Accounting education: Investigating the gap between school, university and practice

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List of abbreviations and acronyms

AECC	Accounting Education Change Commission
CA	Chartered Accountant
CAPS	Curriculum and Assessment Policy Statement
CA(SA)	Chartered Accountant (South Africa)
CTA	Certificate in the Theory of Accounting
DBSA	Development Bank of South Africa
DoBE	Department of Basic Education
FIFO	First-in-first-out
HEI	Higher Education Institution
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IRBA	Independent Regulatory Board of Auditors
LIFO	Last-in-first-out
NAPTOSA	National Professional Teachers' Organisation of South Africa
NCS	National Curriculum Statement
NPC	National Planning Commission
NWU	North-West University
OBE	Outcomes-Based Education
PAYE	Pay As You Earn
SA	South Africa
SADTU	South African Democratic Teacher's Union
SAICA	South African Institute of Chartered Accountants
VAT	Value Added Tax

Dissertation summary

Title: Accounting education: Investigating the gap between school, university and practice

Key terms: Accounting education, curriculum, South Africa, first-year students, Department of Basic Education, black economic empowerment, skills, trainee accountants, accounting practice

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Various studies have highlighted the problems faced in accounting education. Some of these problems refer to the stagnating accounting curriculum, limited resources available to students from designated black empowerment groups, and the underdevelopment of skills required by practice. This study focuses specifically on the problems faced in secondary and tertiary accounting education in South Africa (SA) and the effects of these problems on practice.

The first article of this study emphasises the various causes for the declining pass rate in first-year chartered accountancy (CA) students. For this purpose, the researcher gathered information on the perceptions of first-year CA students and of lecturers involved in departments of accounting at SA universities. One of the possible causes identified is the apparent gap between school and university accounting education, especially in respect of curriculum, teaching quality and textbooks. The study revealed that students from designated black empowerment groups are facing the most problems in SA accounting education.

The second article addressed the skills shortages in first-year CA trainees that practitioners have to deal with. According to the results, the majority of the participants felt that universities do not sufficiently equip students with the skills necessary to be successful in practice. The skills shortages identified included the inability of first-year trainees to determine the extent of testing needed in audits and to think independently. It also seemed as if first-year trainees lack professional communication skills and cannot sufficiently apply

theory learnt at university in practice. These are only some skills with which universities are expected to equip students in order to be successful in practice.

The researcher drew conclusions and made recommendations based on the information obtained from the above-mentioned two studies.

Opsomming van verhandeling

Titel: Rekeningkunde-onderrig: ʼn Ondersoek na die gaping tussen skool, universiteit en praktyk

Sleutelterme: Rekeningkunde-onderrig, kurrikulum, Suid-Afrika, eerstejaarstudente, Departement van Basiese Onderwys, swart ekonomiese bemagtiging, vaardighede, leerling-rekenmeesters, rekeningkunde-praktyk

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Verskeie studies beklemtoon die probleme wat in rekeningkunde-onderrig ondervind word. Sommige van hierdie probleme verwys na die stagnerende rekeningkunde-kurrikulum, beperkte hulpbronne vir studente uit ʼn aangewese swart bemagtigingsgroep, en onderontwikkeling in vaardighede wat deur die praktyk vereis word. Hierdie studie fokus spesifiek op die probleme in sekondêre en tersiêre rekeningkunde-onderrig in Suid-Afrika (SA) en die gevolge hiervan op die praktyk.

Die eerste artikel van die studie ondersoek die verskillende oorsake vir die verswakte slaagsyfer in geoktrooieerde rekenmeesterskap- (GR) studente in hulle eerste jaar. Vir dié doel is inligting oor die persepsies van eerstejaar-GR-studente versamel, asook van dosente in rekeningkunde-departemente by SA universiteite. Een van die moontlike oorsake vir die verswakte slaagsyfer is die skynbare gaping tussen rekeningkunde-onderrig in skool en universiteit, veral ten opsigte van die kurrikulum, onderriggehalte en handboeke. Die studie het getoon dat studente uit ʼn aangewese swart bemagtigingsgroep die meeste probleme in SA rekeningkunde-onderrig ondervind.

Die tweede artikel lê hoofsaaklik klem op eerstejaar-GR-klerke se vaardigheidstekorte waarmee praktisyns te kampe het.Volgens die studie voel die meerderheid van die

deelnemers dat universiteite studente nie toerus met die nodige vaardighede om suksesvol in die praktyk te wees nie. Die vaardigheidstekorte is onder meer eerstejaarsklerke se onvermoë om die omvang van ouditttoetse te bepaal en om onafhanklik te dink. Dit blyk ook dat eerstejaarsklerke ’n gebrek aan professionele kommunikasievaardighede het en dat hulle nie die teorie wat hulle op universiteit geleer het, genoegsaam kan toepas nie. Hierdie is slegs ’n paar vaardighede waarmee universiteite studente moet toerus om sukses in die praktyk te behaal.

Die navorser het gevolgtrekkings en aanbevelings gemaak gegrond op die inligting wat uit die studies verkry is.

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- To my parents, for all their love and encouragement.
- Lastly to my husband, Daan, for all his patience, love and support. I couldn't have done it without you.

Remarks

The reader is reminded of the following:

This dissertation is presented in the article format in accordance with the policies of the WorkWell Research Unit of the Faculty of Economic and Management Sciences at North-West University and consists of two research articles (faculty rule E.8.3). In terms of these policies, two **unpublished** manuscripts in article format may be presented for the purposes of a dissertation that makes up more than 50% of the master's degree.

Each of the individual articles complies with the writing style requirements (i.e. the abstract, spelling, grammar and referencing requirements) of the journal to which the article was submitted.

The author requirements and related documentation specific to each journal are included as part of the annexure at the end of the dissertation.

Chapter 1

Objectives, scope and course of the study

1. Introduction and background

Accounting firm recruiters and university professors are of the opinion that the quality of new accountancy students is down and that accounting programmes, especially chartered accountancy (CA) programmes, no longer catch the attention of the best and brightest of students (Nearon, 2002). The high failure rate of first-year accounting students at higher education institutions (HEIs) has become an issue of great concern worldwide, as well as in South Africa (SA) (Barnes *et al*., 2009). In addition, the CA qualification is perhaps becoming increasingly difficult to obtain, because there is a vast number of complex accounting standards, as well as auditing standards and tax legislation that are continuously evolving and expanding, which have to be mastered (Temkin, 2005).

The general definition of an audit is an official examination of the financial records of a company, organisation, or person to see that they are accurate. An auditor is a qualified accountant who does the above (MED, 2002). To become a registered (external) auditor or CA in SA, students need to complete a three-year BCom Accountancy degree at a university accredited with the South African Institute of Chartered Accountants (SAICA) and a post-graduate qualification in Accountancy, equivalent to a Certificate in the Theory of Accounting (CTA) (SAICA, 2010). After obtaining these qualifications, a three-year training period has to be completed in order to obtain practical experience. During the training period, all aspiring CAs have to write and pass both of SAICA's qualifying examinations (SAICA, 2010). SAICA requires accredited universities to have certain entrance requirements for students who apply for the degree. Students should pass high school mathematics (Grade 12) on at least a level 4 (50-59%) and must be in possession of a matriculation exemption certificate (SAICA, 2010), but are these requirements strict enough?

Students seem to lack basic reading and writing skills and struggle to perform basic calculations and think critically, which are essential skills to complete a degree in accounting (Hurt, 2007). Research has shown that the way in which students are prepared in school contributes to their expectations of higher education (Byrne & Flood, 2005; Clark & Ramsay, 1990). However, the teaching and assessment practices that students experience at school may not be entirely appropriate for the more independent forms of learning expected in higher education (Byrne & Flood, 2005; Cook & Leckey, 1999). Issues like these raise the question as to whether standards and/or practices in the SA secondary (high school) education are optimal to equip students with the skills necessary to comply with prerequisites set by universities and professional bodies such as SAICA.

The South African Department of Basic Education (DoBE) revised the National Curriculum for high school Grades 10 to 12 during 2002. In the Curriculum and Assessment Policy Statement (CAPS), Angie Motshekga, the Minister of Basic Education, states that, due to implementation challenges, another review of the curriculum was required in 2009 (DoBE, 2011). The DoBE added the following contents to the high school accounting curriculum:

- Concepts, calculations and principles of VAT;
- Managerial accounting;
- Concepts, principles and reports of costing;
- Code of ethics; and
- Control and audit procedures.

All these additions, if implemented and taught correctly, should provide SA universities with better quality accounting students in future. However, adding a number of topics to the school curriculum that are more in line with the requirements of the accounting profession would not necessarily, in itself, address the problem. Some questions need to be raised as to why the quality of first-year accounting students is decreasing.

A potentially inadequate school education system is not the only problem facing the accounting profession, as a gap also exists between academic curricula and the requirements of accounting practice. A renowned accounting educator, Stephen Zeff, argued that accounting education programmes have not been designed to prepare students to meet the requirements of future accounting practice (Nearon, 2002). Internationally, practitioners need people who can read, write and overcome obstacles with innovative solutions. They need an individual who is not only able to locate, understand and apply voluminous complex technical material, but also to communicate facts through coherent writing – someone who is a ‘people person’ (Nearon, 2002). Students at universities are often taught the ‘memorisation’ approach, with which they can pass professional body examinations, rather than equipping them with the skills required in practice (Albrecht & Sack, 2000; Gabbin, 2002).

The above-mentioned dilemmas are more far-reaching than one might think. The inadequacy of university curricula in accounting was even considered to be one of the causes of the 2001 and 2002 accounting scandals in the USA, as well as of many unexpected company collapses (Amernic & Craig, 2004; Bush, 2002; Sikka & Wilmott, 2002). Therefore, these types of problems deserve more attention in academic research.

2. Problem statement

2.1 A possible gap between school and university

Past research has indicated many problems in current accounting education, one of which lies in the content and design of the curricula (Albrecht & Sack, 2000; Cheng, 2007). Rankin *et al.* (2003) are of the opinion that high school accounting can be beneficial to the performance of students in first-year university accounting only if there is a close association between the high school and university curricula (Barnes *et al*., 2009).

Barbara Creecy, Gauteng Member of the Executive Council (MEC) for education, recently stated that, despite massive achievements in education after apartheid, learner performance is not improving. She ascribed the underperformance of schools to factors such as learner and educator discipline, school safety, poor hygiene, a lack of infrastructure, poverty, social deprivation, curriculum management, inadequate subject coverage, poor quality of teaching and assessment and ineffective school-based systems for monitoring curriculum delivery (DoBE, 2010).

Another problem might be that school teachers do not have the necessary qualifications and experience to teach learners the concepts they need to understand to succeed in further education, especially in professional qualifications such as CA. According to the South African Democratic Teachers' Union (SADTU), there is a desperate need to improve the quality of teachers and teaching (Packree, 2010). However, aspiring accounting teachers might not be trained appropriately for this purpose at tertiary institutions and it is possible that teachers are ignoring the curriculum as set out by the DoBE or that they are not sufficiently able to understand and clearly explain some of the concepts to students (Packree, 2010).

Furthermore, textbooks used in schools may also be out of date and below standard when compared to textbooks used at a tertiary level. Schools in rural areas may not have access to the textbooks, material and equipment needed to provide quality education to students. Moreover, many school libraries have few books, and laboratories have outdated or malfunctioning equipment and insufficient supplies (DoBE, 2010; Samoff, 2001).

The number of learners in classrooms may also have an effect on the quality of the teaching they receive (Chisholm, 2005). Educators in government schools may not have enough time to give each learner the individual attention they may need to be successful in a subject area such as accountancy. All the problems mentioned in this section point towards a gap between school and university accounting education standards.

2.2 A possible gap between university and practice

The gap in accounting education standards discussed in the previous subsection seems to extend to accounting practice. Even as far back as 1990, Patton and Williams suggested that the fundamental flaw in accounting education is that it has remained stagnant while the profession has changed (Ainsworth, 2001) – and at that stage, the profession was not changing nearly as fast as it is today. There is a growing agreement among accounting professionals that recent accounting graduates do not adequately meet the high standards set by potential employers (Clovey & Oladipo, 2008).

On the other hand, the requirements set out by SAICA for universities to allow students to study CA might be too lenient. Students are not required to have accounting as a school subject; mathematics is the only requirement (SAICA, 2010). School subjects that have been identified as having an influence on the performance of students in first-year university accounting are Grade 12 mathematics *and* Grade 12 accounting (Barnes *et al.*, 2009).

SAICA has adopted a competency framework, which is a high-level description of competencies that a Chartered Accountant (South Africa) [CA(SA)] should possess on entry into the profession. It provides the base upon which programmes of education, training and assessment are developed. SAICA's objective is to retain and cement the pre-eminence of its qualification. In attending to this objective, SAICA has identified 'leadership' as one of the fundamental attributes of a CA(SA). SAICA believes that a CA(SA) should be capable of being a leader in any environment in which the CA functions (SAICA, 2010). It is also recognised that growth and the acquisition of competencies after entry into the profession are not limited to leadership ability, but are likely to occur in many spheres of competence. In order for these competencies to be developed effectively and appropriately, it is vital that the CA(SA) has the essential competencies to encourage life-long learning (SAICA, 2010).

Any accreditation process has inherent limitations and it is debatable whether all universities truly comply with all elements of the competency framework (or similar professional body requirements) in every respect, as accounting practitioners are not always satisfied with accounting graduates' abilities (Barac, 2009; Koornhof & Lubbe, 2002). Teaching methods at universities often lack creativity, involve too much lecturing and dependence on textbooks, and do not develop the students' capability to learn skills. Educators are too bound by their class time and do not require enough student contact with business. Furthermore, the curricula are too restricted, often outdated or irrelevant, and often shaped by the interests of the faculty instead of the demands of the market (Albrecht & Sack, 2000; Clovey & Oladipo, 2008).

Changes in the business environment are occurring fast. The real question is whether accounting organisations, professionals and educators are recognising these changes and adapting quickly enough to the new environment. Accounting professionals, who have adapted themselves, have said that the changes in accounting education are neither fast nor substantive enough (Albrecht & Sack, 2000). Accounting education is, however, subject to the hierarchy within universities; before curriculum changes can be made, approval must be given by university curriculum committees and government departments (Albrecht & Sack, 2000), which can be a cumbersome and lengthy process.

To overcome this apparent gap between academia and practice, educators will need to better align accounting curricula with workplace realities and alter their teaching methods to promote critical thinking (Myers, 2005). The right balance needs to be found between the theoretical and practical components of teaching accounting (Amernic & Craig, 2004).

2.3 Summary of the problem

Based on the arguments in the preceding two subsections, the problem statements of the study are summarised as follows:

- There is a decline in the quality of first-year accounting students.
- School and university accounting curricula and textbooks are not in complete alignment to prepare students for the CA qualification.
- School teachers might not be adequately preparing learners for the demands of a CA qualification at university level.

- University accounting curricula, as well as teaching and assessment methods, do not provide the necessary skills development for students as required by accounting practitioners.

3. Research objectives

Based on the problem statement, the research objectives of this study are as follows:

3.1 Determining the gap between school and university accounting education

- To determine the adequacy of the content and delivery of the accounting curricula in secondary (high school) education, and more specifically:
  - To identify the important topics in a high school accountancy curriculum, as regarded by lecturers in accounting programmes (who train future CAs at university level).
  - To determine whether school accounting teachers are perceived to follow the whole curriculum as set out by the DoBE.
- To determine whether school teachers are perceived to have the necessary qualifications and experience to teach learners the concepts they need to understand to succeed in further education.
- To identify whether school textbooks are perceived to be out of date and/or below standard when compared to textbooks used at the tertiary level.
- To recommend the necessary changes to accounting education at secondary school level that should address the needs of all relevant stakeholders.

3.2 Determining the gap between university accounting education and the expectations of practitioners

- To determine the skills shortages that exist in CA students entering practice in SA.
- To recommend ways to improve the skills development of CA students at university level.

4. Hypotheses

The broad hypotheses that will be tested in this study can be formulated as follows:

H01: School and university accounting curricula, teaching and assessment are not in complete alignment to optimally prepare students for the CA qualification.

H02: University accounting curricula, teaching methods and assessment practices do not provide adequate skills development for students as required by accounting practitioners.

5. Research methodology

The method used in this study is briefly set out below.

5.1 Literature review

All relevant and recent literature was consulted in order to establish a theoretical base for the empirical studies that were conducted. The literature review covered the following, amongst other things:

- The National Curriculum Statement and the CAPS for Accounting, which clearly set out the topics learners should be taught in secondary school in the accounting subject area.
- The accounting education requirements of professional bodies such as SAICA.
- Reports in the media regarding problems and challenges faced by SA accounting education and the education system in general.
- Previous research on the current problems facing accounting education in school and practice, both locally and abroad.

5.2 Empirical research

The empirical research design is in the form of questionnaires, which is explained below.

5.2.1 Testing of hypothesis H01

The study population comprised all first-year CA students at the North-West University (NWU), SA. This university offers a CA qualification that is completely separate from other accountancy qualifications. The CA qualification is offered at all three campuses of the university, being Potchefstroom, Vaal Triangle and Mafikeng.

A questionnaire was administered to first-year NWU CA students (across all campuses) in the middle of their first-year studies. The questions had to be answered on a five-point Likert scale (1=strongly disagree; 5=strongly agree). The research objectives with this questionnaire were the following:

- To determine whether school teachers are perceived to have the necessary qualifications and experience to teach learners the concepts they need to understand to succeed in further education.

- To identify whether school textbooks are perceived to be out of date and/or below standard when compared to textbooks used at the tertiary level.
- To determine whether school accounting teachers are perceived to follow the whole curriculum as set out by the DoBE.

By analysing the above information, recommendations will be made regarding the necessary improvements to high school accounting textbooks, as well as recommendations to the DoBE and university lecturers in order to plan interventions to overcome the mentioned obstacles. The findings could also help to explain some of the reasons for the decline in the quality of first-year accounting students which, in turn, could lead to relevant recommendations in this regard.

Another questionnaire was sent to lecturers in accounting programmes at various SA universities (who train future CAs at university level). This questionnaire listed various accounting topics and required the participants to rate the importance of each topic using a seven-point scale. The research objective with this questionnaire was:

- To identify important topics in a high school accountancy curriculum, as regarded by lecturers in accounting programmes (who train future CAs at university level).

With this information, possible changes to the high school accounting curriculum will be recommended.

5.2.2 Testing of hypothesis H02

A questionnaire was sent to all audit firms in the Gauteng Province, SA, registered with the Independent Regulatory Board of Auditors (IRBA) with the aim to identify the skills shortages of first-year CA trainees when entering practice. The research objective with this questionnaire was therefore:

- To determine the skills shortages that exist in CA students when entering practice in SA.

Recommendations will be made on ways in which to improve skills training at university level.

The research method applied to test each hypothesis is explained in more detail in chapters two and three. Each questionnaire also contained some open-ended questions; therefore, the research method has elements of both quantitative and qualitative research, or so-called mixed methods research as explained by Creswell (2011), Davies (2007:11), and Ihantola and Kihn (2011). The quantitative data obtained from all the above-mentioned questionnaires (for H01 and H02) were processed by means of

the IBM SPSS (2011) statistical software package. Qualitative comments made by respondents were also included in the analyses.

