (Olson, 2011).

The global paradigm shows that countries, which considered accounting education initiatives, the crisis generally, reinforced the conviction that accounting education should be developed respectively with an efficient regulatory framework (OECD, 2009). Austria, Belgium, Croatia, Estonia, Germany, Hungary, Iceland, India, Indonesia, Ireland, Italy, Mexico, the Philippines, Poland, Serbia, Slovak Republic, South Africa and Switzerland had improved accounting education programs even before the global economic crisis (OECD, 2009). However, the occurrence of the crisis has reinforced the relevance of these initiatives and incited them to develop further measures to address the competencies of the crisis (OECD, 2005). Countries also stressed that accounting education, through its positive effects on a wide range of stakeholders and economic levers, could help reducing the risk and impact of future financial crises (OECD, 2009).

In USA, the relation between accounting education and accounting profession has been in the same position many times during US history. Particularly, Merino (2006) provided a review of the major criticisms of accounting education over the last century and discusses how accounting professionals and academics responded. She demonstrated that criticism on academic curricula in that period has been repetitive, but this criticism had no serious effect in the delivery of accounting courses. As such, Howieson (2003) aimed at charting the accounting practice in the new millennium by examining the future of business and accounting practice, the skills that will be required by the accountants of the future and the implications of these for accounting education. He suggested that the major 'products' of the early 21st century may not be physical goods or even many existing services but rather knowledge and the ability to manage them.

When the first accounting scandals occurred in USA, the criticism on accounting education increased. The recent financial crises revealed that there were currently serious omissions from the accounting curriculum of the American Universities that need to be rectified, and that accounting students are poorly educated in certain critical areas (Ravenscroft & Williams, 2004). These areas were: (1) corporations; (2) the status of investors; (3) auditing; (4) purpose of accounting reports; and, (5) ethics. In this context, the Pathways Commission (2012) identified a need for a new model of education that is better aligned with the contemporary environment and evolving demands on accounting professionals. To address this, it provided a framework that includes three interconnected components: (1) Foundational Competencies, (2) Broad Management Competencies, and (3) Accounting Competencies. Similarly, the International Federation of Accountants (IFAC) announced that the requisite content of professional accounting education should consist of accounting, finance and related knowledge;

organizational and business knowledge; and information technology knowledge and competences.

Despite the reported accounting scandals, the academic community, still, tends to resist major curriculum shifts. Indeed, Gabbin (2002) reported that many accounting educators have resisted restructuring the accounting curriculum to equip graduates with the tools they will need in today's changing business environment. The reason is that the academic environment is traditional, as it focuses mostly on convenient educational results achieving them by conventional teaching methods. In the post crisis epoch, however, traditional accountants are a dying breed (Gabbin, 2002) and what distinguishes current trends is that changes are not only major in a structural sense but also occur at a far quicker rate than before (Howieson, 2003).

#### **The structure of Accounting Education in Greece.**

Greek secondary-school students are not introduced to accounting until the final year of their studies when an introductory course is offered among many other optional courses (Feldmann & Rupert, 2012). According to Feldmann & Rupert (2012), after completing secondary school, students who choose to continue to tertiary education take part in the Pan-Hellenic examinations to enter a free public university or choose to continue to a private college. Their score in this examination define their acceptance from the public institutions. After graduation, the students can work as accountants both for the public and for the private sector. Some students choose to start their own accounting businesses, while others prefer to pursue postgraduate studies in accounting (Manganaris & Spathis, 2012).

In Greece, three types of higher educational institutions provide accounting programs: the public University sector, the public higher Technical sector and the Colleges. The major distinction, coming from the constitution of Greece, is that it is not permitted to privately owned



higher education institutions to offer and run programs. Therefore, only public institutions are permitted to operate under the endorsement of the state while institutions of higher learning are accredited branches of foreign universities mainly with UK origins. However, all higher education institutions in Greece provide three types of accounting degrees: Bachelor, Master and Doctoral Degree. The duration of the courses at tertiary level institutes is four years, except for Polytechnic, Laws and Medical faculties where courses last five or six years. After the last major reform that took place in the beginning of 2013, the Greek higher education map, as shown in Table 3, includes 22 Universities, 15 Technical Universities and 39 Colleges (Santouridis, et al., 2014).

Table 3

*Greek Higher Education Institutions*

Universities	Technical Universities	Colleges
1. Agricultural University of Athens	1. Advanced Technological Educational Institute of Athens	1. iCon College
2. Aristotle University of Thessaloniki	2. Alexander Technological Educational Institute of Thessaloniki	2. Mediterranean College
3. Athens School of Fine Arts	3. Higher School of Pedagogical and Technological Education	3. Institution of Counselling & Psychological Studies (ICPS)
4. Athens University of Economics and Business	4. Technological Educational Institute of Chalkida	4. University of Indianapolis - Athens Campus
5. Democritus University of Thrace	5. Technological Educational Institute of Crete	5. British Hellenic College
6. Harokopio University	6. Technological Educational Institute of Epirus	6. New York College
7. Hellenic Open University	7. Technological Educational Institute of the Ionian Islands	7. BCA College
8. International Hellenic	8. Technological Educational	8. ALBA Graduate Business School

University	Institute of Kalamata	
9. Ionian University	9. Technological Educational Institute of Kavala	9. Athens Information Technology (AIT)
10. National and Kapodistrian University of Athens	10. Technological Educational Institute of Lamia	10. IST College
11. National Technical University of Athens	11. Technological Educational Institute of Larissa	11. Vakalo Art & Design College
12. Panteion University of Social and Political Sciences	12. Technological Educational Institute of Western Greece	12. AKTO
13. Technical University of Crete	13. Technological Educational Institute of Piraeus	13. ICBS Business College
14. University of the Aegean	14. Technological Educational Institute of Serres	14. Athens GSM College (AGSM)
15. University of Crete	15. Technological Educational Institute of Western Macedonia	15. City Unity College
16. University of Ioannina		16. American College of Greece (Deree College)
17. University of Macedonia		17. Aegean Omiros College
18. University of Patras		18. AKMI Metropolitan College (AMC)
19. University of Peloponnese		19. Athinaiki Ekpaideftiki Etairia - Rene Descartes College (CNAM)
20. University of Piraeus		20. Greek Bible College
21. University of Thessaly		21. Institution d'Etudes Francophones (IdeF)
22. University of Western Macedonia		22. Athenian College
		23. Attico College
		24. Hellenic American Education Center
		25. College of Professional Journalism