6. Chapter overview

Chapter 1: Objectives, scope and course of the study

- The objective of this chapter is to discuss problems facing accounting education, specifically reasons for the decline in the quality of first-year CA students, and to provide reasons for conducting the study.
- Problem statements are made from which research objectives are formulated.
- The hypotheses are formulated from the problem statements and objectives.
- The research method is explained, namely a literature review, empirical studies and methods that were applied to gather and process data.

Chapter 2: Narrowing the gap between school and university accounting education in South Africa

- In this chapter, relevant literature on the topic was used to substantiate the inclusion of specific questions in the questionnaires used to identify problems relating to the declining quality of first-year CA students.
- The method that was applied is therefore an empirical study, which will be explained and motivated in this chapter.
- All results were analysed using inferential statistics, and qualitative comments by respondents were also included.
- Conclusions will be drawn based on the results of the empirical study, and recommendations will be made to address the problems identified.

Chapter 3: University versus practice: Identifying skills shortages that exist in first-year trainee accountants in South Africa

- In this chapter, all relevant literature on the topic was used, first to substantiate the fact that skills shortages exist in first-year CA trainees entering the profession and, secondly, to provide reasons for the specific questions posed to various audit firms participating in the study.
- The method that was applied is an empirical study and the exact nature of this study is explained and motivated in this chapter.

- The results obtained was statistically analysed and explained, and qualitative responses were also included.
- Conclusions will be drawn based on the results of the empirical study and recommendations will be made to address the issues identified.

Chapter 4: Summary, conclusions and recommendations

- In this chapter, the study is summarised by giving an overview of all the main results and the conclusions from each chapter, as well as a discussion of recommendations.
- All the limitations of the study will be highlighted and recommendations will be made for possible future research emerging from the current study.

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Chapter 2 (Article 1)

Narrowing the gap between school and university accounting education in South Africa

Title: Narrowing the gap between school and university accounting education in South Africa

The reader is requested to take note of the following:

- This article has been submitted for publication to the following SA approved, peer-reviewed and Department of Higher Education and Training accredited academic journal as follows:

  Van Romburgh, H. & Van der Merwe, N. 2013. Narrowing the gap between school and university accounting education in South Africa. *SA Journal of Accounting Research (SAJAR)*, unpublished. (ISSN 1029-1954).

- The article was researched and written by the first author as the candidate. The second author, as the study leader, fulfilled a 'reviewer' function. Estimated weightings of contribution are as follows:

  * Van Romburgh, H. (90%)

  * Van der Merwe, N. (10%)

- Confirmation of receipt of the article from SAJAR has been received and is presented as part of **Annexure D.1** on page **112.** The article was written and formatted in line with the journal's submission guidelines, which are included as part of **annexure E.1** on page **114 - 115**.

Abstract

Tertiary education institutions are experiencing declining pass rates in first-year accounting courses globally. Many studies have linked this phenomenon to deterioration in the quality of first-year students due to problems experienced at secondary school level, indicating a gap between secondary and tertiary accounting education. The aim of this study is to investigate some of the reasons for this gap and to recommend ways to bridge this gap. Consequently, the perceptions of first-year accounting students at a South African university as well as lecturers in accounting departments at various universities across South Africa were gathered by means of questionnaires designed for this purpose. The results provide support for most of the problems identified in the literature, especially among the black students who took part in the study, which raises the question as to whether apartheid still has an effect on the South African education system. Participating lecturers also identified an imbalance between the current school accounting curriculum and topics which are considered important in university accounting curricula. It is recommended that universities and the Department of Basic Education collaborate to improve the quality of accountancy students in South Africa and narrow the gap between school and university accounting education.

Keywords

Accounting education
Curriculum
South Africa
First-year students
Secondary education
High school
Department of Basic Education
Black economic empowerment
Tertiary education
University

1. Introduction

The high failure rate of first-year accounting students at higher education institutions (HEIs) is a matter of concern internationally, as well as in South Africa (SA), with the majority of these students being from designated black empowerment groups (Barnes, Dzansi, Wilkinson & Viljoen, 2009). These designated groups are defined as 'the previously disenfranchised population in South Africa' (as a result of the apartheid regime), i.e. African, coloured and Indian people in SA (AND Concise Dictionary, 2012). The declining pass rate in first-year accounting courses in tertiary education is an important topic that has resulted in national and international research projects on the subject and necessitates further investigation in this area in an attempt to overcome this problem in SA.

Various elements could be possible causes of the declining first-year accounting pass rate. The literature seems to support a view that one of the main causes are problems experienced at secondary (high school) level, resulting in students' not being adequately prepared for a tertiary education. This, in turn, creates a gap between secondary and tertiary accounting education which is widened by issues not yet sufficiently researched in the context of accounting, including inadequate accounting curricula in secondary education (Department of Basic Education [DoBE], 2010), underqualified accounting teachers at secondary level (Kohler, 2012; Packree, 2010) and insufficient resources (including textbooks) available to secondary school learners. Textbook shortages have been a controversial issue in SA as textbooks for certain grades have not been delivered, or were delivered very late in the Limpopo province for the 2012 school year (Louw-Carstens & van den Berg, 2012).

Teaching was identified by Kohler (2012) as an important variable in determining educational outcomes. According to him, teachers in SA with appropriate qualifications increased from 64% in 1994, to 95% in 2010. It would seem, however, that this did not have a corresponding impact on the results of school learners. The National Planning Commission (NPC) found the SA education system to be below par, despite all efforts made by government to improve the system. Kohler (2012) also revealed that SA learners fail to master literacy and numeracy skills in their respective age groups.

The various causes for the gap between school and university accounting education will be investigated in this article using an SA university as a case study. This university was selected because it attracts students from across the country (including a large percentage from rural and historically black schools) and it is a South African Institute of Chartered Accountants (SAICA) accredited university. Informed by the problems experienced in secondary schools, as identified in the above

literature, the aim of this study is to investigate some of the reasons for this gap between secondary and tertiary accounting education and to recommend ways to overcome problems that are creating and widening the gap. The specific research objectives are:

- To determine the adequacy of the content and delivery of the accounting curricula in secondary education, and more specifically:
    - To identify what lecturers in accounting programmes (who train future CAs at university level) regard as important topics in a high school accountancy curriculum.
    - To determine whether school accounting teachers are perceived to follow the whole curriculum set out by the DoBE.
- To determine whether school teachers are perceived to have the necessary qualifications and experience to teach learners the concepts they need to understand in order to succeed in tertiary education.
- To identify whether school textbooks are perceived to be outdated and/or below par when compared to textbooks used at tertiary level.
- To recommend the necessary changes to accounting education at secondary level that should address all relevant stakeholders' needs.

The above-mentioned objectives will be investigated through empirical research in the form of questionnaires administered to first-year CA students at the selected university as well as to lecturers in accounting departments at SAICA-accredited universities across SA. The results should contribute to the identification of problem areas in high school accounting and should, therefore, be of interest to accounting educators, the SA government and professional accountancy bodies.

The remainder of the article is structured as follows: relevant literature on the research topic will be reviewed first. This will be followed by a description of the research method used in the study. Then the findings from the questionnaires will be discussed and summarised and, finally, conclusions will be drawn and direction for further research will be given after recognising the limitations of the study.

2. Literature overview

2.1 A call for change

The vast majority of changes in both international and local economic environments have led to the realisation that accounting education and educators need to comprehensively and continuously rethink their teaching and learning approaches in order to remain relevant. Louw and Verwey (1999) found that HEIs, specifically universities, have proven to be of the most change-resistant organisations in the past 500 years. Ainsworth (2000) concurs by stating that accounting educators experience discussions regarding research with fellow educators easier than discussing curriculum changes.

Owing to the unchanging curricula and teaching methods used in accounting, Nearon (2002) contended that accounting programmes at HEIs no longer attract and retain the academically strong students from schools. Retaining students in public tertiary education is a controversial matter. In SA, student failure may be ascribed to the alleged poor quality of matriculants (high school graduates) over the past few years, a low number of prepared students entering university, and 'dumbing down' of potential students by outcomes-based education (OBE) in SA high schools (Du Plessis, Muller & Prinsloo, 2005; Sadler & Erasmus, 2005). The issue of student retention has also sparked a debate regarding the attempt to address this problem by lowering academic standards in HEIs (Du Plessis, Muller & Prinsloo, 2007). Thus, while the number of students enrolled in accounting courses at universities reached a record low in 2011, now is the time for accounting educators to make and implement the changes required to lead the profession into the future (Buckhaults & Fisher, 2011). Universities will, therefore, have to adapt, without lowering academic standards, to ensure they transform the lower-quality students coming from school into skilled accountants.

If departments of accounting (or equivalents) in HEIs wish to remain up-to-date and competitive both locally and globally, they will have to change their academic strategies and approaches within the university (van der Schyf, 2008). Various studies have recognised that accounting education is becoming increasingly irrelevant and that, if the needed changes are not made, employers will be forced to make use of graduates from other disciplines. This is taking place already as many finance, information systems and engineering students are hired to accomplish objectives that were once the areas of expertise of accountants (Ainsworth, 2000; Patton & Williams, 1990).

The above discussion points clearly to the fact that the problems in accounting education are an international concern for educational institutions. The state of education, specifically secondary accounting education in SA, will be explored further in the following section.

2.2 The state of school accounting education in South Africa

In SA the remnants of apartheid are to blame for many of the current issues within the training and education environment (Louw & Verwey, 1999). The Macmillan English Dictionary (2002) defines apartheid as 'the political system that existed in the past in South Africa, in which only white people had political rights and power' (including access to quality education). It is commonly viewed as a racist regime that aimed to promote white domination and was abandoned in the early 1990s, shortly before SA became a democracy. In 2001 the DoBE stated that education has to play a significant role in overcoming the damaging effect of apartheid (De Wet & Wolhuter, 2009; DoBE, 2001). The post-apartheid government endeavoured to overcome the effects of apartheid on education and they achieved various successes, but failures occurred as well and there is still a very long road ahead (De Wet & Wolhuter, 2009; Duvenhage, 2006). The NPC commented that education is perhaps 'where the apartheid legacy casts its longest shadow' (Kohler, 2012).

One of the plans of government to overcome the repercussions of the apartheid legacy was the implementation of OBE in SA schools from 1997. Here government focused on underqualified teachers, the need for adequate resources and restructuring curricula, among other things, while basic necessities such as water, electricity and a lack of computers in schools were not taken into account (Warnich & Wolhuter, 2009). This contributed indirectly to the decreasing matriculation pass rate since 2003 (South African Institute of Race Relations, 2008). Education experts and teachers alike criticised OBE, saying it was destroying the education system and overworking teachers due to all the additional administration work it entailed (Mahomedy, 2012). Government has since gradually moved away from OBE; first, to the National Curriculum Statement (NCS) in 2002 and then, in 2012, the Curriculum and Assessment Policy Statement (CAPS). According to Mrs Angie Motshekga, Minister of Basic Education in SA, the on-going revision of the curriculum was due to implementation challenges experienced by the DoBE (2011).

The aim of the NCS, and subsequent CAPS, is to produce learners who are able to think critically, work effectively as team members, are able to analyse and organise information, and 'think outside of the box' (DoBE, 2011). For accounting, in particular, the DoBE (2011) aims to develop skills relating

to financial accounting, managerial accounting and auditing. According to the NCS and CAPS, schools have to meet certain requirements to offer accounting as a subject. Included in these requirements is that each learner should have a textbook, accounting stationery or workbook and a calculator (DoBE, 2011). Teachers should also have a variety of reference textbooks, a copy of the King Code III on corporate governance and the Companies Act 71 of 2008, as well as access to computers and the internet (DoBE, 2011). More research found that former 'white' schools from the apartheid era, which currently accommodate only 10% of the country's learners, are still considerably better resourced than the historically 'black' rural and township schools and achieve better educational outcomes for students of all races (Kohler, 2012).

Another challenge SA schools are faced with is the fact that schools exceed their capacity. The average class size in public schools was found to be 36 learners in 2009. In 2011, there were 2 800 schools with more than 50 students in the average classroom (Kohler, 2012). With increased class sizes, it will become increasingly difficult for teachers to give learners the individual attention they may require in a subject like accounting.

Mr Trevor Manual, the NPC Minister, further identified the following challenges faced by the SA education sector (Mahomedy, 2012): gaps in the teaching of mathematics and science; the fact that at least 50% of teachers are not sufficiently competent and skilled; poor infrastructure in certain areas; and a poor understanding of English by both teachers and learners. A lack of dedication and discipline of SA teachers also appears to be a grave problem. A study conducted in 2011 revealed that teacher absenteeism is as high as 20% from Mondays to Fridays, and increases to 33% at the end of the month in township and similar schools (Kohler, 2012). Also, teacher strikes can waste as many as 10 days a year of teaching time and, in township schools, it is common practice to hold union meetings during school time (Kohler, 2012). What is more, a study by the National Professional Teachers Organisation of South Africa [Naptosa] (2012) noted that the highest dropout rates of students in schools occur between Grades 10 to 12; the main reasons being poor relationships between educators and learners, the learners' dissatisfaction with inexperienced educators as well as the lack of relevance of education to life experience (Mahomedy, 2012).

Graeme Bloch, an education specialist at the Development Bank of South Africa (DBSA), asserted that a mere 15% of students who write their final matric examinations obtain marks good enough to

gain entrance into tertiary institutions. Universities and companies alike complain that the skills and knowledge levels of matriculants are not up to standard (Mahomedy, 2012).

It can therefore be concluded that the state of SA's secondary education needs to be improved significantly to ensure that the learners of today are prepared sufficiently for tomorrow. The next section discusses the extent of the impact of these problems in secondary education on tertiary education.

2.3 A gap between school and university accounting education?

Research by Barnes et al. (2009) uncovered that high school accounting had a positive relation to the performance of students in first-year accounting at university. They also concluded that high school accounting will have a positive impact on first-year accounting only if there is a close correlation between the two curricula (Barnes et al., 2009).

The CAPS mentions some of the topics that should be included in the Grade 12 accounting curriculum (DoBE, 2011):

- Understanding of the policies governing ethical behaviour in the financial environment, e.g. the King Code III;
- Understanding of the legislation governing companies. This entails basic principles in the Companies Act 71 of 2008;
- Integration of ethical considerations relating to companies;
- Application of internal control and internal audit processes in a business environment;
- Integration of internal audit and control processes relating to companies;
- Completion of the VAT control ledger account from given information; and
- Preparation, presentation, analysis, interpretation of and reporting on cost information for manufacturing entities, including calculations of variable and fixed costs in production and the break-even point, etc.

The CAPS also encourages educators to set examinations in such a way that at least 10% of the examination addresses problem-solving skills that require critical and creative thinking (DoBE, 2011). All of these requirements sound excellent on paper, but the reality may be quite different. If the above-mentioned topics are, in fact, integrated into high school curricula and examinations are compiled as required by the DoBE, the question arises as to why tertiary accounting educators

perceive a continuous deterioration in the quality of first-year accounting students as discussed earlier. Furthermore, in light of all the changes occurring in education and the content of school curricula, the question is raised as to whether educators are sufficiently trained and qualified to understand and apply these changes in their classrooms, especially in a subject area as complex and fast-changing as accounting. The remainder of the article will attempt to shed some light on whether this perceived gap between school and university accounting education is justifiable or not.

3. Methodology

A literature review was conducted in order to establish a theoretical base for the empirical study that followed. The method of empirical research was in the form of two questionnaires designed by the researcher and based on the literature review.

The first questionnaire was distributed to all first-year chartered accountancy (CA) students at the selected university. First-year students were selected specifically as they experience the effects of school education at university shortly after matriculating. The questionnaire was distributed to the students at the end of the first half of the academic year, after the students received their first-semester accounting examination results. It consisted of five parts (12 demographic questions and 47 questions mostly on a five-point Likert scale of 1 = strongly disagree; 5 = strongly agree), aimed at gathering the perceptions of these students regarding various elements of Grade 12 accounting, as follows:

- Part A: Demographic information – this part of the questionnaire gathered information from respondents relating to their gender, race, home language, province of matriculation and final marks obtained for mathematics and accounting in Grade 12, among others things.
- Part B: Adequacy of school accounting textbooks and curriculum – this part of the questionnaire consisted of various questions relating to students' experiences of accounting textbooks and the accounting curriculum in high schools.
- Part C: Competence of school accounting teachers – the questions in this part related to students' experiences of the qualifications and competence of their school accounting teachers.
- Part D: Topics in the school accounting curriculum – this part contained yes/no questions relating to students' experiences of the coverage of accounting topics that are set out in the CAPS for Grades 10-12. Parts B to D were answered only by students who took accounting as a subject in high school.
- Part E: Students who did not take accounting as a subject in high school – this part was specifically for students who did not have accounting as a subject in school (school accounting

is not a requirement at this university to enrol for the CA degree) and their experiences of accounting as a subject at university level. Students were also asked to give a description of their experiences and the reason(s) as to why they chose to study CA.

The second questionnaire was distributed to lecturers in accountancy programmes of SAICA-accredited universities in SA. These lecturers were selected as they experience the effects of school education on their students and can, therefore, identify the shortages of their students. This questionnaire listed various accounting topics and required participants to rate the importance of each topic using a seven-point Likert scale (1 = extremely unimportant; 7 = extremely important). This questionnaire contained 14 demographical questions, listed 43 topics included in the high school accounting curriculum and concluded with a question asking for lecturers' qualitative comments on the current high school accounting curriculum.

Validity and completeness of the questionnaires were ensured through compiling questions based on the factors identified in the literature review (which included the CAPS relating to the subject accounting) and through scrutiny of the questionnaires by research experts in the field of accounting, as well as a qualified statistician. Statistical reliability measures were also calculated and are reported in section 4.
The student questionnaire was distributed to all students attending one of the accounting lectures. The lecturers provided sufficient time during the lecture for students to complete the questionnaire.

The lecturer questionnaire was sent via email correspondence to persons who were identified from the various universities' websites as lecturers (including subject heads) involved in the subject financial accounting at the various accounting departments. The cover letter explained clearly the exact purpose and context of the study. As the school accounting curriculum does, however, include some topics and concepts that relate to, but are not purely of a financial accounting nature, these persons were requested to also forward the questionnaire to other staff in their departments who might have been interested in participating (i.e. including lecturers from other subjects in the accountancy field who felt they were in a position to comment on the school accounting curriculum in the context of how well it prepares first-year students for university). By extending the invitation, the study population was not defined rigidly in an attempt to acquire the views of as many lecturers as possible.

The lecturer responses were collected during the first half of the year. A total of 58 responses were received after a regular follow-up with each university. As the total population was flexible, it is not

possible to calculate a precise response rate, although the authors regarded 58 respondents from 13 universities as a fair level of participation.

The responses to the quantitative questions in both questionnaires were summarised on a spreadsheet and processed using the statistical software package IBM SPSS Statistics (2011). Furthermore, the qualitative comments made by each respondent were summarised to identify the different themes that emerged from them. These results are discussed in the next section.

4. Results

4.1 Demographic profile of participants

The sample of student participants was slightly dominated by female participants (55.3%), while the majority of students were white (63.1%), and African (33.3%). Students from all provinces in SA were represented at the university, although the sample was dominated by students from Gauteng with 43.0% of participants and the North-West province with 30.0% of participants. Only 8.3% of the participants did not have accounting as a subject until Grade 12. Another interesting statistic is that 96.0% of the students obtained a mark above 50% for their first accounting examination at university and 93.9% of the students passed the module on their first attempt. These statistics appear to correlate with the generally good marks the respondents obtained in Grade 12, where 55.6% of respondents achieved a mark of 70% or more in Grade 12 mathematics and 65.5% did so in Grade 12 accounting.