26. AAS College Applied Arts Studies
  27. CITY College, International Faculty of the University of Sheffield
  28. American College of Thessaloniki (Anatolia College)
  29. American Farm School (Perrotis College)
  30. ICBS Business College (Thessaloniki)
  31. AKMI Metropolitan College (AMC)
  32. Athens GSM College (AGSM)
  33. New York College
  - Mediterranean College
  - DEI College
  - AKTO
  - ICBS Business College (in Larissa)
  - MBS College - College of Crete (in Heraklion)
  - The European College for Tourism Studies (ECTS) (in Corfu)
- 

### **Economic Chamber of Greece – Role and Requirements.**

Along with accounting education, the profession of accounting is also ensured, protected and promoted by the Economic Chamber of Greece (E.C.G.). Established in 1980, the E.C.G. is a legal entity functioning under Public Law with elected administration. It is supervised by the Ministry of National Economy and composes an official Advisor to the Hellenic State on the economic matters. The Economic Chamber of Greece is based in Athens, but it is also extended all over the Greece through a network of 15 Regional Departments.

The E.C.G. represents more than 85.000 members, working in all the relative professional sectors. The Economic Chamber of Greece within the framework of its purpose:

1. Aims at the promotion of the economic and accounting science.
2. Offers opinion on draft legislation proposed by the Ministry of National Economy or other governmental departments. It also formulates views on its own initiative or after being invited by the legislation that is relevant to the economic and financial matters.
3. Carries out research on finance and accounting related matters as Accounting Standardization, Economic Education and Training, Taxation Reform, Auditing and Economic Policy.
4. Strives for the employment, promotion and protection of the prestige of its members, their scientific progress, information and continuous training and formation.
5. Publishes and distributes free to all its members an informative and scientific bimonthly. Also publishes various scientific studies in the field of finance and accounting.
6. Targets to the simplification of the general economic and financial principles.
7. Provides the work licenses for the Economic and Accounting professions in Greece.
8. Practises disciplinary power on its members, as it is especially determined by the relevant disposition of the foundation law (ECG, 1980).

All the Greek accountants, owners of a degree by the Greek Economic Universities or foreign Universities legally recognized in Greece as equivalent to the Greek Economic Universities, can become registered members of the E.C.G. and can obtain the professional identity of the Accountant. The professional identity of the Accounting Tax is distinguished to B and A class. The B class Accountant identity is issued by the Economic Chamber of Greece to its members, graduates of Economic Direction universities and graduates of Accounting Departments of the School of Economics and Management of Technical Universities (T.E.I). On

the other hand, the A class Accountant identity is granted to members of the E.C.G. who are holders of B class Accountant identity and work for three years in the accounting profession.

### **Critique of Previous Research**

There have been opportunities for a growing number of accounting professors pursuing research about financial crisis and accounting education in Greece and to publish the research in a growing number of academic accounting journals. The review of the leading accounting literature has, however, clearly shown that very little research has been published reporting the connection between financial crisis and accounting education in Greece (Olson, 2011).

Consequently, there has been an academic silence in times when accrual accounting in action is seriously tested by the recent recession. It actually seems that the accounting society may learn much by trying to understand the function, or roles, accounting in action have had in the beginning of the global financial crisis in 2008 and has in the current financial crisis (Olson, 2011).

Available research on themes surrounding accounting education in Greece, either directly or indirectly is divided into research before crisis and after the crisis (Apostolou, Dorminey, Hassell, & Watson, 2013; Ballas, 1998;; Costouros, 1975; Livanos, 2010; ; Psacharopoulos & Papakonstantinou, 2005; Santouridis, et al., 2014; Venieris & Cohen, 2004). Research before crisis is mostly focused on technical enhancements as introducing accrual and management accounting modules in Greek Public Universities (Venieris & Cohen, 2004) or incorporating auditing courses throughout education curriculum. Previous studies have shown that graduates who have had an understanding of conventional accounting, remained far behind features that demanded by the industries or markets (Arnold, 2009). There is strong research evidence showing that the recent financial crisis in Greece came partially from accounting omissions and

manipulations in financial statements all embraced by unethical actions (Brewer, et al., 2014; Kermis & Kermis, 2011; Santouridis, et al., 2014). Conventional accounting education in Greece resulted into producing professionals with poor qualifications.

In contrast, in the post crisis era, literature shows a significant increase in research output focused specifically on restructuring accounting education to prevent accounting omissions and serious malpractices of ethics (Parker, 2001). Skills and competencies necessary for the future accounting professionals have been discussed largely by many other authors (Brewer, et al., 2014; Filos, 2010; Ricio, 2008; Trivellas & Santouridis, 2012). Nonetheless, altering the content and teaching methods in the current accounting curricula still remains under speculation in Greek tertiary education. However, the whole venture is young and still at an early stage of development.

#### **Research on Accounting Curricula of Greek Tertiary Education.**

According to a research by Santouridis, et al. (2014), the accounting programs were firstly introduced in Centers of Higher Technical Education (KATEE), which were the precursors of Technical Universities (T.E.I.) in the 1970's. The first accounting and finance programs appeared in universities at the early 1990's. The same study stressed that accounting and finance modules were included only in the curricula of business administration and economics university departments. Today, four-year accounting and finance programs are offered by three AEIs and eleven TEIs. The results of the same research are presented in Table 4, which reveals the curriculum for each program, as classified into 6 disciplines, which, apart from Accounting and Finance, were Economics, IT and Mathematics, Management, Law or Other. The results showed that the accounting and finance modules cover on average approximately

63% of the total number of modules offered in both the Universities and the TEIs, while Management, IT and Mathematics cover the rest.

Table 4

*Classification of Modules in Greek Higher Education Accounting and/or Finance Curricula*

University/Department	Accounting	Finance	Economics	Management	Law	IT	Other
Athens University of Economics and Business/Accounting and Finance	18	15	2	7	4	13	1
Macedonia/Accounting and Finance	17	21	3	5	6	9	1
Piraeus/Banking and Financial Management	6	30	7	6	2	6	2
<b>TEIs</b>							
Central Greece/Accounting	23	2	5	5	6	5	1
Central Macedonia/Accounting	18	4	5	5	3	7	2
Crete/Accounting	22	4	6	1	3	6	1
East Macedonia and Trace/ Accounting	22	3	5	3	2	5	2
Epirus/Accounting	19	3	3	6	2	6	2
Piraeus/Accounting	23	3	7	8	6	5	3
Thessaloniki/Accounting	17	3	4	3	6	7	2
Thessaly/Accounting	19	3	5	5	3	6	1
Western Greece/Accounting	20	3	4	4	6	5	2

*Note.* Adapted from Santouridis, I., Tsifora, E., Trivellas, P. & Nikolopoulos, S., (2014). Revising Greek Accounting & Finance Education in an Economic Crisis Environment, *Procedia - Social and Behavioral Sciences*, 148, 428 – 436.