The lecturer respondents were predominantly from the Gauteng province (57.6%) and North-West province (28.8%). Females made up 64.0% of the sample. The highest qualifications were dominated by honours degrees (39.7%), master's degrees (35.6%) and doctorate degrees (5.1%). Lecturing experience varied considerably from novices to highly experienced lecturers. Participants appeared to be academic achievers with 84.7% of them indicating that they achieved good or excellent marks in accounting during their own studies at university. All subject areas were represented; of the 58 respondents, 56.9% represented lecturers who were involved mainly in financial accounting, whereas the other 43.1% represented lecturers who were involved mainly in other subjects in the accountancy field.

4.2 Perceptions of school accounting textbooks, curriculum and teachers

Table 1 below contains the results obtained from parts B and C of the student questionnaire.

Table 1: Descriptive statistics of some individual questions asked to students

	N	Mean (max = 5)	Std Deviation
Part B: Adequacy of school accounting textbooks and curriculum			
There were enough accounting textbooks for all Grade 12 accounting learners.	376	4.42	1.070
The accounting textbooks were generally in a good condition when I received them.	378	4.32	.944
The accounting textbooks were available in my **study** language.	378	4.69	.926
The textbooks provided sufficient guidance for me to be able to complete homework assignments.	378	4.06	1.043
The accounting textbooks were sufficient to help me prepare for tests and examinations.	378	3.80	1.078
No additional study material was provided by the teacher to supplement the material in the textbooks, as the textbook content was sufficient to meet all our learning needs.	377	2.05	1.219
The textbooks covered all the examinable topics in the **school** accounting curriculum.	377	4.21	.931
The textbooks were based on the **school** accounting curriculum.	378	4.27	.874
The textbooks were on standard when compared to my first-year university accounting textbooks.	377	3.63	1.091
The textbooks were sufficient to prepare me for first-year accounting at university.	377	3.66	1.012
The textbooks were easy to understand.	377	3.91	.951
The textbooks contained sufficient examples.	377	3.73	1.053
The textbooks were useful.	377	3.94	.937
The content of the accounting curriculum at school was sufficient to prepare me for university accounting.	377	3.75	.957
The content of the accounting curriculum at school reflected the latest developments in the subject area.	377	3.34	1.089
The content of the accounting curriculum at school must not be improved.	376	2.20	1.152
The content of the accounting curriculum at school was free of error.	375	2.76	1.114
The content of the accounting curriculum at school was difficult enough.	375	3.26	1.021
Part C: Competence of school accounting teachers			
My accounting teachers were always present in class.	377	4.28	1.067

	N	Mean (max = 5)	Std Deviation
My accounting teachers could maintain discipline in the classroom.	377	4.27	1.075
My accounting teachers were well prepared for each lesson.	377	4.30	1.055
My accounting teachers could explain difficult concepts in an understandable manner.	377	4.09	1.077
My accounting teachers could give me individual attention when I needed help with a difficult concept.	377	4.27	.952
The lessons presented by my teachers were relevant and sufficient to prepare me for tests and examinations.	377	4.19	.988
I did not need to attend extra accounting classes from a different, unrelated person to supplement my studies.	377	3.51	1.539
I did not consult various other study aids to relearn concepts I did not understand in class.	377	2.82	1.428
I am satisfied with the quality of teaching I received from my accounting teachers.	376	4.09	1.109
I regard my accounting teachers as experts in the subject.	374	4.09	1.112
I feel that my accounting teachers were sufficiently qualified to teach me the subject.	376	4.23	1.061
I feel that my accounting teachers sufficiently prepared me for the subject accounting at university.	375	3.93	1.052
My accounting teachers were competent to teach the subject.	375	4.21	.985
My accounting teachers put in a lot of effort to help students.	375	4.18	1.036
In general, the teaching methods used by my accounting teachers were effective.	375	4.05	1.043
My accounting teachers had sufficient knowledge of new developments in the subject area.	375	3.91	1.084
My accounting teachers taught me the correct principles.	375	4.21	.873
My school accounting teachers would be able to lecture first-year accounting at university.	374	3.56	1.354

The above statistics obtained from the student questionnaire are discussed under relevant headings below. It should be noted that a mean of 3 represents the middle of the five-point scale that was used, i.e. it lies in the middle of 2 (‘disagree’) and 4 (‘agree’).

4.2.1 Adequacy of school accounting textbooks and curriculum

As mentioned earlier, the majority of the student participants were white. It can therefore be assumed that the majority of the students came from schools that are better resourced and are offering higher-quality secondary education as mentioned in section 2.2. This may have an impact on the findings of this research, which are summarised below.

With a mean of 4.42 the students largely agreed that all Grade 12 learners received accounting textbooks. The students also seemed fairly satisfied that the accounting textbooks enabled them to prepare for tests and examinations (*m* = 3.80) and that all the topics in the curriculum were covered in the textbooks (*m* = 4.21). The students were, however, a bit more unsure as to whether their accounting textbooks were good quality when compared to their university accounting textbooks (*m* = 3.63) and whether their textbooks sufficiently prepared them for university accounting (*m* = 3.66). The students disagreed that the school accounting curriculum needs no improvement (*m* = 2.20) and that the curriculum content was free of error (*m* = 2.76).

From the above-mentioned it can be concluded that, although school accounting textbooks were viewed as needing improvement, students were generally satisfied with them. Therefore, it is questionable whether inadequate textbooks are a major reason for the deterioration in the quality of first-year accounting students, although the level of satisfaction was lower when students compared their school textbooks to their university textbooks and when they had to evaluate the accuracy of the school accounting curriculum content.

4.2.2 Competence of school accounting teachers

The students agreed in general that their teachers were present in class (*m* = 4.28), that they could maintain discipline in the class (*m* = 4.27) and that they were prepared for every lesson (*m* = 4.30). With a mean of 2.82, the students disagreed that they did not consult additional study aids, and a less than expected number of students did not need to attend extra classes, although opinions varied greatly in this regard (*m* = 3.51; *sd* = 1.539).

For the most part, students regarded their accounting teachers as appropriately qualified to have taught them the subject (*m* = 4.23) and they were satisfied with the quality of teaching they received (*m* = 4.09). With a mean of 3.56, however, students were less sure whether their accounting teachers would have been able to teach university accounting. The extent to which teachers prepared the students for university accounting (*m* = 3.93) and their knowledge of new accounting developments (*m* = 3.91) were also viewed in a slightly less positive light compared to the other factors.

Overall, the above results seem to indicate that, at least through the perceptions of the participating students, it is unlikely that the quality of school accounting teachers is a significant cause for the decrease in the quality of first-year CA students. In the next section the topics included in the school accounting curriculum will be investigated.

4.3 Topics in the school accounting curriculum

Part D of the student questionnaire related to topics included in the school accounting curriculum. This part of the questionnaire allowed three possible answers (yes, no or uncertain). The aim of this part of the questionnaire was to determine, through the perceptions of participating students, whether all the topics included in the CAPS were actually taught to students by teachers. The results are summarised in table 2 below.

Table 2: Coverage of topics included in the school accounting curriculum

	N	% Yes	% No	% Uncertain
Code of Ethics, for example the principles of ethical and professional behaviour by accountants like independence and confidentiality of information	369	78.5	12.8	8.7
Basic principles of the KING III code	369	48.0	26.6	25.4
General Accounting concepts for manufacturing enterprises, for example determining the cost of a product using variable and fixed costs	375	87.3	6.5	6.2
Basic VAT concepts, for example taking out VAT from a VAT inclusive amount	375	88.4	6.7	4.9
Analysis and interpretation of financial statements, for example the acid-test ratio and current ratio	375	90.6	5.9	3.5
The definition of Managerial Accounting	375	47.9	26.2	25.9
The difference between direct and indirect costs	375	88.7	7.2	4.1
Determining the break-even point	375	87.6	5.4	7.0
Identification of basic internal control processes	373	66.2	14.1	19.7
The difference between internal control and internal audit	372	67.3	14.1	18.6
Basic sampling techniques	371	36.2	34.9	28.9
Effective use of information technology in the recording of transactions of the entity	369	41.3	39.1	19.6

According to table 2, the minority (less than 50%) of the students indicated that the following topics, as prescribed in the CAPS, were taught to them in high school:

- Basic principles of the KING III code (on corporate governance);

- The definition of Managerial Accounting;
- Basic sampling techniques; and
- Effective use of information technology in the recording of transactions of the entity.

The question then arises as to why the majority of students indicated that these concepts were not taught to them. The possibility exists that teachers did not regard these concepts as important, that they were not included in textbooks, or they did not fully understand these topics themselves and, therefore, did not teach them to their learners. Some students may also not have been able to identify topics listed in the questionnaire as referring to the same content covered in high school (which may also say something about the adequacy of coverage at school level if students are unable to make the link). It is interesting to note that, from the questionnaire sent out to lecturers, it was established that participating tertiary accounting educators regarded some of these topics less important than others in preparing students for university accounting (refer to the results summarised in table 3).

Whereas the student questionnaire collected information on *coverage* of the CAPS topics in school, the lecturer questionnaire gathered the responses of accounting educators on the *importance* of such topics. As mentioned earlier, the majority of respondents represented lecturers who were mainly involved in the subject financial accounting, whereas the rest represented lecturers who were mainly involved in other subjects in the accountancy field, although it is the authors' view that the boundaries between subjects in the accountancy field are not always well defined. Table 3 below contains the results obtained from this lecturer questionnaire.

Table 3: Importance of topics included in the school accounting curriculum

	N	**Mean (max = 7)**	**Std Deviation**
The historical background on the subject area of accounting.	58	3.17	1.172
The qualitative characteristics of financial statements.	58	4.95	1.115
The definitions of the elements of the financial statements (i.e. of assets, liabilities, equity, income and expenses).	58	5.62	.952
The ability to differentiate between the elements of the financial statements.	58	5.67	.925
The accounting equation (equity = assets less liabilities).	58	5.86	.544
Preparation of a trial balance.	58	5.48	.960

	N	Mean (max = 7)	Std Deviation
The historical background on the subject area of accounting.	58	3.17	1.172
The qualitative characteristics of financial statements.	58	4.95	1.115
The definitions of the elements of the financial statements (i.e. of assets, liabilities, equity, income and expenses).	58	5.62	.952
The ability to differentiate between the elements of the financial statements.	58	5.67	.925
The ability to perform General journal entries.	58	5.76	.802
Measurement and disclosure of Inventories.	58	5.17	.841
Measurement and disclosure of Debtors, including bad debts and provision/allowance for bad debts.	58	5.21	.853
Measurement and disclosure of Creditors.	58	5.10	.931
Calculation of depreciation on Property, Plant and Equipment.	58	5.52	.863
The ability to post information from journals to the general ledger and to the financial statements.	58	5.60	.877
The ability to process accounting adjustments.	58	5.59	.795
Perform bank reconciliations.	58	5.40	.972
Understand the difference between direct and indirect tax.	58	4.40	1.270
Understand the concept of VAT (Value-Added Tax).	58	4.83	1.244
Basic VAT concepts, for example being able to take out VAT from a VAT inclusive amount.	58	4.86	1.330
Ability to account for VAT in the entity's accounting records.	58	4.69	1.379
Distinguish between invoice and payment basis in respect of VAT.	58	4.21	1.399
A basic understanding of companies' tax.	58	4.60	1.199
Understand the basic principles of STC/dividend tax.	58	3.69	1.259
Understand the basic concepts of PAYE (Pay As You Earn).	58	3.98	1.291
Be aware of the concept of Provisional tax.	58	3.84	1.281
Understand the concept of a progressive tax scale.	58	3.81	1.231
Know the difference between the different types of entities, e.g. Partnerships, Companies, Sole Proprietors, etc.	58	5.10	.931

	N	Mean (max = 7)	Std Deviation
The historical background on the subject area of accounting.	58	3.17	1.172
The qualitative characteristics of financial statements.	58	4.95	1.115
The definitions of the elements of the financial statements (i.e. of assets, liabilities, equity, income and expenses).	58	5.62	.952
The ability to differentiate between the elements of the financial statements.	58	5.67	.925
Explain the difference between managerial and financial accounting.	58	4.47	1.203
General accounting concepts for manufacturing enterprises, for example determining the cost of a product using variable and fixed costs.	58	4.43	1.171
Analyses and interpretation of financial statements, for example calculating the acid-test ratio and current ratio.	58	4.95	1.099
Discuss the impact of the above-mentioned types of ratios on financial decisions.	58	4.79	1.210
The definition of Managerial Accounting.	58	4.09	1.302
The difference between direct and indirect costs.	58	4.36	1.252
Determining the break-even point.	58	4.34	1.193
Calculate the value of inventory using the FIFO (first-in-first-out), LIFO (last-in-last-out) and weighted average methods.	58	4.72	1.039
Prepare a budget.	58	4.52	1.203
Code of Ethics, for example the principles of ethical and professional behaviour by accountants like independence and confidentiality of information.	58	4.22	1.439
Ability to discuss disciplinary procedures when the Code of Ethics is not abided to.	58	3.71	1.364
Be aware of the existence of the King Code.	58	3.86	1.515
Effective use of information technology in the recording of transactions of the entity.	58	4.16	1.387
Identification of basic internal control processes.	58	4.00	1.364
The difference between internal control and internal audit.	58	3.72	1.399
Interpretation of internal audit reports.	58	3.46	1.452

	N	Mean (max = 7)	Std Deviation
The historical background on the subject area of accounting.	58	3.17	1.172
The qualitative characteristics of financial statements.	58	4.95	1.115
The definitions of the elements of the financial statements (i.e. of assets, liabilities, equity, income and expenses).	58	5.62	.952
The ability to differentiate between the elements of the financial statements.	58	5.67	.925
Basic procedures of gathering audit evidence.	58	3.46	1.465
Basic sampling techniques.	58	3.29	1.499

The above statistics are discussed below. It should be noted that a mean of 4 represents the middle of the seven-point scale that was used, i.e. it lies in the middle of 1 ('extremely unimportant') and 7 ('extremely important').

The table above indicates that the lecturers regarded the topic of the historical background on the subject area of accounting as the least important of the topics listed in the questionnaire (m = 3.17). Not far behind, all the topics relating to auditing, i.e. sampling techniques (m = 3.29), interpretation of internal audit reports (m = 3.46), the basic procedures of gathering audit evidence (m = 3.46) and the difference between internal control and internal audit (m = 3.72) were also not regarded as important topics by lecturers to be taught to high school students. Tax concepts relating to STC/dividends tax (m = 3.69), PAYE (m = 3.98), understanding the concept of a progressive tax scale (m = 3.81) and awareness of provisional tax (m = 3.84) were also regarded as less important when compared with other accounting topics listed in the questionnaire.

The topics relating to the discussion of disciplinary procedures when the Code of Ethics is not abided to (m = 3.71) and learners being aware of the existence of the King Code (m = 3.86) were also not regarded as important topics by the lecturers.

Lecturers regarded the basic concept of the accounting equation (equity = assets – liabilities) as the most important topic that students should be taught at school (m = 5.86). The definitions of the elements of financial statements (i.e. of assets, liabilities, equity, income and expenses) (m = 5.62) as well as the ability to differentiate between the elements (m = 5.67) were also regarded as very

important by the respondents. These topics represent the most basic topics in the subject accounting. The ability of students to perform general journal entries (m = 5.76), to post information from journals to the general ledger and financial statements (m = 5.60) and to process accounting adjustments (m = 5.59) are also important topics that the lecturers felt students should learn while at school. In the topics relating to VAT, managerial accounting and ethics, respondents had a more neutral response, with means ranging between 4.21 and 4.47.

If the results of table 2 and 3 are considered together, it seems that some of the topics which students indicated as not being taught to them at school (provided they understood what all the questions referred to) were not regarded by lecturers as extremely important for the subject of accounting at school. In addition, there were other topics that were indeed covered in schools which were not regarded as particularly important by tertiary accounting educators. As can be seen from the discussion above, the majority of these less important topics related to topics or concepts that are not viewed as purely of a financial accounting nature. As mentioned earlier, the majority of respondents were involved mainly in the subject financial accounting at their respective universities. To check for possible bias in the responses as a result of this, a detailed analysis was performed using only the responses from lecturers who were not mainly involved in this subject. This indicated that these lecturers also did not regard these topics as important in the school accounting curriculum. Of the 20 topics that were ranked the lowest overall, only one topic fell outside the lowest 20 of the lecturers not mainly involved in financial accounting (this topic was ranked the 21st lowest topic by this group of participants). The other topics in the lowest 20 overall were also in the bottom 20 of the lecturers not mainly involved in financial accounting.

4.4 Data reduction

To make the large number of variables more manageable, a confirmatory principal components factor analysis was performed, using IBM SPSS (2011), on each group of questions on textbooks, curriculum and teachers in the questionnaire given to students. According to Tabachnick and Fidell (2007), a sample size of at least 150, but preferably 300, is required to perform a factor analysis. The sample size of this study was 412 responding students. Nunnally's (1978) suggested ratio of at least 10 cases per item has also been met. The Kaiser-Meyer-Olkin Measures of Sampling Adequacy (MSA) exceeded the minimum recommended value of .6 (Kaiser, 1974; Tabachnick & Fidell, 2007; Pallant, 2007), and Bartlett's (1954) test of sphericity reached statistical significance for all groups of questions, supporting the factorability of the data.

An inspection of communalities revealed that three questions did not fit in well with other questions; this was confirmed by the authors' through inspection of the wording of these questions. Thirty-three of the 36 questions that were subject to factor analysis were, therefore, reduced into five components as per table 4 below.

Table 4: Results of factor analysis

Component	Variance explained	MSA	Cronbach alpha
Usefulness of textbooks (7 items)	59.5%	.915	.884
Physical/practical constraints of textbooks (availability, condition and curriculum coverage) (5 items)			.811
Adequacy of school accounting curriculum in preparation for university (3 items)[1]	55.8%	.614	.602
Competence of school accounting teachers (16 items)	67.6%	.965	.964
Necessity for additional study aids (3 items)			.709

The means of all components were calculated as the average means of individual questions belonging to each component. Descriptive statistics for each component of the questionnaire are presented in table 5 below.

Table 5: Descriptive statistics of components identified in factor analysis

	N	Mean	Std Deviation
Usefulness of textbooks (7 items)	378	3.82	.787
Physical/practical constraints of textbooks (availability, condition and curriculum coverage) (5 items)	378	4.38	.717
Adequacy of school accounting curriculum in preparation for university (3 items)	377	3.28	.788
Competence of school accounting teachers (16 items)	377	4.12	.856
Necessity for additional study aids (3 items)	377	2.84	1.31

[1] Cronbach alpha is not more than the suggested .7; however, Pallant (2007:95), Field (2005:668) and Cortina (1993) advise that smaller values for Cronbach's alpha coefficient can be expected with short scales (e.g. scales with fewer than ten items). In such a case, it may be more appropriate to report the mean inter-item correlation for the items. Briggs and Cheek (1986) recommend an optimal range for the inter-item correlation of .2 to .4. The mean inter-item correlation for the three questions in this factor was .336; this is a medium effect and within the range suggested by Briggs and Cheek. Therefore, it is reliable to report these three questions as one factor.