Regarding the concept of business ethics, the curricula review process showed that it is very limited if present at all, while forensic accounting was absent from the curriculum of all

tertiary departments. The examination of the auditing modules' outlines unveiled that they include some elements of business ethics, while for green accounting, a single relevant module was found in the curriculum of a university department.

### **Research on recent challenges facing accounting education.**

In global scale, the traditional accounting curriculum has been criticized for being “rule-based and demanding rote memorization; with students being trained rather than educated” (Carr & Mathews, 2004, p. 93), and because of perceived deficiencies, a number of organizations and academics have called for change. Since the early 1990s, many authors stressed that the real objective of accounting education should be to cultivate students' intellectual skills, business ethics, accounting and auditing knowledge, rather than only accounting professional techniques (Caliguiri & Tung, 1999; Chu, 1994). Similarly, Adler (1999) pointed that traditional content is often narrowly focused and overly concerned with the technicalities of the double entry system, emphasizing memorization of accounting pronouncements and procedures providing an inaccurate and incomplete picture of today's environment.

There is large literature identifying the required context of accounting curricula in the post crisis era. While technical accounting competencies remain obligatory for the professional accountant, these competencies alone are insufficient in today's workplace (Zraa, Kavanagh, & Hartle, 2011). Howieson (2003) put forward that the post crisis status requires even greater changes in accounting practice to meet changes in the business environment, which, in turn, will further influence the future directions of accounting education.

As the business environment has become increasingly dynamic and complex, the role of accounting and the skills and knowledge required of practicing accountants have also changed (Mohamed & Lashine, 2003; Robson, et al., 2003). In particular, the recent financial crises



followed by many accounting omissions and unethical actions, strengthened pressure on the accounting education. Consequently, Cheng (2006) noted that while the traditional curricula still focused on fostering good accounting, the practical business world has made it clear that what they demand is a good businessperson. To address this aim, Palm and Bisman (2010) suggested that the implications of changes in business and accounting work must be recognized in both the content and delivery of accounting education programs; otherwise, students may receive a distorted view of accounting that can discourage them from pursuing a career in the profession. Similarly, Harnett, Romcke, and Yap (2004) proposed that teaching delivery and instructional style needs to be recast to better cater for the specific needs of the large proportion of international students studying at certain institutions. Dobbins (2005) focused on the new generation of students who have very different learning styles from those of previous generations and so educators need to reassess their instructional techniques. Lastly, Santouridis, et al. (2014) stated that the new curriculum should cultivate the necessary skills and competencies to the future accounting professionals in line with contemporary developments in areas such as ethics, forensic accounting, auditing, green accounting and other supplementary modules.

### **Research on new content of accounting education in Greece after crisis.**

Given the documented connection between the financial crisis in Greece and accounting profession, it is important the accounting professors in Greece consider certain changes in the accounting curriculum with purpose to prepare finest and ethical professionals. Although the education of accounting area of study has shown an increase of exploration in the past three decades (Armstrong, 1993; Burke & Slavin, 2000; Lee, 1981; Willits, 2010), the study of the role of accounting education in the post crisis epoch in Greece and its role in preventing accounting omissions and serious malpractices of ethics is still a new horizon.

‘Ethics’ originates from the Greek word ‘ethos’, meaning ‘character’ (Perle, 2004). Three decades ago, Loeb (1975) believed that ethics should reflect a full and respectful use of principles, to be treated as maxims but not as laws or precepts. Hosmer (1994) has further suggested that ethical principles are objective statements that transcend countries, religions and times. Ethics is a central concept in accounting and ethical decision making of accountants is critical to the credibility and reputation of the accounting profession (Chan & Leung, 2006). A number of international corporate scandals and business failures (Carnegie & Napier, 2010) has also reinforced the importance of ethics in accounting. However, according to Table 3, Ethics in Accounting is a module which is absent from Greek tertiary education. Filos (2010) made a research, which estimated the importance weight of Business Ethics as a curriculum subject in relation to the subjects of accounting. The results showed that there is a partly positive relation between Accounting and Business Ethics. However, the tertiary education in Greece did not consider the importance of business ethics in the accounting profession even when creative accounting and continuous false reporting of fiscal accounting data were practiced in Greece many years before crisis (Baralexis, 2004; Kouretas & Vlamis, 2010) and had undermined the Greece’s government credibility. Brenkert (2010) defines business ethics a particularly vital endeavor, as this can serve as a counterweight to profit seeking and self-interest by balancing the ways in which managers’ actions, the policies they approve and the role companies play in society. According to Vidanec (2014) business ethics is recognized as one of the crucial educational forms, especially in the field of higher economically profiled institutions: faculties of economy, accounting and finance.

Forensic accounting is defined as the practice of rigorous data collection and analysis in the areas of litigation support consulting, expert witnessing, and fraud examination (Rezaee,

Crumbley, & Elmore, 2004). KPMG's Fraud Survey (2003) reveals that more companies are recently experiencing incidents of fraud than in prior years; taking measures to combat fraud; and launching new antifraud initiatives and programs in response to the financial scandals worldwide. Similarly, the recent financial scandals in Greece revealed the need to integrate forensic accounting modules into the accounting curricula as long as they are missing according to Table 3. The global paradigm shows that reported financial scandals (e.g., Enron, WorldCom, Global Crossing, Qwest, Parmalat) have eroded investor confidence and made forensic accounting courses an attractive opportunity for accountants to combat fraud (Rezaee, et al., 2004). The results of a survey made by Rezaee, et al. (2003), indicate that the majority of both professors and practitioners expect that future demand for forensic accounting will increase. Buckhoff and Schrader's study (2000, p.135) finds, "adding a forensic accounting course to the accounting curriculum can greatly benefit the three major stakeholders in accounting education—academic institutions, students, and employers of accounting graduates." The same study recommends that offering a separate forensic accounting module can give more focus to forensic accounting topics rather than integrating this new concept into the accounting curriculum throughout existing accounting and auditing courses. Curtis (2008a) illustrates a model fraud and forensic accounting curriculum that includes criminology and law, legal and regulatory environments, and ethics. Heitger and Heitger (2008) argue for the incorporation of forensic accounting and litigation advisory services into the curriculum by showing the current US environment, the role of accountants in that environment, and the impact of litigation and expert witnessing on curriculum. Ramamoorti (2008) emphasizes that the relationships among criminology, sociology, and psychology must be included in a fraud and forensic accounting curriculum.

Within the globalized economy, internal and external auditing is established as an essential means for the exact management of any business economic resources (Karagiorgos, et al., 2010). Simultaneously, corporate governance has received wide attention in recent years both in practice (Brown, 1999) and in academic research (De Zoort & Salterio, 2001) because of the major accounting scandals and large-scale corporate failures. Current literature investigates the relations among the three factors of risk management, the inherent risk, control risk and detection risk. The results from prior research show that the changes in the inherent risk and control risk will consequently influence auditors' perception of the whole audit risk and eventually affect their behavior to reduce the detection risk (Cahan & Zhang, 2006). The Greek crisis was the product of years of recession, of the sluggish economic environment and poor productivity— but above all, it is the product of risk management and accounting practices (Oldani, 2011). It is generally accepted that auditing as a subset of risk management, could prevent businesses to fully identify the nature and severity of the recent economic crunch that the market faced (Bekiaris, Efthymiou, & Koutoupis, 2013). However, the risk management courses in Greek universities are absent during a bachelor degree in accounting (see Table 3), while they are more frequent in a master degree. Bekiaris, et al. (2013) highlighted the significance of introducing such modules into accounting curricula, referring that it could offer students an overview of professional standards, as well as procedures for evaluating an organization's effectiveness, such as by monitoring its financial performance and compliance with laws and regulations.

Companies have turned to adopt new environmental practices so as to comply with legislation and in order to avoid financial penalties, which in some cases are so high, that is likely to result in operational problems for companies that are required to pay, especially in the middle of the current economic crisis (Santouridis, et al., 2014). The most relevant risks that

companies can possibly face when there is no green accounting are reputational, regulatory, credit, operational and legal liability. Rubenstein (2010) pointed that green accounting contributes to risk reduction, as it presents additional, valuable information about non-monetary transactions to provide a more holistic picture of both financial activity and associated risks. Consequently, introducing a green accounting module into accounting curricula in Greece could act complementary to risk management courses. In the midst of financial crisis in Greece, Green Accounting module could become beneficial for the Greek economy as university students would learn critical traditional financial and cost accounting methods and tools and examine how these methods and tools are changing in order to improve resource allocations and sustainability performance outcomes.

Last, a useful observation related to the Table 3 is that there are no introductory accounting courses in Greek universities' curriculums. However, the importance of an introductory accounting course in shaping perceptions of accounting studies and the profession of accountancy in general has been noted in the literature with regard to both undergraduate students (Marriott & Marriott, 2003) and secondary-school students (Byrne & Willis, 2005). That is because several studies have established that, in general terms, students' perceptions of the accounting profession mirror the traditional stereotypical image of accountants (Manganaris & Spathis, 2012). For example, studies of American college students (Cory, 1992) and Irish secondary students (Byrne & Willis, 2005) found that students were not negatively disposed to accountants, but that they considered accountancy to be less prestigious and respected than other professions. As such, Marangos (2006) rightly stated that adding such an introductory module to a program could help students make a successful transition to university, while they benefit from an understanding of the academic and discipline standards.

## **Research on new teaching methods in accounting programs in Greece.**

The teaching of accounting in Greek universities is facing nowadays significant challenges. The reason is that it aims educating youngster that are going to work in public or private companies, which use continuous organizational changes and advanced information technologies. This comes alongside with the current business requirements for strong ethical skills and forensic accounting knowledge. In summary, technical skills are necessary but not sufficient for a successful accounting career that includes an individual's selection, retention and advancement (Kermis & Kermis, 2011).

For a long time, teaching methods in accounting in Greece were mostly of the lecture type in a traditional classroom and teacher centered but this scenery is changing due to the markets demands for high skilled accountants (Belias & Koustelos, 2013). The recent financial crisis in Greece raised the question of whether and how should accounting educators respond. Recent developments in accounting, such as the role of accountants in companies, the increased use of technology and the implementation of complex accounting practices have allowed a number of important changes in teaching (Williams, 1993). Assessing the effect of modern teaching methods in Greek universities, Tyrovouzis (2006) found that the implementation of a virtual software environment called "infonomics" was widely accepted by students of accounting. However, the students' exam performance did not seem to be significantly affected by the use of the former program. A finding that contradicts with the research made by Sidiropoulos, Makridou, and Tsopoglou (2008) on the use of asynchronous distance education with the possibility of individualized learning, showed that students taught with the help of the platform performed better than those taught by more conventional means. Koukoufiki (2009) found that an asynchronous e-learning platform of "Course Management Platform of

Universities” was quite effective according to teachers and students, while Spathis (2004) confirmed that such methods should be better integrated in the teaching process.

The scandals and unethical behavior that have occurred over the last few years in Greece have taught that people can deliberately break the law or engage in inappropriate actions, while many others never examine ethical issues when planning an innovative scheme for success (Farrell, 2005). Haas (2005) noted that corporate accounting scandals bring ethics back into the education. One of the main goals of accounting ethics should be to encourage students to recognize social responsibilities within their profession (Zarkasyi, 2009). The most significant step to teach accounting ethics is to determine the subject matter and content that needs to be taught. Farrell (2005), considering accounting ethics as an established academic discipline, assumes that a useful approach to decide what to teach in a business ethics course is to understand and describe how ethical decisions are made and the environment that influences ethical decision-making. Slocum, Rohlfer, and Gonzalez (2014) proposed a new method in teaching accounting ethics, combining an integrated micro-insertion approach with a coordinated incorporation of the external environment. Saat (2014) showed that experiential learning had a positive effect on the students’ ethical sensitivity and ethical judgment making ability. Zarkasyi, (2009) suggests that educators should be encouraged to increase discussion of the code of professional responsibility in accounting programs, by increasing ethics coverage on the examination. Massey and Van Hise (2009a) describe the process of developing a standalone three-credit accounting ethics course that includes cases, reflective writing, student-led classes, and an interview assignment. Anecdotal evidence reveals high student satisfaction with the course and perceived learning.