From table 5 above, the following results were clear:

- In general, students found textbooks used at their respective schools sufficient and useful (*m* = 3.82);
- The availability, condition and curriculum coverage of textbooks were even less of a problem when compared to the usefulness of textbooks (*m* = 4.38);
- However, a large percentage of students (36.8% of respondents), but not the majority, agreed that the curriculum for accounting was not adequate to prepare them for university accounting (*m* = 3.28);
- In general, students agreed that their accounting teachers were competent enough to teach the subject (*m* = 4.12);
- It seems as if most students did not need additional study aids for accounting at high school level to assist them in mastering the subject (*m* = 2.84), but there was a wide range of opinions on this matter as can be seen from the fairly large standard deviation of 1.31.

4.5 Comparison of student groups with different demographical profiles

Vital information can also be obtained by comparing the means between different demographic groups within the sample of this research study. Owing to the nature of the data, independent-samples t-tests (sections 4.5.1 and 4.5.2) and cross tabulations (section 4.5.3) were performed to compare the variables and statistical significance (Sig values/p values) are reported.

Effect sizes were also calculated in order to assess the practical importance of the findings and support results obtained from measures of statistical significance. (The sample consisted of all attending students, which may not represent a fully random sample, although class attendance at the university for this subject is very high in general.) Steyn (2000) suggests that the effect size (denoted by *d*) should be calculated as the difference between the means divided by the maximum standard deviation of the two groups that are compared in the case of t-tests. In the case of cross-tabulations, the effect size was measured with reference to the Phi coefficient.

Cohen (1988) and Pallant (2007) provide the following guidelines for the interpretation of these effect sizes:

- Small effect = .2
- Medium effect = .5
- Large effect ≥ .8 (and also practically significant)

The comparison for the five variables identified through factor analysis, as well as for one other important individual item, is reported in the remainder of this paper.

4.5.1 Comparison of African and white students

A comparison was done according to race, i.e. African and white students. This comparison was drawn due to the significant differences between historically black schools and more privileged schools, as identified in the literature review in section 2.2. The results are summarised in table 6 below.

Table 6: Comparison of perceptions of black and white students

Component	Black students			White students			Sig. (2-tailed, if a random sample is assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
Usefulness of textbooks	116	3.52	.754	248	3.98	.746	.000*	.600
Physical/practical constraints of textbooks (availability, condition and curriculum coverage)	116	4.13	.793	248	4.51	.624	.000*	.485
Adequacy of school accounting curriculum in preparation for university	116	3.14	.793	247	3.36	.785	.015*	.274
Competence of school accounting teachers	116	3.86	.844	247	4.26	.808	.000*	.477
Necessity for additional study aids	116	3.22	1.21	247	2.65	1.294	.000*	.443
Curriculum difficult enough	114	2.83	1.05	247	3.45	.961	.000*	.592

* Significant at the $p < .05$ level, if a random sample is assumed.

The following differences in means revealed noticeable effect sizes:

- African students' perceptions of the usefulness of textbooks were more negative ($m = 3.52$) than those of the white students ($m = 3.98$). This can be regarded as a medium effect ($d = .600$). It may signal that textbooks used in historically black schools are outdated, not on standard and/or less useful to black students when compared to those at former "white" schools.

- African students held more negative views about the practical/physical constraints of textbooks (*m* = 4.13) than white students (*m* = 4.51). With *d* = .485, this is regarded a medium effect.
- Regarding the difficulty of the accounting curriculum in high school, the majority of African students felt that the curriculum was not difficult enough (*m* = 2.83), whereas more white students held the opposite view (*m* = 3.45). This can be seen as a medium effect (*d* = 5.92).

4.5.2 Comparison in terms of students' first year accounting marks at university

A comparison of means was drawn between students who obtained high marks for accounting at university (regarded as 60% or more, based on the authors' experience as accounting educators) and students who did not obtain such high marks (59% and below).

Table 7: Comparison of students in terms of their first year accounting marks

Component	**60% or more**			**59% and below**			Sig. (2-tailed, if a random sample is assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
Usefulness of textbooks	267	3.86	.816	110	3.72	.703	.133	.164
Physical/practical constraints of textbooks (availability, condition and curriculum coverage)	267	4.42	.759	110	4.30	.599	.152	.153
Adequacy of school accounting curriculum in preparation for university	266	3.31	.808	110	3.22	.737	.270	.122
Competence of school accounting teachers`	266	4.16	.899	110	4.01	.728	.113	.171
Necessity for additional study aids	266	2.69	1.32	110	3.19	1.22	.001*	.377
Curriculum difficult enough	265	3.30	1.02	109	3.17	1.03	.287	.121

* Significant at the p < .05 level, if a random sample is assumed.

Only one difference in means had a noticeable effect size. Students with lower first-year accounting marks regarded the use of additional study aids as more of a necessity (*m* = 3.19) than students who obtained higher marks (*m* = 2.69). The effect is, however, only small to medium (*d* = .377).

4.5.3 Comparison of students who had accounting as a subject in high school to those who had not

The cross-tabulation between the students' university accounting marks and whether they had accounting in high school revealed that, of the students who had accounting as a subject at school, only 2.9% of them failed accounting in their first semester at university. However, for the students who did not have accounting as a subject at school, the failure rate was 21.9%.

It can be concluded that students who did not have accounting as a subject at school were statistically prone to achieve lower university accounting marks compared to those who did have the subject ($p < .0001$, if a random sample is assumed), even though the practical effect is quite small (Phi = 2.70).

4.6 Qualitative comments obtained from students who did not have accounting in high school

The questionnaire given to students included two qualitative questions to students who did not have accounting as a subject in high school. The questions were as follows:

1. Please give a short description of your experience of the first semester of accounting at the university.
2. Please provide your reasons for choosing to study chartered accountancy.

A comparison was drawn between the different races of the students who did not have accounting as a subject in school. From this, it was noted that 61.8% of the students who did not have accounting were African, 35.3% were white and 2.9% were Indian.

For the first question, the majority of students indicated that they found the subject both challenging and confusing at times. They commented that a great deal of hard work is needed to pass the subject. Some of the students attended an accounting bridging course before attempting the subject. These students felt that the pace at university is much quicker than the bridging course and that it was difficult at times to keep up with the work.

Of the 34 students who did not have accounting as a subject in high school, 13% indicated that school accounting should be made a compulsory admission requirement for students who wish to study CA. They commented that the subject would have been easier if they had a solid accounting background.

One student even commented that university lecturers present the subject on the assumption that every student has a basic understanding of the subject.

The main motivations students gave for studying CA (question 2), were because it is a career with high earning potential and many job opportunities. Another equally prominent reason given by students was the fact that they believed there is a shortage of black, qualified chartered accountants in SA. Family influences were also cited as playing a role in the students' choice of career.

4.7 Qualitative comments obtained from lecturers

Lecturers were asked in their questionnaires to provide additional comments or suggestions regarding the subject accounting at high school level. The lecturers gave a very wide range of comments and suggestions of which the most prominent are summarised below:

- The topic of VAT is included in school textbooks from Grade 8, but when students enter university they seem to be unfamiliar with the topic. More lecturing time on the topic has to be provided to ensure that the students understand it.
- Some lecturers felt that students are being coached at school to pass Grade 12 examinations, instead of being taught to think critically and logically about concepts.
- School accounting should focus on basic concepts, for example, the accounting equation and identifying differences between the elements of financial statements, and students should be taught why they are processing a particular transaction.
- One lecturer commented that high school teachers do not keep up with changes in the subject and that a great deal of lecturing time is spent on 'un-teaching' concepts taught to students at school.
- Lecturers commented that students do not understand how journal entries affect financial statements.
- Another lecturer commented that students should be made aware of the International Financial Reporting Standards (IFRS) and the Companies Act on a basic level.

From the results obtained and documented above, conclusions on the study will be drawn and recommendations made in the section that follows.

5. Conclusions and recommendations

Based on the literature review, various reasons were identified for the deterioration in the quality of first-year accounting students in SA. One possible reason is the apparent gap between school and university accounting education, especially in respect of curriculum, teaching quality and textbooks. This study investigated this gap using questionnaires provided to first-year CA students as well as to lecturers from accounting departments across the country, adding to the limited research on these topics in an accounting context in SA. The study makes an original contribution to accounting education literature as it is likely the first study in SA that scientifically investigates university accounting students' perceptions of the quality of high school accounting education, which is of obvious practical value for accounting educators, government and professional bodies seeking to find solutions to the declining university pass rates.

The results of the study suggest no single specific reason for the apparent deterioration in the quality of first-year CA students. The study found that a fairly large percentage (36.8%) of students agreed that the school accounting curriculum was not sufficient to prepare them for university accounting (the majority of these students being African students). African students also held more negative perceptions about the usefulness and physical constraints of textbooks, but the study did not find this to be a limitation overall. Literature revealed that textbooks and other resources in rural schools are mostly outdated, unavailable to learners, or in unusable conditions (Samoff, 2001). This supports the study by Barnes et al. (2009) who indicate that the high failure rate of first-year accounting students occur primarily in students from designated groups. This might be ascribed to the higher absenteeism and occurrences of strikes by educators in township schools (Kohler, 2012). Another interesting result was that 61.8% of the students who did not have accounting as a subject in high school were African. More focus should, therefore, be placed on improving accounting education and encouraging students to take accounting in historically black schools.

It was further observed that 21.9% of the students who did not have accounting as a subject in high school did not pass the subject in their first semester at university, which was significantly higher than their peers who did take accounting at school level. Thus, both SAICA and universities should consider making school accounting a compulsory admission requirement for students who wish to study CA at university or ensure that students who did not have the subject at school complete an appropriate accounting bridging course at university. This is supported by a study by Rankin, Silvester, Vallely and Wyatt (2003) who commented that high school accounting is beneficial to the

performance of students in first-year accounting if there is a close association between the two curricula (Barnes et al., 2009).

Less than half of the participating students indicated that certain topics in the school curriculum were taught to them at school, including the King III code on corporate governance, managerial accounting, audit-sampling techniques and the use of information technology in the subject. These topics were added to the school curriculum only recently. When compared to results obtained from the lecturers' questionnaires, topics relating to auditing and the King Code were also not regarded as important topics. From this it is recommended that the school accounting curriculum be adjusted to focus on the basic concepts of the subject area and build a strong foundation for learners so that they are able to successfully cope with university accounting curricula and assessment. More specialist topics relating to auditing, ethics and advanced taxation can be the focus of universities where these subjects are taught separately and the lecturers have the knowledge and experience to present these subjects appropriately.

Therefore, it can be concluded that there is at least some merit in the literature condemning problems in high school accounting education, especially among African students who participated in this study. The study confirms that the impact of apartheid still lingers in the SA education system, in particular regarding the quality of matriculants produced. The only way forward is for both universities and the DoBE to work together to overcome the problems facing accounting education and to ensure that a better quality student is produced to enter university.

The DoBE should be made aware of the requirements of universities regarding the content of specific subjects, such as accounting, and how to effectively implement these requirements into the school curriculum. It is suggested that universities and the DoBE schedule annual meetings for various subject groups to ensure these needs are being met and for the universities to give feedback to the DoBE on whether the changes implemented are making a difference to the quality of first-year students who enter university. Implementing these suggestions might be a strenuous and expensive procedure initially, but the benefits will be so much greater, as the country should then have better qualified and equipped students entering university and then practice. This can, in turn, have a positive effect on the country's economy.

6. Limitations of the study

The study was limited by the fact that the minority of students were from designated groups where, it seems, SA accounting education faces its biggest challenges. The reason for this is the fact that this university predominantly still attracts Afrikaans-speaking students, whereas it seems most black students would prefer to study in English. Moreover, the first-year students at the university had more positive responses to the questionnaires than was expected, possibly due to the fact that they achieved very high marks in their Grade 12 mathematics and first-semester accounting examination and, therefore, perceived high school accounting as better preparation for university accounting than might have been the case if they achieved lower marks. These high marks could also have affected the overall responses given by the students.

Another factor to consider is that the 58 lecturer respondents did not represent a fully random sample and hence their views cannot necessarily be generalised to the total population of all lecturers involved in the accounting departments at the selected universities – as such, their views should be interpreted in this context. Also, an equal representation of lecturers from all the subjects in the broader accountancy field might have yielded different results. It is suggested that future research addresses the limitations of this study. However, regardless of these limitations, the study sheds some light on the state of school accounting and the areas that appear to be of a greater concern than others, which present a useful base for further research and which should aid in continuing this very important debate.

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Chapter 3 (Article 2)

University versus practice: Identifying skills shortages that exist in first-year trainee accountants in South Africa

Title: University versus practice: Identifying skills shortages that exist in first-year trainee accountants in South Africa

The reader is requested to take note of the following:

- This article has been submitted for publication to the following IBSS indexed, peer-reviewed and Department of Higher Education and Training accredited academic journal as follows:

  Van Romburgh, H. & Van der Merwe, N. 2013. University versus practice: Identifying skills shortages that exist in first-year trainee accountants in South Africa. *Industry & Higher Education*, unpublished. (ISSN 0950-4222).

- The article was researched and written by the first author as the candidate. The second author, as the study leader, fulfilled a 'reviewer' function. Estimated weightings of contribution are as follows:

  * Van Romburgh, H. (90%)

  * Van der Merwe, N. (10%)

- Confirmation of receipt of the article from Industry & Higher Education has been received and is presented as part of **Annexure D.2** on page **113.** The article was written and formatted in line with the journal's submission guidelines, which are included as part of **annexure E.2** on page **116 - 117**.

Abstract

This study aimed to determine the skills shortages in first-year trainee accountants entering practice in South Africa and to recommend ways to improve such shortages. Questionnaires were administered to registered audit firms in the Gauteng Province, South Africa in which the perceptions of trainees, managers and partners on the skills shortages in first-year trainee accountants were gathered. The overall feeling of respondents seemed to be that universities do not sufficiently equip first-year trainees with the skills to be successful in practice, especially professional communication and a lack of exposure regarding computer accounting software packages. Professional bodies and universities should work together to overcome skills shortages.

Keywords

Skills

Accounting education

Audit firms

South Africa

Trainee accountants

Accounting practice

1. Introduction

Accounting education is faced with many challenges globally and accounting professionals seem to be increasingly concerned that recent accounting graduates do not meet the high standards set by potential employers (Clovey and Oladipo, 2008; Bui and Porter, 2007). This is a pertinent research topic, especially as research conducted in South Africa (SA) on the skills required by trainee accountants is limited (Barac, 2009). To date, only a single scientific, peer-reviewed study has been performed to determine whether the education of SA trainee accountants meets the expectations set by practitioners. This study by Koornhof and Lubbe (2002) concluded that, in general, the technical and theoretical knowledge of first-year accounting trainees was sufficient, but that the trainees faced problems in applying this knowledge in practice (Barac, 2009). Some participants voiced their concern about the shortage of basic accounting knowledge among trainees – even at the level of the Certificate in the Theory of Accounting (CTA) and honours degree (Barac, 2009; Koornhof and Lubbe 2002).

The problem could be the tendency of SA universities to focus heavily on chartered accountancy (CA) students' technical ability while perhaps failing to provide students with the basic skills required by practitioners. Wilson (2011) purported that universities on their own are unable to generate competent practitioners, as certain competencies can be obtained only in the workplace. Gammie *et al.* (2002), however, noted that universities can embed certain skills in accounting graduates during their studies.

Wilson *et al.* (2009) focused on the roles of universities, accounting bodies and practitioners in developing accounting professionals. The Accounting Education Change Commission (AECC) sees '... the role of university as being to prepare students to **become** accountants, whereas the role of professional training is to prepare trainees to **be** accountants'. Yet, there are still continued pleas for improved soft skills development in accounting graduates (e.g. Du Preez and Fossey, 2012; Rhodes,

2012; Clovey and Oladipo, 2008; Duff and McKinstry, 2007). This article contributes to this need by identifying the perceptions of SA practitioners in small, medium and large auditing firms regarding the skills shortages in first-year trainee CAs and by offering recommendations on how these shortages can, at least partly, be addressed at university level, which should be of interest to accounting educators and professional bodies alike.

The objectives of this study are as follows:

- To determine which skills shortages exist in South African CA students entering practice.
- To recommend ways to improve the skills development of CA students at university level.

For purposes of this study, 'entering practice' means the start of the three-year training period required by professional accountancy bodies after completing the academic (university) programme accredited by the South African Institute of Chartered Accountants (SAICA). The objectives above were investigated through empirical research in the form of questionnaires administered to several small, medium and large registered audit firms in the Gauteng Province, SA. This province was selected because it is home to the largest metropolitan areas and the main business centres of South Africa; consequently, the largest population of audit firms are situated in this province (IRBA, 2012). The questionnaires were completed by trainee accountants, managers and partners in the firms and, in this way, the researcher gathered views from different perspectives.

The article is structured as follows: First, the relevant literature on the research topic will be reviewed, followed by a description of the research method. The findings are discussed and summarised, conclusions are drawn and direction for further research are suggested, while recognising the limitations of the study.

2. Literature overview

During the past years, accounting education has been in the limelight for many reasons such as course content and curricula; teaching approaches; staff's knowledge and capability to offer significant guidance; the employability and readiness of graduates; students' exposure to information technology and its application in practice; and, most importantly, the rigour and significance of curricula in today's intricate corporate environment (de Villiers, 2010; Rubin and Dierdorff, 2009; Birrell, 2008; Navarro, 2008; Albrecht and Sack, 2000).

The following sections explore specific problems in accounting education at tertiary institutions in SA and abroad, and discuss skills shortages in first-year trainee accountants that audit training firms are dealing with.

2.1 Effects of the stagnating accounting curricula

Various articles have reported on the need for accounting education programmes to respond to the rapid changes taking place in practice. Members of accounting faculties and administrators at universities need to understand how the higher education environment is evolving so that adequate responses to changes in practice can be developed. Fast changes in economic environments have challenged the competencies (technical knowledge, skills and attitudes) of professional accountants (Barac, 2009). Accounting curricula at Higher Education Institutions (HEIs) should ensure that accounting graduates are skilled and equipped to become competent chartered accountants (Gonzalo and Garvey, 2005). Ideally, accounting curricula should be revised regularly through an assessment of business requirements, and applications of these revisions need to meet the new requirements (IFAC, 2003; Barac, 2009).

Studies (de Villiers, 2010; Barac, 2009; Rebele 2002; Albrecht and Sack, 2000; AECC 1990) have reported on various ineffective attempts to change accounting education programmes. Too many changes have been made for the sake of making them, without giving thought as to how effective such changes will be for improving accounting education over the long haul (Barac, 2009; Gammie *et al.*, 2002; Rebele, 2002; Albrecht and Sack, 2000). Although change is a necessity, accounting educators have not taken into account the need for an inclusive understanding of the environment of accounting education. Furthermore, the assessment of the effectiveness of change processes and changes that are made has been unsatisfactory (Barac, 2009; Rebele, 2002; Albrecht and Sack, 2000).