Golemon (2004) demonstrated that students, in addition to the technical skills required for an accounting career, they also need to develop social intelligence and soft skills (Kermis & Kermis, 2011). According to Accounting Management Solutions (2007), the soft skills include written, verbal, presentation and interpersonal capabilities. Similarly, forensic accounting profession, besides the technical skills, requires oral communication ability, written communication ability, specific legal knowledge and good composure. Kermis and Kermis (2011) asserted that this can be accomplished by helping them to equip themselves with professional skills like writing, speaking out, presenting, decision making and teamwork. In order to achieve this, new methodologies need to be introduced into the teaching of forensic accounting. Green and Calderon (2005) studied the effect of plausible simulations on the ability of the students to recognize management fraud. They concluded that students taught with lifelike simulations had a better understanding of the calculated risks involved and better competence in applying professional standards as well as confidence in the results. Jayaprakash (2005) describes the old paradigm, where teachers were considered as the sole source of information and students approached them for every possible solution for problems encountered. On the other side, Kermis and Kermis (2011) states that in the modern paradigm, teachers are considered facilitators and mainly act as guides for their students. The same research rejects teaching tools such as interactive case studies, simulations and games, and teamwork considering them to be of high importance for the accountants. In contrast, he suggested that the educators must increase the number of technical topics and the depth in which that material is covered, while simultaneously being asked to add the dimension of soft skills and professional presence, which traditionally has not been addressed in accounting curricula (Kermis & Kermis, 2011).



Auditing courses, as subsets of risk management, are difficult concepts for students to master. Indeed, Xia, Caulfield, Baccarini, and Yeo (2012) have found that students are often unable to relate the theoretical aspects of risk management to real situations or projects. Carroll (2000) and Rahat and Peter (2005) proposed scenario-based risk management teaching methods to achieve effective teaching and learning goals in risk management modules. Xia, et al. (2012) used business games, interactive learning environments in which players explore all the components of a complex situation, in contrast to the traditional classroom setting. For example, Yin (2009) used an auditing simulation called Real Audit™ that was developed by John A. Schatzel. The game did provide a full set of financial statements in which participants made important decisions regarding the company. The simulation allowed students to be immersed in the auditing environment and be confronted with various situations, which require a high-level of critical thinking, problem solving, and decision-making. Auditing is a difficult subject to teach at a university level and, hence, educators resort in the use of various software tools as the one called SCAM. The SCAM tool was designed to provide the experience of a real business environment and help students develop various skills including teamwork (Belias, et al., 2013). Since now, the effectiveness of the former tool in education has not been validated but the preliminary findings are encouraging (Crawford, Dearden & Greaves, 2011). McDuffie, Smith and Murphy (2006) describe the use of an expert system, AUDPORT, which is used as a teaching aid in introductory auditing at two US universities. Students are randomly assigned to a group that either use or do not use AUDPORT to assist in finding answers to complex audit reporting issues. Students using AUDPORT score significantly better than those who did not use AUDPORT, indicating that student learning about audit reporting appears to improve with the expert system application.

There have been relatively few contributions to accounting education, which have developed social and environmental issues. In particular, Mathews (2004) determined that the lack of a green accounting course in most accounting programs is a problem, because students often lack an appreciation of the view of developing moral thought processes about social and environmental issues; examining the role of accounting in society; and examining alternative reporting formats. However, Lockhart and Mathews (2000) recommended a four-part framework for environmental accounting education that allows students to examine green accounting within both the conventional and the expanded model of accounting. The course presents a practical blend of traditional and emerging sustainable financial and non-financial accounting topics. Hence, this framework encourages teaching strategies such as the use of remedial modules, case studies, hands-on student participation opportunities, within or separate from the classroom lecture, mini-quizzes, and mnemonics (Lloyd & Abbey, 2009).

In introductory accounting, students struggle with the unfamiliar terminology and concepts. However, accounting offers distinct challenges in that managerial accounting reports used for decision-making are not publically available, and students are not typically familiar with internal business operations or production processes needed to understand managerial accounting concepts (King & Mcconell, 2010). Barsky and Catanach (2005) suggested an alternative hybrid-teaching model comprising also a Business Planning Model (BPM) for teaching introductory management accounting. The model aimed to mainly, highlight the importance of information in making financial decisions and promote general understanding of the subject (Belias, et al., 2013). The empirical part of the study was based on a sample of professional accountants and accounting students, while the study concluded that the proposed teaching model was found to benefit teaching and learning (Belias, et al., 2013).

The post crisis era in Greece has become more complicated for the enterprises and as such it demands higher skills from the accountants both in theory and practice. Indeed, students are going to work with highly sophisticated accounting systems, such as those based in Enterprise Resource Planning (ERP), Systems, Applications and Products (SAP) or other integrated technologies. Therefore, Albrecht and Sacks (2000) rightly suggested that the teaching of accounting in universities should keep up with the demands of the current economy. Belias and Koustelios (2013) proposed the implementation of Information and Communications Technologies (ICT) systems in the teaching of accounting in Greek institutes. The teaching material and accounting procedures are taught to students in a realistic manner, which would not be feasible in a traditional classroom. Furthermore, students feel more autonomous and in control of their learning process, thus enhancing active learning. However, these new technologies could lead to misconception of accounting terminology, when being used by improper way.

### **Traditional teaching methods for accounting programs.**

There are various methods for teaching accounting as reading text, problem solving, using interactive lectures, studying case studies, short projects, presentations, stimulation games and role-playing (Bonner, 1999). The choice of the teaching method is mainly influenced by the instructor's pedagogy, the students' goals and the institutional preference (Bonner, 1999). However, the teaching of accounting in Greek tertiary education has been done, mostly, by the conventional teacher-centered methods rather than modern student-oriented applications, techniques while the transmission of knowledge, and information has been realized with the usual form of lectures requiring physical presence of both student and the teacher (Belias, Sdrolias, Kakkos, Koutiva, & Koustelios, 2013). A great variety of traditional teaching methods

is available for accounting education. The most usual ones used to teach accounting education are shown in Table 5:

Table 5  
*Traditional Teaching Methods Used in Accounting Lessons*

Number	Teaching method
1	Read Text
2	Read workout example problems (or objective questions).
3	Listen to lecture/watch video
4	Watch demonstration
5	Listen to and participate in interactive lecture
6	Answer short objective questions
7	Write and answer questions
8	Work short numerical problems
9	Work longer, unstructured cases and problems
10	Discuss issues with other -students
11	Conduct research
12	Make oral presentations and answer questions
13	Participate in demonstrations, role-playing simulation games, visit to company, etc.

*Note.* Adapted from Bonner, S.E. (1999). "Judgment and decision making research in accounting", *Accounting Horizons*, 13(4), 385-398.

Cullen, Richardson, and O'Brien (2004) used a real case study where accounting problem solving and role-play from the students' point of view was researched by using questionnaires. The results of the proposed method were encouraging as they improved the students' effectiveness in terms of developing their research skills. Weil, Oyelere, and Rainsbury (2004) besides the similar findings regarding the use of the same method, they proved that this method benefited male students more than female students by facilitating the development of several

significant competencies such as the ability to: evaluate a situation from more than one perspectives, consider alternative solutions and apply judgment, analyze and solve problems, distinguish relevant from irrelevant information on a given issue as well as integrate knowledge gained.

Another traditional method to teach accounting courses is by using a game scenario. For example, Clinton and Kohlmeyer (2005) were the first who studied the effect of group quizzes on the performance of the students in general and the subject taught, in particular. To do so, a group of students was selected to participate in team quiz along with a control group. However, the results showed no statistically significant difference between the two groups, suggesting that the former tool does not affect the accounting students' performance (Belias, et al., 2013).

Hwang, Lui, and Tong (2005) studied the effect of collaborative teaching versus lectures including the type of questions posed to students. This study stressed the effectiveness of cooperative teaching as it improved significantly the students' performance in comparison with that of lectures. However, Belias, et al. (2013) still note that there is no compelling evidence in support of one method over the other. More specifically, a study by Akman and Mugan (2010) looked into the performance of students taught by two different methods; in the first group of students, cases studies and problem-solving was undertaken in collaboration with the teacher, while in the second group problem-solving was carried out by the teacher (only), without student involvement. No significant difference was found between the two teaching practices, with the exception that the collaborative group had slightly better grades on tests than the group attending lectures (Belias, et al., 2013).

Homework is an old and common practice in teaching accounting courses as it has been found to promote learning (Peters, Kethley, & Bullington, 2002; Rayburn & Rayburn, 1999). A

study conducted by Hill, Spencer, Alston and Fitzgerald (1986) confirmed that homework was positively linked to student achievement. Moreover, Davidson and Baldwin, (2005) enforced that position demonstrating that home assignments have as an additional goal the initiation of cognitive and experiential problem solving techniques which are considered highly useful for a student's future career.

An adaptation of the wait time concept for use in lectures appears to yield outcomes during classroom discussions and improvement in comprehension and attitude (Rowe, 2008). Braun and Simpson (2004) studied the impact of the pause method in learning in a class of graduate students in different accounting departments as well in students' performance in the exams. Interestingly, it was found that student performance increases when students are allowed to make choices during the learning process (Belias, et al., 2013). In particular, students performed better in their final exam when they decided the kind of their activity during the pause.

Nouri and Shahid (2005) studied the views of two student groups comparing the traditional way of teaching with blackboard against one simple computer program, for example PowerPoint. The findings suggest that teaching accounting with the help of such software as PowerPoint helps students' understanding of a topic; also, it is considered more fun thereby triggering student attention and resulting ultimately, into better student performance in the final exam (Belias, et al., 2013).

### **Modern teaching methods in accounting programs.**

Recent developments in accounting, such as the role of accountants in companies and organizations, the increased use of technology and the implementation of complex accounting

practices have allowed a number of important changes in teaching (Williams, 1993). Table 6 shows the modern teaching methods for teaching accounting courses.

Table 6

*Modern Teaching Methods Used in Accounting Lessons*

Number	Teaching Method
1	Video Watching
2	Attendance and participation in using interactive whiteboards
3	Accounting applications using simple systems
4	Role Playing
5	Simple modeling

*Note.* Adapted from Cottell, P., & Millis, B. J. (1993). Cooperative learning structures in the instruction of accounting, *Issues in Accounting Education*, 8(1), 40-59.

De Wet and Niekerk (2001) concluded that computer assisted learning packages were suitable means of communicating many instructor materials to students. Moreover, Boyce (1999) found that the increased use of computers and computer programs in accounting courses seems to have a positive impact in terms of valuable time savings and the development of certain skills including writing, communication, interaction, collaborative, critical thinking and consciousness (Boyce, 1999).

The main types of software employed, according to Boyce (1999), include:

- Productivity software: These programs are designed for student learning of simple accounting operations as well as developing skills such as for example, the ability to identify, analyze, interpret and choose among alternatives provided (Boyce, 1999). Later, Gujarathi (2005) presented the results of using a spreadsheet productivity program for managing and solving an accounting cycle problem. The use of this program aimed to introduce students in maintaining duplicate books with such added constraints as

accounting errors. The students' reactions with respect to the use of the Enterprise Resource Planning (ERP) software were highly positive. The majority of them argued that the use of such software-based methodology assisted the learning of accounting relative to the more conventional teaching methods (Belias, et al., 2013).

- Drill-and-practice software: Drill and practice is a disciplined and repetitious exercise which includes programs for accounting problems, used as a mean of teaching, improving mistakes and perfecting a skill or procedure (Lim & Kor, 2012).
- Modeling and simulation software: Evidence recommends accounting educators to use simulations as a supplemental learning tool in preparing accounting students for the profession (Lightweis, 2014). In particular, Yin (2009) used an auditing simulation called Real Audit™ and focused on the participant's experience and ability to control efficiency. Hoffjan (2005) used a relatively similar business game to teach students better accounting concepts, claiming that the game finally increased the sensitivity of the students towards the difficulties of coordinating the decentralized units of the company. Calderon, Green and Harkness (2005) studied the effect of plausible simulations on the ability of the students to recognize fraudulent actions.

The main advantage of those programs is that they combine the accounting information and procedures by conveying the element of realism into the class, unlike the traditional teaching method of accounting (Belias, et al., 2013). However, Lidner, and Jarvenpaa (1995) advise that these programs should be used along with traditional teaching within the classroom; otherwise, they may have a negative effect on students' learning when allowed to introduce misunderstandings in terms of established accounting concepts and procedures.