The primary cause of the problems in accounting education is that accounting students are taught the newest corporate viewpoints and 'best practices', but these are not applied to the teaching programmes (de Villiers, 2010; Wessels, 2004; Rebele, 2002). A dynamic curriculum that adapts to the changing requirements of the profession is, therefore, critical as the curriculum has a direct impact on the skills and competencies developed in accounting graduates, including the soft skills that are essential to the profession (de Villiers, 2010; Clovey and Oladipo, 2008; Wessels, 2004).

2.2 Underdevelopment of soft skills in first-year CA trainees

De Villiers (2010) pointed to a gap between academic studies for accounting graduates and professional accountancy practices. Specifically, the gap lies between the 'soft' or 'transferable' skills required by firms, recruitment experts and accreditation bodies, which are not sufficiently taught to accounting students at university. These skills not only differentiate outstanding leaders and managers, but can also be positively correlated to strong performance at all other levels of professionals.

Accounting educators internationally are being advised to revise curriculum in order to produce accounting students with a broad set of skills and attributes (Kavanagh and Drennan, 2008). Research conducted in SA evidenced that the current SA education system might not be supplying chartered accountants who are able to apply their newly attained knowledge and skills to the work environment (de Villiers, 2010; Coetzee and Oberholzer, 2009). This claim is substantiated by a study on employers' demands for 'core competencies' necessary for graduate employability, which included 'hard' business-related knowledge and skills; 'soft' business-related skills and competencies; and prior 'on the job' experience (de Villiers, 2010; Andrews and Higson, 2008). The greatest gaps between the expectation of prospective employers and that which is delivered by universities were identified in accounting software skills, self-promotion/motivation, negotiation, leadership and customer service (Kavanagh and Drennan, 2008).

Educators need to move from teaching rules and to teaching concepts of accounting and enhancing practical skill, which should provide students with a basis from which to comprehend and remember the rules better. In addition, this will facilitate other generally stated goals of accounting education, such as developing thinking abilities, communication and problem-solving skills, and the capability for life-long learning (Jennings, 1998), which is also supported by SAICA's (2010) competency framework. SAICA (2010) is a prominent professional accountancy body in SA and developed the competency framework that outlines all competencies expected from a CA at point of entry to the profession.

Green *et al.* (1999) argued that the true test of a good curriculum is whether it prepares students for a career in business by developing soft skills such as communication skills, teamwork and interpersonal skills, decision-making and problem-solving skills, technological skills, information development and distribution skills, leadership skills, and professionalism.

Du Preez and Fossey (2012), Cheng (2007), and Zaid and Abraham (1994) confirmed that strong communication skills are essential to the accounting profession, as well as the ability to communicate and explain accounting concepts to non-accountants. They noted that university curricula enable students to communicate effectively with fellow accountants, but that no skills are developed to communicate with non-accountants (De Lange *et al.*, 2006; Zaid and Abraham, 1994). Stone and Shelley (1997) stated that university lectures should be changed to an 'educating for expertise' methodology emphasising the growth of intellectual skills and attitudes of accounting students (de Wet and van Niekerk, 2001).

2.3 Skills requirements from the perspectives of different training providers

Training providers for CA graduates in public practice can be categorised into small, medium and large firms. Trainees gain experience according to the size and client base of firms (Joubert *et al.*, 2009; SAICA, 2010). Small firms offer a variety of services, including tax planning, and trainees working in these firms gain experience in a client's entire business in general. Small firms are often community based and entrepreneurs are their main clients, but they may have local retailers and manufacturers, small- to medium-sized companies, close corporations and private individuals as clients (Joubert *et al.*, 2009; SAICA, 2010). Medium firms have a similar client profile, their clients ranging from independent businesses to household-name companies covering a wide range of products and service sectors (Joubert *et al.*, 2009; SAICA, 2010). Large firms employ the most graduate trainees each year, and training in these firms provides trainees with experience in and knowledge of how businesses function. Trainees may be exposed to some of the world's best-known companies, across a range of industries. The working environment is team oriented and often specialised, with greater exposure to complex transactions (Joubert *et al.*, 2009; SAICA, 2010).

According to de Villiers (2010) and Poe and Bushong (1991), curricula changes focus mainly on the requirements of large firms and not as much on small and medium firms.

In conclusion, different size training firms may require different skills from their trainees, although it is argued that the basic skills set required should be the same or similar. These skills will be explained further in this study.

3.3 Methodology

The research method consists of a literature review and an empirical study. Relevant and recent literature has been consulted to establish a theoretical base for the empirical study, which took the form of a questionnaire with quantitative and qualitative questions.

The researcher developed the questionnaire following the themes that emerged from the literature review, including the required skills in SAICA's (2010) competency framework. This framework has determined levels of proficiency for each competency within all the competency areas. SAICA (2010) defines the levels as follows:

- Level A: The student is expected to have an awareness of the key ideas and principles in the specific area.
- Level I: The student is expected to demonstrate an understanding of the requirements of the task.
- Level X: The student is expected to complete all elements of the task and have an advanced understanding of the area.

The questionnaire consisted of nine demographic questions and eighteen questions aimed at gathering the opinions from various levels of staff at audit firms on the skills shortages experienced by first-year CA trainees when entering practice.

The nine demographic variables included the size of the firm, the respondent's position in the firm, the qualification of the respondent, and the number of years he/she has been employed by the firm. Questions 10 to 23 focused on the participants' experience of the level of skills with which universities equip first-year trainees. These questions were measured using a five-point Likert scale (1=strongly disagree; 5=strongly agree). The content of the questions was deemed valid, as the statements related to specific documented skills with which the SAICA competency framework requires universities to equip trainee accountants when entering practice at a proficiency level X, i.e. the highest level. It afforded respondents the opportunity to gauge (based on their perceptions and experience in practice) whether the skills development requirements at university level of the competency framework have been met. These skills were selected based on the skills shortages identified in section 2. The remainder of the questionnaire (questions 24 to 27) were open-ended and required participants to give qualitative comments on the role of universities in preparing first-year CA trainees for practice; the specific skills shortages in trainees at the point of entering practice; and recommendations for improving these skills shortages. To further ensure its validity and reliability, the questionnaire was scrutinised by subject specialists in the accounting education field, as well as by a qualified statistician, before it was administered to the participants. Owing to the nature of the study, results will be analysed on a question-by-question basis, i.e. they are not reduced into a smaller number of dimensions.

The target population consisted of assurance staff (partners, managers and trainee accountants) in small, medium and large firms registered with the Independent Regulatory Board of Auditors (IRBA) in Gauteng. This province was selected because it is home to the largest metropolitan areas and the

main business centres of South Africa; consequently, the largest population of audit firms are situated in this province (IRBA, 2012).

A list of the total population of audit firms in the province with their contact details was obtained from the IRBA's website. An email was sent to all firms in the province (a total of 290 IRBA-registered firms) with an online link to the electronic questionnaire, and responses were collected during the first half of the work year. A total of 104 respondents completed the questionnaire after regular follow-up correspondence with all non-responding firms. These respondents represent 49 firms to whom the questionnaires were sent. The respondents comprised 63.7% from small, 27.5% from medium and 8.8% from large audit firms. The answers to the quantitative questions were summarised on a spreadsheet and processed using the statistical software package IBM SPSS Statistics (2011). The qualitative comments from each respondent were summarised to identify the different themes that emerged from them.

Even though the response rate appears low, as only 16.9% of firms responded to the questionnaire, it is in line with other related studies. For example, a study by Barac (2009) to 'determine training officers' perceptions of the knowledge and skills requirements of entry-level trainee accountants' had a rounded response rate of 16%. Similarly, a study by SAICA (2010) for a needs analysis report had a response rate of a mere 14.5%. Also, Francis and Minchington's (1999) study relating to an expectation gap between the education and practice of accountants had a low (but acceptable) response rate of 8.5%.

Severe time constraints experienced by staff at the firms may have been the cause for the less than desirable response rate, which appears to be especially evident in the low participation by large firms. It was, however, decided to include the responses from the large firms in the analysis of results due to the fact that this increases the responses as a whole and that SAICA has the same skills requirements for all clerks, irrespective of the size of the training office. To be prudent, the results below will not be

generalised to the total population of audit firms in Gauteng, but confined to the specific participants. Although statistical significance (Sig values/p values) are reported for the sake of completeness, results are interpreted based on practical significance (effect sizes) only as they apply to the participants. Regardless of this limitation, the results still provide valuable insight into the views of staff of audit firms regarding the skills gap in first-year CA trainees, especially from smaller firms, as they constituted the bulk of the participants.

4. Results

4.1 Demographic information

The following demographic information was gathered by analysing the data from the questionnaire:

Forty-three of the participants were qualified CAs registered with SAICA, which represents 41.3% of the participants. Most trainee accountants would not yet be qualified CAs. Two respondents neglected to indicate their qualification.

Of the 104 respondents, 35 were partners at their current firms, 16 were managers and 51 were trainee accountants. Two respondents were staff managers and were removed from the sample as the questionnaire was not applicable to them, reducing the total respondents to 102. From the 51 trainee accountants, nine were first-year trainees. The study population, therefore, mainly consisted of senior staff members (including senior trainees) at the respective firms, signaling that respondents, in general, had an appropriate level of experience to complete the questionnaire. The total number of years that respondents have been working at their respective firms ranged between zero and 42 full years, the average being seven years. However, even first-year clerks were in a position to gauge the level of their own skills and readiness for practice at the time they entered the work environment, which occurred earlier than when the questionnaire was distributed.

4.2 Descriptive statistics

Table 8 presents descriptive statistics for questions 10 to 23 of the questionnaire which dealt with the participants' experience of the level of skills with which universities equip first-year trainees.

Table 8: Descriptive statistics on the skills with which universities equip first-year trainees

	N[Δ]	**Mean**	**Std Deviation**
First-year trainees are equipped by universities with the necessary skills to function in practice	95	2.57	1.053
First-year trainees generally adapt well to the working environment	95	3.12	.914
First-year trainees can communicate professionally	95	2.69	1.037
First-year trainees work well in a team	95	3.62	.816
First-year trainees can make ethical decisions in challenging circumstances	95	3.03	1.031
First-year trainees demonstrate a high level of technical expertise	95	2.62	1.156
First-year trainees are able to make sensible judgements	95	2.58	.910
First-year trainees can think for themselves	95	2.57	.968
First-year trainees place the interests of the client and their employer before their own self-interest	95	2.98	1.047
First-year trainees perform work to a high standard of quality	95	2.66	.934
First-year trainees treat others respectfully, courteously and equitably	95	3.61	.865
First-year trainees demonstrate intellectual ability and the ability to apply themselves	95	3.08	.924
First-year trainees are equipped to be life-long learners to adapt to the fast pace of change	95	3.09	.958
First-year trainees are able to determine the extent of testing needed in audits	95	2.23	.859

[Δ] Seven respondents did not fully complete the questionnaire and have been excluded from the analyses.

It should be noted that a mean of 3 represents the middle of the five-point scale that was used, i.e. it is in the middle of 2 (disagree) and 4 (agree).

The skills stated above form part of SAICA's competency framework and represent only some of the skills SAICA expects universities to equip their students with. Table 8 reveals the main problem identified by the respondents as that first-year trainees are unable to determine the extent of testing needed in audits (m = 2.23). With a mean of 2.57, the respondents felt that universities do not equip first-year trainees with the skills to be successful in practice. They also expressed the overall feeling that first-year trainees 'cannot think for themselves' (also m = 2.57).

In general, the respondents felt that first-year trainees are unable to make sensible judgements when faced with problems in practice (m = 2.58). After completing their studies, one would expect first-year trainees to be at the peak of their technical knowledge, but most respondents disagreed (m = 2.62). With a mean of 2.66, it was found that first-year trainees did not perform work to a high standard based on the view of respondents. With a mean of 2.69, most respondents also had a negative perception of the trainees' ability to communicate professionally. The participants, however, felt that trainees, in general, work well in a team (m = 3.62), which is a critical skill in an audit environment.

From table 8 it is clear that, in general, respondents did not experience first-year trainees as being appropriately equipped by universities with the skills required in practice.

4.3 Qualitative findings

The following qualitative questions were asked to the respondents (numbered according to the question numbers per the questionnaire):

24. In your opinion, do you feel universities prepare first-year CA trainees adequately for practice? Please motivate thoroughly.

25. Please identify all skills shortages in first-year CA trainees at the point of entering practice (i.e. at the beginning of first year of articles).
26. Please make any recommendations you feel will help improve the skills shortages in first-year CA trainees when entering practice. These may include interventions at university level.

The above questions were answered by 82 respondents, of which 79.27% felt that universities do not prepare first-year CA trainees adequately for practice (question 24). Table 9 includes a summary of the motivations given by respondents for their opinions relating to this question.

Table 9: Summary of opinions of respondents relating to question 24

Opinion	**N**	**% of participants that agreed with the opinion**
Theoretical knowledge cannot be applied in practice	82	44.44
First-year trainees require more practical experience before entering practice	82	25.00
A lack of soft skills, e.g. communication, interviewing, problem-solving skills, dealing with difficult clients, and critical thinking ability	82	19.44
A lack of basic accounting knowledge, e.g. debits and credits	82	13.89
Inadequate experience in using information technology, e.g. Microsoft Excel, Pastel and Caseware	82	9.72
Limited knowledge of completing income tax and VAT returns and South African Revenue Services' compliance	82	4.17
Information taught at university level is not applicable in practice	82	1.39

The respondents' main opinion was that first-year trainee accountants cannot apply theory learnt at university in practice. The literature review also substantiates the opinions of 19.44% of the respondents that first-year trainees do not possess the 'soft' skills they need in practice.

In question 25 the respondents identified the skills shortages they experience with the first-year trainee accountants:

- Communication skills;
- Writing skills;
- Computer literacy skills, e.g. Microsoft Office, Pastel and Caseware;
- Problem-solving skills;
- Basic accounting principles;
- Professional skills;
- Critical thinking ability; and
- Time management skills.

These skills shortages agree with those identified in the literature review in section 1. Another skills shortage identified (by the smaller audit firms, in general) was the inability of first-year trainees to complete PAYE, VAT and Income Tax returns.

4.4 Comparison of different demographic groups

Valuable information can be obtained by comparing the means between different demographic groups within the sample of this study. Effect sizes were calculated to assess the practical importance of the differences between groups. Steyn (2000) suggests that the effect size (d) should be calculated as the difference between the means, divided by the maximum standard deviation of the two groups that are compared.

Cohen (1988) and Pallant (2007) provide these guidelines for interpreting effect sizes:

- Small effect = .2
- Medium effect = .5

- Large effect ≥ .8 (and practically significant)

4.4.1 Comparison of partners with clerks

Respondents were divided into different groups, i.e. partners and clerks. The results of this comparison are summarised in table 10.

Table 10: Comparison of perceptions between partners and clerks

Question	Partners			Clerks			Sig. (2-tailed, if a random sample was assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First-year trainees are equipped by universities with the necessary skills to function in practice	33	2.15	1.034	48	2.83	.996	.004*	.659
First-year trainees generally adapt well to the working environment	33	3.09	1.042	48	3.15	.875	.798	.053
First-year trainees can communicate professionally	33	2.15	.972	48	3.08	.919	.000*	.959
First-year trainees work well in a team	33	3.39	.864	48	3.77	.831	.052	.436
First-year trainees can make ethical decisions in challenging circumstances	33	2.73	1.126	48	3.23	1.126	.040*	.446
First-year trainees demonstrate a high level of technical expertise	33	2.27	1.069	48	2.88	1.160	.020*	.519
First-year trainees are able to make sensible judgements	33	2.24	.936	48	2.85	.899	.004*	.653
First-year trainees can think for themselves	33	2.21	.857	48	2.83	1.018	.005*	.610
First-year trainees place the interest of the client and their employer before their own self-interest	33	2.45	.833	48	3.35	1.041	.000*	.864
First-year trainees perform work to a high standard of quality	33	2.48	1.064	48	2.77	.881	.191	.269
First-year trainees treat others respectfully, courteously and equitably	33	3.48	.870	48	3.85	.899	.069	.411
First-year trainees demonstrate intellectual ability and the ability to apply themselves	33	2.82	1.014	48	3.35	.838	.011*	.529
First-year trainees are equipped to be life-long learners and adapt to the fast pace of change	33	2.61	.998	48	3.48	.799	.000*	.875

Question	Partners			Clerks			Sig. (2-tailed, if a random sample was assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First-year trainees are able to determine the extent of testing in audits	33	2.00	.829	48	2.31	.926	.124	.337

* Significant at the p <.05 level, if a random sample was assumed.

Table 10 indicates that the participating clerks' evaluation of all their skills is higher than the evaluation of the same skills by the partners. The following differences in means revealed noticeable effect sizes:

The partners' perception on whether universities equip first-year trainees with the skills to function in practice was much more negative (*m* = 2.15) than that of the clerks (*m* = 2.83). This can be regarded as a medium effect (*d* = .659) and may indicate that the partners did not experience the clerks they worked with as having gained the necessary skills at university level. Participating partners also had a negative perception regarding first-year trainees' ability to communicate professionally (*m* = 2.15), whereas clerks had a significantly more positive perception in this regard (*m* = 3.08). With *d* = 9.59, this is a large effect and practically significant, especially since the literature review in section 1 revealed that communication skills are lacking in first-year trainee accountants.

Clerks had a more positive perception (*m* = 2.88) than partners (*m* = 2.27) as to whether first-year trainees demonstrate a high level of technical expertise, though both parties gave a low rating to this specific competency, in general. This difference represents a medium effect (*d* = .519). Partners also seemed to feel that first-year trainees lack the ability to make sensible judgements (*m* = 2.24), while clerks had a more positive reaction (*m* = 2.85). With *d* = .653, this represents a medium effect. With *m* = 3.35, clerks also felt that first-year trainees can demonstrate technical ability and the ability to apply themselves, while partners did not agree (*m* = 2.82). The difference represents a medium effect

(d = .529). This effect, as well as the effects above, evidences that clerks perceived themselves to have better capabilities than partners think they do.

Clerks felt strongly that first-year trainees are more than capable of placing the interest of the client and their employer before their own self-interest (m = 3.35). Partners, on the other hand, disagreed (m = 2.45). The effect size, d = 8.64, represents a large effect.

The majority of responding partners felt that first-year trainee accountants are not capable of thinking for themselves (m = 2.21), while the clerks held a more positive view on this matter (m = 2.83). This difference constitutes a medium effect (d = .610) and is noteworthy in light of SAICA's (2010) aim to foster life-long learning and enable students to think for themselves. There was also a large effect (d = .875) relating to differences in opinions between partners (m = 2.61) and clerks (m = 3.48) regarding the ability of first-year trainee accountants to be life-long learners.

4.4.2 Comparison between small/medium firms and large firms: clerks' perceptions

A comparison was drawn between the perceptions of clerks from small/medium firms and large firms. This type of grouping is valid since small and medium firms share a similar client profile (Joubert *et al.*, 2009). Only the perceptions of clerks were used in this comparison because, first, only one partner from a large firm participated in the study and, secondly, to expose possible bias in the overall sample due to the dominant representation of respondents from smaller firms.

Table 11: Comparison of clerks' perceptions from small/medium firms and large firms

Question	Small and medium			Large			Sig. (2-tailed, if a random sample was assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First-year trainees are equipped by universities with the necessary skills to function in practice	40	2.80	.992	8	3.00	1.069	.610	.187
First-year trainees generally adapt well to the working environment	40	3.18	.874	8	3.00	.926	.611	.189

Question	Small and medium			Large			Sig. (2-tailed, if a random sample was assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First-year trainees can communicate professionally	40	3.08	.917	8	3.13	.991	.890	.050
First-year trainees work well in a team	40	3.70	.883	8	4.13	.354	.031*	.481
First-year trainees can make ethical decisions in challenging circumstances	40	3.10	.982	8	3.88	.991	.048*	.782
First-year trainees demonstrate a high level of technical expertise	40	2.70	1.114	8	3.75	1.035	.018*	.943
First-year trainees are able to make sensible judgements	40	2.75	.840	8	3.38	1.061	.072	.589
First-year trainees can think for themselves	40	2.93	1.047	8	2.38	.744	.165	.525
First-year trainees place the interest of the client and their employer before their own self-interest	40	3.40	1.081	8	3.13	.835	.501	.254
First-year trainees perform work to a high standard of quality	40	2.78	.891	8	2.75	.886	.943	.028
First-year trainees treat others respectfully, courteously and equitably	40	3.78	.947	8	4.25	.463	.175	.052
First-year trainees demonstrate intellectual ability and the ability to apply themselves	40	3.30	.853	8	3.63	.744	.322	.381
First-year trainees are equipped to be life-long learners and adapt to the fast pace of change	40	3.35	.802	8	4.13	.354	.000*	.966
First-year trainees are able to determine the extent of testing in audits	40	2.38	.9790	8	2.00	.535	.142	.383

* Significant at the p <.05 level, if a random sample was assumed.

The above results point to the fact that participating clerks from large firms held more positive views than small and medium firms in respect of most of the questions, especially regarding the ability of first-year trainees to work well in a group, the ability to make ethical decisions in challenging circumstances, technical competence, and judgement ability. The clerks from large firms also had a very positive reaction to the ability of first-year trainees to become life-long learners (m = 4.13) in comparison to the small and medium firms (m = 3.35). With d = .966, this represents the largest effect size in the comparison.

Although only a small number of participants were from large firms, these results may signal that a greater perceived gap in skills exists in smaller firms, either because the larger firms attract the brighter students, due to the fact that they offer higher salaries and bursaries to trainees, or the smaller firms have greater expectations due to the specific skills required in a smaller firm. It may be worthwhile to shed more light on the expectation gap at smaller firms through future research.

4.4.3 Comparison of perceptions of first-year clerks and third-year or higher clerks

A comparison was drawn between the perceptions of first-year clerks and third-year or higher clerks at the various auditing firms.

Table 12: Comparison of first- and third-year or higher clerks

Question	First-year clerks			Third-year or higher			Sig. (2-tailed, if a random sample was assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First-year trainees are equipped by universities with the necessary skills to function in practice	9	3.22	.833	27	2.81	1.111	.321	.367
First-year trainees generally adapt well to the working environment	9	3.22	.667	27	3.04	1.018	.615	.182
First-year trainees can communicate professionally	9	3.44	.882	27	2.85	.989	.120	.599
First-year trainees work well in a team	9	4.22	.441	27	3.59	.888	.050	.709
First-year trainees can make ethical decisions in challenging circumstances	9	3.56	1.236	27	2.93	.917	.111	.509
First-year trainees demonstrate a high level of technical expertise	9	3.11	1.453	27	2.59	1.010	.241	.357
First-year trainees are able to make sensible judgements	9	2.89	1.167	27	2.63	.792	.548	.222
First-year trainees can think for themselves	9	2.67	1.118	27	2.67	1.074	1.000	.000
First-year trainees place the interest of the client and their employer before their own self-interest	9	3.78	.833	27	3.19	1.111	.153	.534
First-year trainees perform work to a high standard of quality	9	2.78	.667	27	2.67	1.000	.759	.111

Question	First-year clerks			Third-year or higher			Sig. (2-tailed, if a random sample was assumed)	Effect size d
	N	Mean	Std. Deviation	N	Mean	Std. Deviation		
First-year trainees treat others respectfully, courteously and equitably	9	4.44	.527	27	3.63	.527	.027*	.810
First-year trainees demonstrate intellectual ability and the ability to apply themselves	9	3.33	.707	27	3.19	.962	.675	.154
First-year trainees are equipped to be life-long learners and adapt to the fast pace of change	9	3.78	.833	27	3.30	.775	.122	.578
First-year trainees are able to determine the extent of testing in audits	9	2.22	.833	27	2.15	.907	.830	.082

* Significant at the p <.05 level, if a random sample was assumed.

Table 12 indicates that first-year clerks, in general, were more positive about the skills they possess compared to third-year or higher clerks. First-year clerks perceived themselves as having good communication skills (*m* = 3.44), while third-year or higher clerks did not agree (*m* = 2.85). This constitutes a medium effect with *d* = .599. As seen from prior results and the literature review, firms would like clerks to possess communication skills when entering practice.

First-year clerks also indicated that they work well in a team (*m* = 4.22), whereas more experienced clerks did not agree to the same extent (*m* = 3.59). With *d* = .709, this represents a medium to large size effect. Most third-year or higher clerks did not feel that first-year trainees had the ability to make ethical decisions in challenging circumstances (*m* = 2.93), whereas most first-year clerks felt they did have this ability (*m* = 3.56). The difference has a medium effect size (*d* = .509).

With *d* = .810, a large and practically significant effect is evident when comparing the two groups' perceptions relating to the ability of first-year trainees to treat others respectfully, courteously and equitably. First-year clerks believed that they did have this skill (*m* = 4.44), while third-year or higher clerks, in general, were not in complete agreement (*m* = 3.63). Lastly, first-year trainees had a more positive feeling relating to their ability to be life-long learners and adapting to the fast pace of change

in the work environment (m = 3.78). With a mean of 3.30, third-year or higher clerks did not fully share this feeling. This is a medium effect size (d = .578). From the results obtained and documented above, conclusions on the study will be drawn and recommendations made below.

5. Conclusions and recommendations

The literature review showed various studies that suggested a gap between what the employer expects and what the universities deliver. The main purpose of this study was to determine which skills shortages exist in CA students entering practice in SA and to recommend ways to improve the skills development of CA students at university level.

According to the study, the majority of the participants (79.27%) felt that universities do not sufficiently equip students with the skills to be successful in practice. The skills shortages experienced by the participating audit firms included the inability of first-year trainees to determine the extent of testing needed in audits and to think independently. Most respondents felt that first-year trainees lacked professional communication skills. A respondent also commented that students from a specific university cannot speak or write adequately in English. One skill that most respondents, however, agreed that first-year trainees do have, is the ability to work well in a team. This might be attributed to the current schooling system where teamwork is encouraged.

Interesting results arose from the qualitative questions in the questionnaire. Respondents commented that, overall, first-year trainees cannot apply the theoretical knowledge acquired at university in practice. Twenty-five per cent of the respondents felt that students require practical experience before entering practice. SAICA and universities should therefore consider compulsory vacation work in an audit or other professional environment for students during their studies to enable them to gain some of the required skills. One respondent suggested that the partner for whom the vacation work is done should sign off on a list of skills the student acquired during his/her time at the firm.

Other skills shortages identified by respondents included computer literacy skills, problem-solving skills, knowledge of basic accounting principles, and time management skills. Some of the respondents, particularly from small firms, commented that first-year trainees are unable to work with computer programmes such as Excel, Pastel and Caseware. One of the respondents recommended that training on these software packages be incorporated into the university curriculum. Another respondent commented that, if first-year trainees could enter practice with the required computer literacy skills, it will take a great deal of pressure off budgets of smaller audit firms. Small audit firms have more budget constraints than large firms; therefore, they do not always have the capacity to teach trainees all computer programmes.

Some respondents from small and medium firms commented that first-year trainees have limited knowledge in the completion of income tax and VAT returns. One respondent recommended that universities include the completion of these tax returns in the curriculum and allow students to gain this practical skill. Another concern that some respondents raised was the fact that first-year trainees cannot apply theoretical audit knowledge in practice. They do not have the ability to perform audit testing on their own or to set up audit working papers without a great deal of guidance from senior team members. One respondent commented that first-year trainees simply copy working papers from prior years without giving thought to the test or considering a more effective, alternative test.

Therefore, skills shortages do exist in first-year trainee accountants in South Africa when entering practice. The fact that the majority of respondents came from small firms provides for valuable understanding of the skills shortages experienced by these firms (which seems to be greater than in large firms when considering the analysis in table 11). This study can be used by SAICA (and other professional bodies) and universities to ensure that relevant action plans are put into place to overcome the skills shortages identified by practitioners, especially in meeting the needs of smaller

firms with lesser resources but which, nevertheless, play a significant role in the economy of the country.

It is recommended that SAICA and universities work together to incorporate compulsory training hours for students during their three years of undergraduate studies. Students should complete these training hours at a registered training office of their choice during these three years before being allowed to proceed with their CTA/honours degree, or SAICA can consider incorporating such a requirement in the accreditation of a CTA. The training offices should then ensure that an action plan is in place to allow students to gain certain skills and practical experience during their vacation work. Partners should also sign off on the skills acquired by the student during such time.

Another recommendation is that all SAICA-accredited universities include subjects in their programmes to enhance the computer literacy of the students. For CA programmes specifically, the most popular accounting programmes such as Pastel and Caseware should be incorporated in the curriculum and students should have basic knowledge on how these programmes work when entering practice, especially since most other accountancy and auditing software function in a similar manner. Initially, this might be an expensive investment for universities to make due to the cost of the software packages, but they should reap the rewards of their investment if they deliver a better quality first-year trainee.

Universities should further consider implementing scenarios where students can perform audit simulations to enable them to understand how all the theory is applied practically. The completion of all types of tax returns using practical examples will also allow students to apply all the knowledge acquired on the various tax acts. Students learn the tax principles in detail and might just as well answer assignment questions on an actual tax return.

SAICA and other professional bodies may also need to consider a re-evaluation of its qualifying examinations to enable both students and universities to master the important basic concepts of accounting instead of the extremely complex transactions that are mostly applicable to large companies. If students are sufficiently equipped with the basic professional skills, they should be able to deal with unusual and complex transactions or arrangements when they encounter them in practice. Currently, universities might be spending too much time on teaching complex transactions to students which, inadvertently, leaves less time for focusing on basic accountancy skills.

With these small changes, SA will be equipped with more competent trainee accountants. In the current economic situation, audit firms will be able to spend their time more effectively on getting the job done and providing quick and efficient service to clients, instead of wasting time on teaching first-year trainees all the basic skills they should have already. In an accounting and auditing environment, time is money. The more effective accountants are, the better the economy will perform.

This study has contributed to the literature on skills shortages of trainee accountants, which is scarce in the SA context. Moreover, the recommendations should be of practical value to accounting educators and professional bodies, both at a local and international level.

6. Limitations of the study

The study was limited by the fairly low participation rate of audit firms in Gauteng, which amounted to only 16.9%. Large audit firms, in particular, did not participate in the study to the extent that the researcher expected. The low participation rate may be attributed to the fact that staff at audit firms experience severe time constraints due to strict deadlines during audits. Owing to the low participation rate, especially of the larger firms, results were not generalised to the total population, but confined to the specific participants. It is suggested that these limitations be addressed by future research.

Regardless of the limitations of the study, it still provides valuable insight into the views of staff of audit firms on the skills gap in first-year CA trainees.

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Chapter 4

Summary, conclusions and recommendations

1. Introduction

Past research has indicated a clear gap in accounting education globally between school, university and practice. Various reasons for this gap have been identified, the most important seeming to be the fact that accounting education is stagnating while the current economic environment is continuously evolving and changing.

The purpose of this study was to investigate the gap in accounting education between school, university and practice in SA. The study was divided into two articles in which two separate hypotheses were tested. Questionnaires were completed by both students from the North-West University (NWU) and lecturers from various SAICA-accredited universities across SA to test the hypothesis that school and university accounting curricula, teaching and assessment are not in complete alignment to prepare students for the CA qualification. A third questionnaire was completed by registered audit firms in the Gauteng Province, SA, to test the hypothesis that university accounting curricula, teaching methods and assessment practices do not provide adequate skills development for students as required by accounting practitioners.

2. Overview of research method

A literature review was conducted as basis for the empirical studies performed for both articles. The literature review highlighted the problems faced by accounting education locally and globally.

The empirical research for both articles was conducted by using questionnaires consisting of various parts. The questionnaires were designed based on the information gathered in the literature review. The quantitative data from the completed questionnaires were analysed using the IBM SPSS statistical software package (IBM SPSS, 2011) and a summary of all qualitative comments was made.

3. Summary of research results

3.1 Possible gap between school and university accounting

The literature review in chapter 2 revealed that prior researchers found first-year accounting students to be underprepared for the subject at university (Barnes *et al*.,2009). Various researchers emphasised

that the quality of first-year accounting students is deteriorating and will continue to do so until the necessary changes are made (Kohler, 2012; Barnes *et al.*, 2009; du Plessis *et al.*, 2005).

The results of the current study did not identify one main reason for the deteriorating quality of first-year CA students in SA. Various possibilities were investigated as reasons for the decline, of which some were the quality and availability of textbooks and the qualifications and abilities of teachers.

However, it was evident from the study that apartheid still has an effect on the education of students today. Black students seemed to struggle more with accounting at university than students from historically white schools and they provided more negative responses to the questionnaires than their white counterparts. A fairly large percentage (36.8%) of students, the majority being black, also agreed that the school accounting curriculum was not sufficient to prepare them for university accounting.

It was further observed that 21.9% of students who did not have accounting as a subject in high school did not pass the subject in their first semester at university, which was significantly higher than their peers who did take accounting at school level. This is supported by Rankin *et al.* (2003) who commented that high school accounting is beneficial to the performance of students in first-year university accounting (Barnes *et al.*, 2009).

The results of the study also revealed that certain topics such as the King Code on corporate governance, which is included in the NCS and the subsequent CAPS, are in many cases not being taught to students at school. From the questionnaires given to university lecturers it was, however, evident that some of these topics might be omitted by teachers because they are deemed as not crucial for school accounting. The lecturers felt that high school accounting should focus primarily on building a strong accounting foundation by emphasising the basic principles, rather than teach complicated concepts not directly related to financial accounting.

3.2 Possible gap between university and practice

Past research has highlighted the fact that first-year trainee accountants do not meet the expectations of practitioners when entering practice (Wilson, 2011; Barac, 2009; Clovey and Oladipo, 2008; Koornhof and Lubbe, 2002). This is due to the fact that accounting programmes at universities are often not updated to keep abreast of the rapid changes occurring in the current economic environment.

Practitioners require first-year trainees to have certain skills when entering practice. Among these are communication skills, teamwork and interpersonal skills, problem-solving skills, technological skills and leadership skills (Du Preez and Fossey, 2012; Cheng, 2007; Green *et al.*, 1999). Past research, supported by the current study, points to the fact that universities seem to be unsuccessful in sufficiently equipping first-year trainees with these skills.

According to the results of this study, the majority of the participants felt that SA universities do not sufficiently equip students with the skills necessary to be successful in practice. According to respondents, the skills shortages they experienced include the inability of first-year trainees to determine the extent of audit testing needed, their inability to 'think for themselves', and a lack of communication skills.

The majority of the respondents were represented by small audit firms. These respondents specifically felt that first-year trainees are unable to work with computer programmes such as Excel, Pastel and Caseware. They also believed that first-year trainees have limited knowledge in the completion of income tax and VAT returns.

The study, therefore, confirms that skills shortages exist in first-year trainee accountants when entering practice in SA.

4. Recommendations

Based on the findings in chapter 2, it is recommended that universities and the DoBE work together to overcome the problems facing accounting education and to produce a better quality student to enter university.

The DoBE should be made aware of the needs of universities relating to the content of specific subjects, such as accounting, and implement these needs into the school curriculum. In this regard, it is suggested that school accounting should focus on basic accounting principles and the more complex ones should be left to university lecturers with the relevant experience in the topics. It is suggested that universities and the DoBE schedule meetings at least once a year in respect of various subject groups to ensure these needs are being met and for the universities to give feedback to the DoBE on whether the changes implemented are making a difference to the quality of first-year students who enter university.

In light of the results in chapter 3, it is recommended that SAICA and universities work together to incorporate compulsory training hours for students during their three years of undergraduate studies. During these training hours students should be taught skills at the audit firm, and the partner in charge of the audit should sign off on the skills obtained by the student. It is also recommended that SAICA consider re-evaluating its qualifying examinations to enable both students and universities to master the important basic concepts of accounting instead of complex transactions that are mostly applicable to large audit firms. It is further recommended that universities pay close attention to teaching the skills required in the workplace.

5. Concluding reflection

The current study clearly indicates a gap between school, university and practice in accounting education. The gap between school and university accounting education was smaller than the researcher anticipated as student perceptions, in general, were more positive than negative. These perceptions should, however, be considered in light of the high marks the students achieved in the university accounting module at the time. This might reflect lower standard tests and examinations in the particular year the study was performed, as the marks did not fully compare to previous years. It might be interesting to see what the results would be should the study be repeated with students receiving poor accounting marks. Nevertheless, the study did highlight areas which are of greater concern than others and there is definitely room for improvement, confirming that a gap does indeed exist, although smaller than expected.

From the research, it was also clear that black students hold more negative perceptions relating to school accounting. A significant finding was that students who want to study chartered accountancy should have accounting as a subject at school or complete a bridging course to enable them to be more successful in the subject at university.

The gap between university and practice was more clearly proven than the gap between school and university accounting. The results of the study showed that skills shortages exist in first-year CA trainees in practice. Both SAICA and universities need to work together to find an agreeable approach to ensure that students entering practice have the skills to be successful and valuable to the audit firm which they join.

6. Research objectives addressed

This section reflects on whether the objectives stated in chapter 1 have been fully addressed. The research objectives of the study were addressed as follows:

Objective: To determine the adequacy of the content and delivery of the accounting curricula in secondary (high school) education, and more specifically:

- To identify important topics in a high school accountancy curriculum, as regarded by lecturers in accounting programmes (who train future CAs at university level).
- To determine whether school accounting teachers are perceived to follow the whole curriculum as set out by the DoBE.

Addressed: Various questions relating to the adequacy of the content of high school accounting curricula were included in the questionnaires to both the students and lecturers. It was found that certain topics included in the curriculum were not necessarily taught to students and that some of these and a few other topics were not regarded as that important to lecturers.

Further questions were included in the questionnaire to the students to determine whether teachers followed the curriculum as set out by the DoBE. Certain topics not directly related to accounting were found to not necessarily be taught by teachers, for example, the King Code on corporate governance.

A list of topics was included in the questionnaire given to lecturers, asking them to rate the topics using a Likert scale, on how important the lecturers regarded these topics. It was found that non-accounting topics on the Companies Act, King Code, managerial accounting and taxation were not regarded as such important topics compared to more basic financial accounting topics. Lecturers felt that school accounting should focus on building a strong foundation on the basics of the subject. These findings can be seen in Tables 1 – 3.

Objective: To determine whether school teachers are perceived to have the necessary qualifications and experience to teach learners the concepts they need to understand to succeed in further education.

Addressed: The questionnaire given to students included questions on their perceptions of the qualifications and experience of their accounting teachers. It was found that students, in general, were satisfied with their teachers' qualifications and experience in the subject accounting, as found in section 4.2.2.