Distance education is a planned learning experience or method of instruction characterized by virtual separation of the instructor and learner (Burns, 2011). Within a distance education system, information and communication are exchanged through print or electronic communications media (Keegan, 1980). There are various distance learning teaching approaches:

- **Interactive Multimedia CD:** The goal of a multimedia CD is to provide information from a real business environment to help students understand accounting system information cycles. Stanley and Edwards (2005) introduced such a tool and the results were very positive for the students.
- **Interactive TV for Tele-educational lectures:** Tele-education includes the use of interactive telecommunications to conduct teaching and distance learning (Halabi, 2005). However, research has shown that students attending the accounting direction courses prefer the traditional way of teaching as opposed to interactive television use (Halabi, 2005).
- **Teaching through the Virtual Learning Environment:** The use of Virtual Learning Environments (VLEs) as training platforms has brought about a new way of delivering education and training to academic institutions (Nelis, 2014). It is used as the only tool in distance teaching or as supplementary means to the traditional teaching (Basioudis & DeLange, 2009).
- **Teaching by a Learning Platform:** New technologies provide teachers with many interesting tools that can be used to improve the teaching–learning process. The usefulness of these tools makes important for teachers to have more information about the advantages and possibilities of using technology in the classroom (Kaminski, 2005), as well as about the results derived from their application. Besides the fact that the internet

is a vast source of information, there are some specific web-based applications that are conceived to be used as a teaching resource as Blackboard, Moodle and Canvas (Martin & Fernandez, 2009). These applications (often called e-learning platforms) allow teachers to provide the students with material of different sorts, as well as to interact with them in real-time. They also allow teachers to follow the evolution of the learning process and to know the performance of each student in specific tasks (Martin & Fernandez, 2009).

- The evolution of online instruction and the continuous search to incorporate the best educational methods from both traditional and virtual environments has led to many institutions adopting a “hybrid,” also known as blended learning (Dziuban, Hartman, & Moskal, 2004). Hybrid, in the context of instruction, is a course where a teacher reduces in-person classroom meetings and replaces a significant amount of that instructional time with online learning activities through a course management tool (Garnham & Kaleta, 2002; Swenson & Evans, 2003). The most frequent hybrid teaching methods for accounting courses are:

- Creating Financial Model and Calculation of costs by using Spreadsheet.
- Teaching through the Business Planning Model (BPM).
- Teaching method through the use of Low-Income Taxpayer Clinics tool.
- Teaching through the Accounting Program SCAM.

Generally, hybrid courses allow for flexibility and choice in pedagogical strategies that work best in face-to-face and online environments. For example, the face-to-face environment allows for more spontaneity and immediate feedback, while online allows for more reflection, critical thinking, recollection, and conceptualization (Skibba & Ndon, 2006). Hybrid courses offer the benefits of both in-person and online instruction. However, hybrid courses are on the

decline because students seem to prefer the convenience of fully online courses (Xu & Jaggars, 2011).

From a higher education institutional perspective it is important for teaching staff to implement teaching practices, which encourage student engagement since it, improves the quality of the student experience (Krause, 2005,). One way to improve student engagement is to provide interesting materials to stimulate and challenge students' learning in addition to integrating academic and social experiences (Pascarella & Terenzini, 1998). Cooperative learning as described by Felder and Solomon (2001) has the capability to satisfy these requirements for student engagement. Farrell and Farrell (2008) consider cooperative learning as an important element in International Accounting for the last four years. During this time, there has been a refinement of classroom practices to create a cooperative learning environment, which engages students in their learning. Johnson, Johnson, and Holubeck (1990) have established a definition of cooperative learning that identifies five basic elements necessary for a procedure to be considered cooperative. Those conditions are:

- Clearly perceived positive interdependence
- Considerable face to face interaction
- Clearly perceived individual accountability and personal responsibility to achieve the group's goal
- Frequent use of the relevant interpersonal and small-group skills
- Frequent and regular group processing of current functioning to improve the group's future effectiveness.

Zarkasyi (2009) refers that cooperative learning entails small groups working on specific tasks, as well as it seeks to overcome some of the weaknesses of traditional small group

approaches by structuring activities carefully. Moreover, he explains that the key to cooperative learning is the careful structuring of learning groups and some of the key elements to do so are the building of interdependence, the designing of interactive processes, and accountability. However, to be a successful in setting up and having students complete group tasks within a cooperative learning framework, Laya (2005) and Zarkasyi (2007) also mentioned about a number of essential elements or requirements that should be met:

- **Clear and Complete Set of Task:** Teacher need to state directions or instructions that describe in clear, precise terms exactly what students are to do, in what order, with what materials, and, when appropriate, what students are to generate as evidence of their mastery of targeted content and skills. These directions are given to students before they engage in their group learning
- **Heterogeneous Groups:** Teachers should organize the three, four, or five number groups set that students are mixed as heterogeneously as possible. Students should not be allowed to form their groups based on friendship, gender, etc.
- **Equal Opportunity for success:** Every student must believe that he or she has equal chance of learning the content and abilities and earning the group rewards academic success.
- **Positive Interdependence:** Teacher must structure learning task. Essentially, task structured so that students must depend upon one another for their personal teammate, and group's success in completing the assigned task and mastering the targeted content and skills.

- Face to face interaction: Students need to arrange themselves so that they are positioned and postured to face each other for direct eye-to-eye contact and face to face academic conversations.
- Positive Social Interaction: Merely because students are placed in groups and expected to use appropriate social and group skills does not mean students will automatically use these skills. To work together as a group, students need to engage in such interactive abilities as leadership, trust building, constructive criticism, etc.
- Access to must learn information: Teachers must structure the task so that students have access to and comprehend the specific information that they must learn.
- Opportunities to complete required information: Assigned group tasks direct students to complete the relevant internal processing task they need to complete.
- Sufficient Time is spent learning: Each student and group should be provided the amount of time needed to learn, otherwise benefits of cooperative learning will be limited.
- Individual Accountability: Each student must be formally tested to determine the extent to which he or she has mastered and retained the targeted academic content and abilities.

### **The psychology in teaching accounting courses.**

This section reviews advances in the science of learning based on recent discoveries in cognitive psychology, neuroscience, and brain research that are relevant to teaching accounting to undergraduates and graduates. The information is based on the work and experiments of Fogarty (2014). According to her, when a student truly learns a lesson in accounting, his/her brain is physically altered. Hence, familiar “real life” examples reinforce and give meaning to new material enhancing the learning process and literally increasing the neural connections in the brain. Fogarty (2014) resulted that a high degree of learning is required by students in order to

think critically and apply the new accounting concept to a new situation. Real-life examples can increase the likelihood that students will successfully learn, remember, and use economics in the future.

Accounting educators in all over the world hope that students will not only remember their accounting concepts, but also learn it well enough to apply it throughout their lives. As such, it is important to make a brief description of how the brain learns accounting and what is necessary for the deep level of learning that accounting instructors seek. Recent discoveries have given scientist greater insight into how the brain learns new information. Sousa (2006), Espinosa (2010), Washburn (2010) and Willingham (2009) summarize the process of learning, discussing issues that are relevant to educators. In particular, Espinosa (2010) focused on collateral factors that generate problem in learning a new accounting lesson explaining that students' highs and lows of attention can be due to their "poor nutrition" and its impact on the brain through the balance of chemicals, sugars, fats, and other ingredients. On the other hand, Fogarty (2014) investigated problems coming from educational methods, resulting that students vary in their learning styles, which is their particular preference for how they receive new information. Students might be specifically auditory, visual, or kinesthetic learners or they can be equally happy with any type of presentation. Instructors should vary how information is presented to address learning styles of all their students (Sousa, 2006).

New accounting information passed on by the sensory register goes to the short-term memory. Enlarging the number of ways a new concept is presented to students, including the use of examples from other disciplines or interdisciplinary examples, increases the likelihood of linking the "new and known" patterns in elaborative rehearsal and strengthens understanding and the probability of retention (Sousa, 2006; Washburn, 2010). This generates deep learning and a

level of understanding that is needed for the later application of new concepts, which is so desired by accounting instructors (Fogarty, 2014). Unfortunately, instead of providing additional examples, instructors and texts often move on to the application without allowing sufficient time for the elaboration process to be completed, and they thereby short circuit deep learning (Washburn, 2010). Covering fewer topics in greater detail and the use of more examples, especially real-life examples with which students can identify recall from their own past experiences, will provide students with a more profound understanding (Bransford, Brown & Cocking, 2000; Simkins & Maier, 2009).

Long-term memory stores only information, which has to do with a strong emotional (Sousa, 2006). For example, an accounting professor using legal terms in class may trigger strong negative feelings if a student had difficulty or past failures in social sciences. The student may withdraw having a “self-concept shutdown” and blocking any new learning. The best approach is to try to alter the student’s self-concept. The student will not open up and learn until he or she believes that success is possible (Sousa, 2006). Finding and solving the problems with necessary prior knowledge can make all the difference when it comes to learning. Regarding the rest of information, if this makes sense and is relevant, it is highly likely that it will be stored; otherwise it will probably not be saved (Sousa, 2006). For example, Sousa (2006) notes that too often accounting instructors spend their time trying to make accounting understandable and too little time explaining why the information will be useful for the students.

This review of how the brain learns new accounting information explains why long “chalk and talk” lectures failed to support students’ deep knowledge and an ability to apply accounting appropriately (Fogarty, 2014). Fogarty (2014) found that teaching fewer concepts in

detail with extensive use of varied “real-life” examples in shorter 20-minute time blocks should increase student critical thinking.

### **Discussion on teaching methods.**

Research has shown that although there are many teaching resources available in many universities worldwide, less than 25% of the professors use any resources other than blackboard and overhead projector. However, the results of a research made by Ricio (2008) demonstrate that 72% of 35 accounting lecturers who participated in his questionnaire would like to use different teaching methods but some barriers are pointed such as lack of time, working conditions and compensation. The same survey’s results suggest that only two of 35 accounting lecturers visit companies with the students. Palm and Bisman (2010) noted that teaching delivery on accounting courses followed a traditional lecture and tutorial format, which tends to emphasize the role of the educator as instructor, rather than as a facilitator or mediator of learning. Moreover, as Watts and Becker (2008) describe, many accounting instructors have ignored the changes taking place in other disciplines and continue to teach with the “chalk and talk” method used by their own professors. Indeed, the traditional lecture is the most used method in accounting courses, as research shows a usage of 94% of traditional lecture, while new technologies such as Internet research and Lab room presented a usage rate below 50% (Ricio, 2008). In light of the above, it could be argued that modern teaching methods, strategies and tools should adopt and integrate Information and Communication Technologies considering that in real life, students are going to work with highly sophisticated accounting systems, such as those based in Enterprise Resource Planning (ERP), and using E-Commerce, Business to Business (B2B), and other integrated technologies (Belias, et al., 2013). Hence, through the appropriate use of teaching methods, the lecturer should be capable to make the students to



acquire such competencies. Nonetheless, it should be noted that students' background knowledge, academic performance and learning abilities need to be taken into consideration for the selection of the most suitable teaching method and combination of teaching applications (Bonner, 1999). By implication, Belias, et al. (2013) stressed that teaching curricula and academic goals should be formed according to the needs, demands and ambitions of a given student population and educational context in order to strengthen students' motives and ensure active participation in the learning process.

Other studies on teaching methods in accounting education focused on the competencies that have to be developed. In particular, Kavanagh and Drennan (2007) stated that current teaching models place little emphasis on development of students' professional accounting competencies. For example, Hodson (1988) argued that since identifying and solving unstructured problems is an essential requirement in the business environment, students should identify and solve unstructured problems by using multiple information sources. Similarly, Farrell and Farrell (2008) stated that teamwork in a university subject is sound preparation for participation in the workplace. Zakaria and Iksan (2007) assert that accounting students must work in groups as they need these skills in the business environment. Mohidin, Jaidi, Sang & Osman (2009) stated that by working in groups, accounting students fostered greater participation, self confidence and leadership ability.

## **Summary**

To summarize, the literature review acknowledged that accounting education is the key to successfully recognizing the causes of the recent financial crisis in Greece and to preventing future similar failures. It examined a broad range of research work that relates to the accounting profession and education in Greece as well as to the available and current content and teaching methods in accounting education in Greece. Afterwards, it made an exploration of the new

content and teaching methods that could be implemented with a purpose to prepare finest and ethical professionals.

Further, very few studies in assessing accounting education use a phenomenological approach. Therefore, the unique context of this research along with the methodology provides additional insights into a phenomenon composed by accounting professors, universities, new competencies, students and professionals. Through the detailed review of new competencies which students have to develop to enrich their profile as accountants in current global trends, Chapter two detailed theories and approaches taken by others to answer the question of what should the content and teaching methods in Greece in the post crisis era be. The researcher finds ethics, forensic accounting, auditing and green accounting to be important ingredients of any leader accountant today. Chapter three will present the methodology adopted by this research to explore further the role of an updated accounting curricula in developing students' profile as accountants on an ethical basis after the crisis.

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