Objective: To identify whether school textbooks are perceived to be out of date and/or below standard when compared to textbooks used at tertiary level.

Addressed: Students were asked questions on their perceptions of school accounting textbooks. The students, in general, did not seem to have a big problem with the standard of their textbooks when compared to those used on tertiary level as summarised in section 4.2.1.

Objective: To recommend the necessary changes to accounting education at secondary school level that should address the need of all relevant stakeholders.

Addressed: Based on the findings of the study, recommendations were made for relevant changes in accounting education.

Objective: To determine which skills shortages exist in South African CA students entering practice.

Addressed: These shortages were determined through both qualitative and quantitative questions included in the questionnaire given to audit firms. Skills shortages identified include a lack of communication skills, the inability to determine the extent of audit testing, the inability to think for oneself, and inadequate training in using accounting software packages. These findings can be found in Tables 8 and 9.

Objective: To recommend ways to improve the skills development of CA students at university level.

Addressed: Based on the results of the study, recommendations were made to improve skills development of CA students entering practice.

7. Hypotheses addressed

In this section it will also be reflected on whether the hypotheses stated in chapter 1 have been fully addressed. The hypotheses of the study were addressed as follows:

H01: School and university accounting curricula, teaching and assessment are not in complete alignment to optimally prepare students for the CA qualification.

Addressed: Although no specific reason was identified for the apparent decline in the quality of first-year CA students, the study revealed problems in secondary accounting education, more specifically, among students from historically black schools. The study also revealed possible problems in accounting curricula, teaching and assessment practices on secondary level.

H02: University accounting curricula, teaching methods and assessment practices do not provide adequate skills development for students as required by accounting practitioners.

Addressed: The study revealed that practitioners definitely experience skills shortages in first-year CA trainees entering practice – skills that are not being sufficiently provided to students at university.

8. Limitations of the study

Limitations relating to chapter 2 include the statement that the minority of students were black, where accounting education in SA seems to face its biggest challenges. The reason for this is that the NWU still attracts predominantly Afrikaans-speaking students, whereas most black students would prefer to study in English. Moreover, the first-year students at the NWU had more positive responses to the questionnaires than were expected, possibly due to the fact that they achieved very high marks in their first semester accounting examination and, therefore, perceived high school accounting as better preparation for university accounting as might have been the case were they to achieve poor marks.

Another factor to consider is that the 58 lecturer respondents represented a non-random sample and their views cannot necessarily be generalised to the total population of all lecturers involved in accounting departments at the selected universities. As such, their views should be interpreted in this context. Also, an equal representation of lecturers from all the subjects in the broader accountancy field may have yielded different results. It is suggested that future research address these limitations.

Limitations relating to chapter 3 include the low participation rate of audit firms in Gauteng, which was only 16.9%. Large audit firms specifically did not participate as expected in the study (only one partner from a large firm participated) which placed further limitation on the study. The low participation rate may be attributable to the assumption that staff at audit firms experience severe time constraints due to strict deadlines during audits. Owing to the low participation rate, results were not generalised to the total population, but confined to the specific participants.

9. Areas for future research

Possible areas for future research for the first article (chapter 2) include repeating the study at a university where the majority of students are black and where university accounting marks are in line with longer-term norms. The study can also be performed with an equal representation of lecturers from all the subjects in the broader accountancy field. This study investigated only some elements that

cause the gap between school and university accounting education, and future studies may fruitfully endeavour to uncover more problems.

Future research on the second article (chapter 3) might include more large firms to participate in the study by performing interviews instead of sending questionnaires to the audit firms. It is also suggested that future research investigate all the root causes for the skills shortages as it is unlikely that universities are the only party to blame.

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Annexure A – Survey for chartered accountancy students at the North-West University

PART A: DEMOGRAPHICAL INFORMATION ABOUT MYSELF / *DEEL A: DEMOGRAFIESE INLIGTING OOR MYSELF*

Answer the following questions (for statistical purposes only) on the multiple choice cards provided / *Beantwoord die volgende vrae (vir statistiese doeleindes alleenlik) op die multikeusekaarte wat verskaf is:*

3. My gender is / *My geslag is*:
    1. Female / *Vroulik*
    2. Male / *Manlik*
4. My race/ethnicity is / *My ras/etnisiteit is*:
    1. African/black / *Afrikaan/swart*
    2. Coloured/brown / *Kleurling/bruin*
    3. Indian/Asian / *Indiër/Asiaat*
    4. White / *Blank*
    5. Other / *Ander*
5. I am studying on the following campus of the North-West University (NWU) / *Ek studeer op die volgende kampus van die Noordwes-Universiteit (NWU)*:
    1. Mafikeng
    2. Potchefstroom
    3. Vaal
6. My **home** language is / *My **huis**taal is*:
    1. Afrikaans
    2. English
    3. Sesotho
    4. Setswana
    5. IsiXhosa or IsiZulu
    6. IsiNdebele, Sepedi, SiSwati, Tshivenda or Xitsonga
    7. Other (no need to specify) / *Ander (nie nodig om te spesifiseer nie)*
7. M0y **study** language is / *My **studie**taal is*:
    1. Afrikaans
    2. English

8. The province where I matriculated is / *Die provinsie waar ek matrikuleer het is:*
    1. Gauteng
    2. North West / *Noord-wes*
    3. Limpopo
    4. Mpumalanga
    5. Free State / *Vrystaat*
    6. Kwazulu-Natal
    7. Northern Cape, Western Cape or Eastern Cape / *Noord-Kaap, Wes-Kaap of Oos-Kaap*

9. The final mark I obtained for **Mathematics** in Grade 12 was / *Die finale punt wat ek vir* ***Wiskunde*** *in Graad 12 gekry het was:*
    1. Level 4 / *Vlak 4 (50-59%)*
    2. Level 5 / *Vlak 5 (60-69%)*
    3. Level 6 / *Vlak 6 (70-79%)*
    4. Level 7 / *Vlak 7 (80-100%)*
10. I had **Accounting** as a subject at school until I matriculated / *Ek het* ***Rekeningkunde*** *as 'n vak op skool gehad totdat ek matrikuleer het:*
    1. Yes / *Ja*
    2. No / *Nee*
11. The final mark I obtained for **Accounting** in Grade 12 was / *Die finale punt wat ek vir* ***Rekeningkunde*** *in Graad 12 gekry het was:*
    1. Level 4 / *Vlak 4 (50-59%)*
    2. Level 5 / *Vlak 5 (60-69%)*
    3. Level 6 / *Vlak 6 (70-79%)*
    4. Level 7 / *Vlak 7 (80-100%)*
    5. Not applicable / *Nie van toepassing*

12. The number of learners in my Grade 12 Accounting class was / *Die aantal leerders in my Graad 12 Rekeningkunde klas was:*
    1. Less than 15 / *Minder as 15*
    2. 15 – 19
    3. 20 – 29
    4. 30 – 39
    5. 40 – 49
    6. 50 or more / *50 of meer*
    7. Not applicable */ Nie van toepassing*
13. This is the ___ year I have attempted to pass ACCC111 / *Hierdie is die ___ jaar wat ek gepoog het om ACCC111 te slaag:*
    1. 1st / *1ste*
    2. 2nd / *2de*
    3. 3rd / *3de*
    4. More than 3 years / *Meer as 3 jaar*
14. The final mark I obtained for ACCC111 (2011 first semester) was / *Die finale punt wat ek vir ACCC111 (2011 eerste semester) behaal het was:*
    1. No exam admission or did not write the exam / *Geen eksamentoelating of het nie die eksamen geskryf nie*
    2. Below 30% / *Onder 30%*
    3. 30 – 39%
    4. 40 – 49%
    5. 50 – 59%
    6. 60 – 74%
    7. 75 – 100%

PART B: ADEQUACY OF SCHOOL ACCOUNTING TEXTBOOKS AND CURRICULUM /

DEEL B: GESKIKTHEID VAN SKOOL REKENINGKUNDE HANDBOEKE EN KURRIKULUM

Answer the following questions about your **experiences of the Accounting textbooks and curriculum** at school. **Leave out Part B if you did not have Accounting at school**. Answer on the multiple choice cards provided by using the following scale / *Beantwoord die volgende vrae aangaande u **ervarings van die Rekeningkunde handboeke en kurrikulum** op skool. **Los Deel B uit as jy nie Rekeningkunde op skool gehad het nie**. Antwoord op die multikeusekaarte wat verskaf is, deur die volgende skaal te gebruik*:

1. You strongly disagree / *U stem glad nie saam nie*
2. You disagree / *U stem nie saam nie*
3. You are neutral / *U is neutraal*
4. You agree / *U stem saam*
5. You strongly agree / *U stem volkome saam*

15. There were enough Accounting textbooks for all Grade 12 Accounting learners / *Daar was genoeg Rekeningkunde handboeke vir al die Graad 12 Rekeningkunde leerders.*
16. The Accounting textbooks were generally in a good condition when I received them / *Die Rekeningkunde handboeke was oor die algemeen in 'n goeie toestand toe ek dit ontvang het.*
17. The Accounting textbooks were available in my **study** language. / *Die Rekeningkunde handboeke was beskikbaar in my **studie**taal.*
18. The textbooks provided sufficient guidance for me to be able to complete homework assignments */ Die handboeke het voldoende leiding aan my verskaf om huiswerkopdragte te kan voltooi.*
19. The Accounting textbooks were sufficient to help me prepare for tests and examinations. / *Die Rekeningkunde handboeke was voldoende om my te help met voorbereiding vir toetse en eksamens.*
20. Additional study material was provided by the teacher to supplement the material in the textbooks, as the textbook content was insufficient to meet all our learning needs / *Addisionele studiemateriaal is deur die onderwyser voorsien om die handboeke aan te vul, aangesien die handboek inhoud onvoldoende was om in al ons leerbehoeftes te voorsien.*
21. The textbooks covered all the examinable topics in the **school** Accounting curriculum / *Die handboeke het al die eksamineerbare onderwerpe in die **skool** Rekeningkunde kurrikulum gedek.*
22. The textbooks were based on the **school** Accounting curriculum / *Die handboeke was gebaseer op die **skool** Rekeningkunde kurrikulum.*

23. The textbooks were on standard when compared to my first-year university Accounting textbooks / *Die handboeke was op standaard as dit met my eerstejaar Rekeningkunde handboeke op universiteit vergelyk word.*
24. The textbooks were sufficient to prepare me for first-year Accounting at university / *Die handboeke was voldoende om my vir eerstejaar Rekeningkunde op universiteit voor te berei.*
25. The textbooks were easy to understand / *Die handboeke was maklik om te verstaan.*
26. The textbooks contained sufficient examples / *Die handboeke het voldoende voorbeelde bevat.*
27. The textbooks were useful / *Die handboeke was nuttig.*
28. The content of the Accounting curriculum at school was sufficient to prepare me for university Accounting. / *Die inhoud van die Rekeningkunde kurrikulum op skool was genoegsaam om my vir Rekeningkunde op universiteit voor te berei.*
29. The content of the Accounting curriculum at school reflected the latest developments in the subject area. / *Die inhoud van die Rekeningkunde kurrikulum op skool het die nuutste verwikkelinge in die vakgebied weerspieël.*
30. The content of the Accounting curriculum at school must be improved. / *Die inhoud van die Rekeningkunde kurrikulum op skool moet verbeter word.*
31. The content of the Accounting curriculum at school was free of error. / *Die inhoud van die Rekeningkunde kurrikulum op skool was foutloos.*
32. The content of the Accounting curriculum at school was difficult enough. / *Die inhoud van die Rekeningkunde kurrikulum op skool was moeilik genoeg.*

PART C: COMPETENCE OF SCHOOL ACCOUNTING TEACHERS / *DEEL C: BEVOEGDHEID VAN SKOOL REKENINGKUNDE ONDERWYSERS*

Answer the following questions about your **experiences of the qualifications and competence of your Accounting teachers** at school. **Leave out Part C if you did not have Accounting at school**. Answer on the multiple choice cards provided by using the following scale / *Beantwoord die volgende vrae aangaande u* ***ervarings van die kwalifikasies en bevoegdheid van u Rekeningkunde onderwysers*** *op skool.* ***Los Deel C uit as jy nie Rekeningkunde op skool gehad het nie****. Antwoord op die multikeusekaarte wat verskaf is, deur die volgende skaal te gebruik*:

1. You strongly disagree / *U stem glad nie saam nie*
2. You disagree / *U stem nie saam nie*
3. You are neutral / *U is neutraal*
4. You agree / *U stem saam*

5. You strongly agree / *U stem volkome saam*

33. My Accounting teachers were always present in class. / *My Rekeningkunde onderwysers was altyd teenwoordig in die klas.*
34. My Accounting teachers could maintain discipline in the classroom / *My Rekeningkunde onderwysers kon dissipline in die klaskamer handhaaf.*
35. My Accounting teachers were well prepared for each lesson / *My Rekeningkunde onderwysers was goed voorberei vir elke les.*
36. My Accounting teachers could explain difficult concepts in an understandable manner / *My Rekeningkunde onderwysers kon moeilike konsepte verstaanbaar verduidelik.*
37. My Accounting teachers could give me individual attention when I needed help with a difficult concept / *My rekeningkunde onderwysers kon individuele aandag aan my gee as ek hulp nodig gehad het met 'n moeilike konsep.*
38. The lessons presented by my teachers were relevant and sufficient to prepare me for tests and examinations / *Die lesse wat deur my onderwysers aangebied is, was relevant en genoegsaam om my voor te berei vir toetse en eksamens.*
39. I needed to attend extra Accounting classes from a different, unrelated person to supplement my studies / *Ek het nodig gehad om ekstra Rekeningkunde klasse by te woon by 'n ander, onverwante persoon om my studies aan te vul.*
40. I consulted various other study aids to relearn concepts I did not understand in class / *Ek het verskeie ander studie-hulpmiddels geraadpleeg om konsepte wat ek nie in die klas verstaan het nie, weer oor te leer.*
41. I am satisfied with the quality of teaching I received from my Accounting teachers / *Ek is tevrede met die kwaliteit van onderrig wat ek van my Rekeningkunde onderwysers ontvang het.*
42. I regard my Accounting teachers as experts in the subject / *Ek beskou my Rekeningkunde onderwysers as kenners op die vakgebied.*
43. I feel that my Accounting teachers were sufficiently qualified to teach me the subject / *Ek voel dat my Rekeningkunde onderwysers voldoende gekwalifiseer was om die vak vir my te leer.*
44. I feel that my Accounting teachers sufficiently prepared me for the subject Accounting at university / *Ek voel dat my Rekeningkunde onderwysers my voldoende voorberei het vir die vak Rekeningkunde op universiteit.*
45. My Accounting teachers were competent to teach the subject / *My Rekeningkunde onderwysers was bevoeg om die vak te onderrig.*

46. My Accounting teachers put in a lot of effort to help students / *My Rekeningkunde onderwysers het baie moeite gedoen om studente te help.*
47. In general, the teaching methods used by my Accounting teachers were effective / *Oor die algemeen was die onderrigmetodes wat deur my Rekeningkunde onderwysers gebruik was doeltreffend.*
48. My Accounting teachers had sufficient knowledge of new developments in the subject area / *My Rekeningkunde onderwysers het genoeg kennis gehad van nuwe verwikkelinge in die vakgebied.*
49. My Accounting teachers taught me the correct principles / *My Rekeningkunde onderwysers het die korrekte beginsels vir my geleer.*
50. My school Accounting teachers would be able to lecture first-year Accounting at university / *My skool Rekeningkunde onderwysers sou in staat wees om eerste-jaar Rekeningkunde op universiteit te doseer.*

PART D: TOPICS IN THE SCHOOL ACCOUNTING CURRICULUM / *DEEL D: ONDERWERPE IN DIE SKOOL REKENINGKUNDE KURRIKULUM*

Answer the following questions about your **experiences regarding Accounting topics set out in the school National Curriculum Statement for Grades 10 - 12**. **Leave out Part D if you did not have Accounting at school**. Answer on the multiple choice cards provided by using the following scale / *Beantwoord die volgende vrae aangaande u **ervarings aangaande Rekeningkunde onderwerpe soos vervat in die skole se Nasionale Kurrikulum Verklaring vir Grade 10 - 12**. **Los Deel D uit as jy nie Rekeningkunde op skool gehad het nie**. Antwoord op die multikeusekaarte wat verskaf is, deur die volgende skaal te gebruik*:

1. Yes / *Ja.*
2. I am unsure / *Ek is onseker.*
3. No / *Nee.*

The following topics were taught to me at school in the subject **Accounting** / *Die volgende onderwerpe is in die vak **Rekeningkunde** met my op skool behandel:*

51. Code of Ethics, for example the principles of ethical and professional behaviour by accountants like independence and confidentiality of information / *Professionele gedragskode, byvoorbeeld die beginsels van etiese- en professionele gedrag deur rekenmeesters soos onafhanklikheid en vertroulikheid van inligting.*

52. Basic principles of the KING III code / *Basiese beginsels van die KING III kode.*
53. General Accounting concepts for manufacturing enterprises, for example determining the cost of a product using variable and fixed costs / *Algemene Rekeningkunde beginsels vir vervaardigingsondernemings, byvoorbeeld die vasstelling van die koste van 'n produk deur die gebruik van vaste- en veranderlike koste.*
54. Basic VAT concepts, for example taking out VAT from a VAT inclusive amount / *Basiese BTW beginsels, byvoorbeeld om BTW uit te haal by 'n BTW-ingeslote bedrag.*
55. Analysis and interpretation of financial statements, for example the acid-test ratio and current ratio / *Ontleding en vertolking van finansiële state, byvoorbeeld die vuurproefverhouding en bedryfskapitaalverhouding.*
56. The definition of Managerial Accounting / *Die definisie van Bestuursrekeningkunde.*
57. The difference between direct and indirect costs / *Die verskil tussen direkte- en indirekte koste.*
58. Determining the break-even point / *Vasstelling van die gelykbreekpunt.*
59. Identification of basic internal control processes / *Identifisering van basiese interne beheerprosesse.*
60. The difference between internal control and internal audit / *Die verskil tussen interne beheer en interne oudit.*
61. Basic sampling techniques / *Basiese steekproefnemingstegnieke.*
62. Effective use of information technology in the recording of transactions of the entity / *Inligtingstegnologie effektief te kan gebruik in die teboekstelling van transaksies in die rekords van 'n entiteit.*

PART E: STUDENTS WHO DID NOT HAVE ACCOUNTING AS SUBJECT AT SCHOOL / *DEEL E: STUDENTE WAT NIE REKENINGKUNDE AS VAK OP SKOOL GEHAD HET NIE*

Answer the following questions about your **experiences in the subject Accounting at university. Leave out Part E if you had Accounting at school**. Answer on the multiple choice cards provided by using the following scale / *Beantwoord die volgende vrae aangaande u* ***ervarings in die vak Rekeningkunde op universiteit. Los Deel E uit as jy wel Rekeningkunde op skool gehad het.*** *Antwoord op die multikeusekaarte wat verskaf is, deur die volgende skaal te gebruik*:

1. Yes / *Ja.*
2. I am unsure / *Ek is onseker.*
3. No / *Nee.*

Please use the correct question numbers on the multiple choice card / *Gebruik asb. die korrekte vraagnommers op die multikeusekaart.*

63. I completed an Accounting bridging course before enrolling for the subject ACCC111 / *Ek het 'n oorbruggingskursus in Rekeningkunde voltooi voordat ek vir die vak ACCC111 ingeskryf het.*
64. I passed ACCC111 the first time I took the subject / *Ek het ACCC111 geslaag die eerste keer wat ek die vak geneem het.*
65. After completing ACCC111, I think the subject would have been easier if I had Accounting as a subject at school / *Na afhandeling van ACCC111, dink ek die vak sou makliker gewees het as ek Rekeningkunde as vak op skool gehad het.*
66. Please give a short description of your experience of the subject ACCC111. Answer the question on the back of the multiple choice card / *Gee asb. 'n kort beskrywing van u ondervinding van die vak ACCC111. Beantwoord die vraag op die agterkant van die multikeusekaart.*
67. Please provide your reasons for choosing to study chartered accountancy. Answer the question on the back of the multiple choice card / *Gee asb. u redes oor hoekom u besluit het om geoktrooieerde rekenmeesterskap te studeer. Beantwoord die vraag op die agterkant van die multikeusekaart.*

Annexure B - Survey for lecturers in the School/Department of Accounting (or equivalent) at various universities

PART A: DEMOGRAPHICAL INFORMATION ABOUT MYSELF / *DEEL A: DEMOGRAFIESE INLIGTING OOR MYSELF*

Answer the following questions (for statistical purposes only) on the multiple choice cards provided / *Beantwoord die volgende vrae (vir statistiese doeleindes alleenlik) op die multikeusekaarte wat verskaf is:*

1. My gender is / *My geslag is*:
    1. Female / *Vroulik*
    2. Male / *Manlik*
2. My race/ethnicity is / *My ras/etnisiteit is*:
    1. African/black / *Afrikaan/swart*
    2. Coloured/brown / *Kleurling/bruin*
    3. Indian/Asian / *Indiër/Asiaat*
    4. White / *Blank*
    5. Other / *Ander*
3. I am a lecturer at: / *Ek is 'n dosent by:*
    1. A university / 'n Universiteit
    2. A university of technology / 'n Universiteit van tegnologie
    3. Other (no need to specify) / *Ander (nie nodig om te spesifiseer nie)*
4. I am a lecturer in the following province: / *Ek is 'n dosent in die volgende provinsie:*
    1. Gauteng
    2. North West / *Noord-wes*
    3. Limpopo
    4. Mpumalanga
    5. Free State / *Vrystaat*
    6. Kwazulu-Natal
    7. Northern Cape, Western Cape or Eastern Cape / *Noord-Kaap, Wes-Kaap of Oos- Kaap*
5. I **mainly** lecture the following subject: / *Ek gee **hoofsaaklik** klas in die volgende vak:*
    1. Financial Accounting or similar / *Finansiële Rekeningkunde of soortgelyk*

2. Managerial Accounting/Financial Management or similar / *Bestuursrekeningkunde/ Finansiële Bestuur of soortgelyk*
3. Auditing / *Ouditkunde*
4. Taxation / *Belasting*
5. Other subject relating to **accountancy** (no need to specify) / *Ander vak wat met **rekenmeesterskap** verband hou (nie nodig om te spesifiseer nie)*
6. Other subject **not** relating to any of the above / *Ander vak wat **nie** met enige van die bogenoemde verband hou nie*

6. I lecture the subject chosen in question 6 for the following year group (please choose only the most relevant **one** group): / *Ek gee klas in die vak wat in vraag 6 gekies is vir die volgende jaargroep (kies asb. slegs die mees relevante **een** groep):*
    1. First-years / *Eerstejaars*
    2. Second-years / *Tweedejaars*
    3. Third-years / *Derdejaars*
    4. Post-graduate / *Nagraads*
7. I **mainly** lecture the following students: / *Ek gee **hoofsaaklik** klas vir die volgende studente:*
    1. Chartered Accountancy (CA) students / *Geoktrooieerde Rekenmeesterskap (GR) studente*
    2. Financial Accountancy (SAIPA) students / *Finansiële Rekeningkunde (SAIPA) studente*
    3. Other (no need to specify) / *Ander (nie nodig om te spesifiseer nie)*
8. My **home** language is / *My **huis**taal is*:
    1. Afrikaans
    2. English
    3. Sesotho
    4. Setswana
    5. IsiXhosa or IsiZulu
    6. IsiNdebele, Sepedi, SiSwati, Tshivenda or Xitsonga
    7. Other (no need to specify) / *Ander (nie nodig om te spesifiseer nie)*
9. My language of instruction is / *My onderrigtaal is:*
    1. English
    2. Afrikaans
    3. Setswana

4. Other / *Ander*

10. My **highest** qualification is / *My **hoogste** kwalifikasie is:*
    1. Diploma
    2. B.Com degree (or equivalent) / *B.Com graad (of ekwivalent)*
    3. Honours degree / *Honneursgraad*
    4. Masters degree / *Meestersgraad*
    5. Doctorate degree / *Doktorsgraad*
    6. Other (no need to specify) / *Ander (nie nodig om te spesifiseer nie)*
11. I have been a lecturer for / *Ek is al 'n dosent vir:*
    5. 0 – 2 years / *jare*
    6. >2 – 5 years / *jare*
    7. >5 – 10 years / *jare*
    8. >10 years / *jare*
12. I had Accounting as a subject at school until I matriculated / *Ek het Rekeningkunde as 'n vak op skool gehad totdat ek matrikuleer het:*
    3. Yes / *Ja*
    4. No / *Nee*
13. The mark I obtained for Accounting in Grade 12 (matric) was / *Die punt wat ek vir Rekeningkunde in Graad 12 (matriek) gekry het was:*
    6. Level 4 / *Vlak 4 (50-59%)*
    7. Level 5 / *Vlak 5 (60-69%)*
    8. Level 6 / *Vlak 6 (70-79%)*
    9. Level 7 / *Vlak 7 (80-100%)*
    10. Not applicable / *Nie van toepassing*
14. At university my marks for Accounting was generally / *Op universiteit was my punte vir Rekeningkunde oor die algemeen:*
    1. Poor / *Swak* (<50%)
    2. Average / *Gemiddeld* (50-60%)
    3. Good / *Goed* (60-75%)
    4. Excellent / *Uitstekend* (>75%)
    5. I did not have Accounting at university / *Ek het nie Rekeningkunde op universiteit gehad nie*

PART B: RATING OF IMPORTANCE OF DIFFERENT TOPICS IN ACCOUNTING CURRICULUM / *DEEL B: METING VAN BELANGRIKHEID VAN VERSKILLENDE ONDERWERPE IN DIE REKENINGKUNDE KURRIKULUM*

Answer the following questions on what **you generally regard as important topics in the grade 12 Accountancy curriculum** in your opinion as lecturer. Answer on the multiple choice cards provided by using the following scale: / *Beantwoord die volgende vrae aangaande watter **onderwerpe in die graad 12 Rekenmeesterskap kurrikulum u oor die algemeen as belangrik beskou** in u opinie as dosent. Antwoord op die multikeusekaarte wat verskaf is, deur die volgende skaal te gebruik*:

1. Extremely unimportant / *Uiters onbelangrik*
2. Very unimportant / *Baie onbelangrik*
3. Fairly unimportant / *Redelik onbelangrik*
4. Fairly important / *Redelik belangrik*
5. Very important / *Baie belangrik*
6. Extremely important / *Uiters belangrik*
7. I don't know what the question means or I am not familiar with the topic / *Ek weet nie wat die vraag beteken nie, of ek is onbekend met die onderwerp*

15. The historical background on the subject area of accounting. / Die geskiedkundige agtergrond van die rekeningkundige vakgebied.
16. The qualitative characteristics of financial statements. / *Die kwalitatiewe eienskappe van finansiële state.*
17. The definitions of the elements of the financial statements (i.e. of assets, liabilities, equity, income and expenses). / *Die definisies van die elemente van die finansiële state (m.a.w. van bates, laste, ekwiteit, inkomste en uitgawes).*
18. The ability to differentiate between the elements of the financial statements. / *Die vermoë om te kan onderskei tussen die verskillende elemente van die finansiële state.*
19. The accounting equation (equity = assets less liabilities). / *Die rekeningkundige vergelyking (ekwiteit = bates minus laste).*
20. Preparation of a trial balance / *Opstel van 'n proefbalans.*
21. The ability to perform General journal entries / *Die vermoë om Algemene joernaalinskrywings uit te voer.*

22. Measurement and disclosure of Inventories. / *Meting en openbaarmaking van Voorraad*.
23. Measurement and disclosure of Debtors, including bad debts and provision/allowance for bad debts. / *Meting en openbaarmaking van Debiteure, insluitend slegte skulde en voorsiening/toelaag vir slegte skulde.*
24. Measurement and disclosure of Creditors. / *Meting en openbaarmaking van Krediteure.*
25. Calculation of depreciation on Property, Plant and Equipment. / *Berekening van waardevermindering/depresiasie op Eiendom, Aanleg en Toerusting.*
26. The ability to post information from journals to the general ledger and to the financial statements. / *Die vermoë om inligting oor te boek vanaf joernale na die grootboek en na finansiële state.*
27. The ability to process accounting adjustments. / *Die vermoë om rekeningkundige aansuiwerings te verwerk.*
28. Perform bank reconciliations / *Uitvoer van 'n bankrekonsiliasie.*
29. Understand the difference between direct and indirect tax. / *Verstaan die verskil tussen direkte en indirekte belasting.*
30. Understand the concept of VAT (Value-Added Tax) / *Verstaan die konsep van BTW (Belasting op Toegevoegde Waarde).*
31. Basic VAT concepts, for example being able to take out VAT from a VAT inclusive amount / *Basiese BTW beginsels, byvoorbeeld om BTW te kan uithaal by 'n BTW-ingeslote bedrag.*
32. Ability to account for VAT in the entity's accounting records / *Die vermoë om BTW te verantwoord in die entiteit se rekeningkundige rekords.*
33. Distinguish between invoice and payment basis in respect of VAT / *Onderskei tussen faktuur- en betalingsbasis met betrekking tot BTW.*
34. A basic understanding of companies' tax. / 'n Basiese begrip van maatskappy belasting.
35. Understand the basic principles of STC/dividend tax. / *Verstaan die basiese beginsels van SBM/dividend belasting.*
36. Understand the basic concepts of PAYE (Pay As You Earn). / *Verstaan die basiese beginsels van LBS (Lopende betaalstelsel).*
37. Be aware of the concept of Provisional tax. / *Wees bewus van die beginsel van Voorlopige belasting.*
38. Understand the concept of a progressive tax scale. / *Verstaan die beginsel van 'n progressiewe belastingskaal.*

39. Know the difference between the different types of entities, e.g. Partnerships, Companies, Sole Proprietors, etc. / Die verskille te ken tussen die verskillende besigheidsvorme, bv. Vennootskappe, Maatskappye, Eenmansake, ens.
40. Explain the difference between managerial and financial accounting / *Verduidelik die verskil tussen bestuurs- en finansiële rekeningkunde.*
41. General Accounting concepts for manufacturing enterprises, for example determining the cost of a product using variable and fixed costs / *Algemene Rekeningkunde beginsels vir vervaardigingsondernemings, byvoorbeeld vasstelling van die koste van 'n produk deur die gebruik van vaste- en veranderlike koste.*
42. Analyses and interpretation of financial statements, for example calculating the acid-test ratio and current ratio / *Ontleding en vertolking van finansiële state, byvoorbeeld die berekening van die vuurproefverhouding en bedryfskapitaalverhouding.*
43. Discuss the impact of the above-mentioned types of ratios (see question 44) on financial decisions */ Bespreek die impak van die bogenoemde tipes verhoudings (sien vraag 44) op finansiële besluite.*
44. The definition of Managerial Accounting / *Die definisie van Bestuursrekeningkunde.*
45. The difference between direct and indirect costs / *Die verskil tussen direkte- en indirekte koste.*
46. Determining the break-even point / *Vasstelling van die gelykbreekpunt.*
47. Calculate the value of inventory using the FIFO (first-in-first-out), LIFO (last-in-last-out) and weighted average methods / *Bereken die waarde van voorraad deur die EIEU (eerste-in-eerste-uit), LIEU (laaste-in-eerste-uit) en geweegde gemiddelde metodes te gebruik.*
48. Prepare a budget / *Opstel van 'n begroting.*
49. Code of Ethics, for example the principles of ethical and professional behaviour by accountants like independence and confidentiality of information / *Professionele gedragskode, byvoorbeeld die beginsels van etiese- en professionele gedrag deur rekenmeesters soos onafhanklikheid en vertroulikheid van inligting.*
50. Ability to discuss disciplinary procedures when the Code of Ethics is not abided to / *Vermoë om dissiplinêre prosedures te bespreek as daar nie aan die Professionele gedragskode voldoen word nie.*
51. Be aware of the existence of the King Code / *Bewus wees van die bestaan van die King Kode.*
52. Effective use of information technology in the recording of transactions of the entity / *Inligtingstegnologie effektief te kan gebruik in die teboekstelling van transaksies in die rekords van 'n entiteit.*

53. Identification of basic internal control processes / *Identifisering van basiese interne beheerprosesse.*
54. The difference between internal control and internal audit / *Die verskil tussen interne beheer en interne oudit.*
55. Interpretation of internal audit reports / *Interpretasie van interne ouditverslae.*
56. Basic procedures of gathering audit evidence / *Basiese prosedures om ouditbewyse te versamel.*
57. Basic sampling techniques / *Basiese steekproefnemingstegnieke.*

If you have any other comments or suggestions of other important topics, please type them on the multiple choice card provided / *Indien u enige verdere kommentaar of voorstelle vir ander belangrike onderwerpe het, tik dit asb. Op die multikeusekaart verskaf neer.*

Annexure C - Survey for various audit firms in Gauteng, South Africa, to identify skills shortages in first-year Chartered Accountant trainees

PART A: DEMOGRAPHICAL INFORMATION ABOUT YOURSELF / *DEEL A: DEMOGRAFIESE INLIGTING OOR USELF*

Answer the following questions (for statistical purposes only) / *Beantwoord die volgende vrae (vir statistiese doeleindes alleenlik):*

1. I am currently employed by: / *Ek is tans 'n werknemer by:*

(firm name) / *(naam van firma)*

2. The firm is classified as (choose one): / *Die firma is geklassifiseer as (kies een):*

Small / *Klein*	
Medium	
Large / *Groot*	

3. My current position in the firm is (choose one): / *My huidige posisie in die firma is (kies een):*

First-year clerk / *Eerstejaar klerk*	
Second-year clerk / *Tweedejaar klerk*	
Third-year clerk / *Derdejaar klerk*	
Manager / *Bestuurder*	
Partner / *Vennoot*	
Other: please specify / *Ander: spesifiseer asb.*	(specify if applicable / *spesifiseer indien van toepassing*)

4. At which university and in which year did you obtain your 3-year (pre-graduate) accountancy or similar degree? / *By watter universiteit en in watter jaar het u u 3-jaar (voorgraadse) rekenmeesterskap of soortgelyke graad verwerf?*

University name: / *Naam van universiteit:*	
Year obtained: / *Jaar verwerf:*	

5. If applicable, at which university and in which year did you obtain the Certificate in the Theory of Accountancy (CTA; post-graduate)? / *Indien van toepassing, by watter universiteit en in watter jaar het u die Sertifikaat in die Teorie van Rekenmeesterskap (STR; nagraads) verwerf?*

University name: / *Naam van universiteit:*	
Year obtained: / *Jaar verwerf:*	

6. If you are still studying part-time: / *Indien u steeds deeltyds studeer:*

Name of degree/qualification you are currently enrolled for: / *Naam van graad/kwalifikasie waarvoor u tans ingeskryf is:*	
University name: / *Naam van universiteit:*	

7. My professional membership is as follows / *my professionele lidmaatskap is soos volg:*

Name of professional body / *Naam van professionele liggaam*	(for example SAICA, SAIPA, etc.) / *(byvoorbeeld SAICA, SAIPA, ens.)*

(note: most trainees would not yet be a member of a professional body / *let wel: meeste klerke sal nog nie 'n lid van 'n professionele liggaam wees nie)*

8. If applicable, in which year did you obtain your professional membership (refer question 7)? / *Indien van toepassing, in watter jaar het u u professionele lidmaatskap verwerf (verwys vraag 7)?*

(year) / *(jaar)*

9. How long have you been employed by the firm you are currently working at / *Hoe lank is u al in diens by die firma waar u tans werksaam is?*

(number of completed years) / *(aantal voltooide jare)*

PART B: YOUR EXPERIENCE OF THE SKILLS THAT UNIVERSITIES EQUIP FIRST-YEAR TRAINEES WITH / *DEEL B: U ERVARING VAN DIE VAARDIGHEDE WAARMEE UNIVERSITEITE EERSTEJAAR KLERKE TOERUS:*

Answer the following questions about your experience of skills that **universities** equip **first-year trainees** with, by using the following scale / *Beantwoord die volgende vrae aangaande u ervaring van vaardighede waarmee **eerstejaar klerke** deur **universiteite** toegerus word, deur die volgende skaal te gebruik*:

1. You strongly disagree / *U stem glad nie saam nie*
2. You disagree / *U stem nie saam nie*
3. You are neutral / *U is neutraal*
4. You agree / *U stem saam*
5. You strongly agree / *U stem volkome saam*

Question	**Answer 1-5**
10. First-year trainees are equipped by universities with the necessary skills to function in practice / *Eerste jaar klerke word deur universiteite met die nodige vaardighede toegerus om in praktyk te kan funksioneer.*	
11. First-year trainees generally adapt well to the working environment / Eerstejaar klerke pas oor die algemeen goed aan by die werksomgewing.	
12. First-year trainees can communicate professionally / Eerstejaar klerke kan professioneel kommunikeer.	
13. First-year trainees work well in a team / Eerstejaar klerke werk goed saam in ’n span.	

14. First-year trainees can make ethical decisions in challenging circumstances / Eerstejaar klerke kan etiese besluite neem in uitdagende omstandighede.	
15. First-year trainees demonstrate a high level of technical expertise / Eerstejaar klerke toon ’n hoë vlak van tegniese kundigheid.	
16. First-year trainees are able to make sensible judgements / Eerstejaar klerke is in staat om sinvolle beoordelings te maak.	
17. First-year trainees can think for themselves / Eerstejaar klerke kan vir hulself dink.	
18. First-year trainees place the interests of the client and their employer before their own self-interest / Eerstejaar klerke stel die belange van die kliënt en hul werkgewer voor hul eie selfbelang.	
19. First-year trainees perform work to a high standard of quality / Eerstejaar klerke voer werk uit teen ’n hoë standaard van kwaliteit.	
20. First-year trainees treat others respectfully, courteously and equitably / Eerstejaar klerke behandel ander met respek, hoflikheid en billikheid.	
21. First-year trainees demonstrate intellectual ability and the ability to apply themselves / Eerstejaar klerke toon intellektuele vermoëns en die vermoë om hulself te kan toepas.	
22. First-year trainees are equipped to be life-long learners to adapt to the fast pace of change / Eerstejaar klerke is toegerus om lewenslange leerders te wees om by die snelle pas van verandering te kan aanpas.	
23. First-year trainees are able to determine the extent of testing needed in audits / Eerstejaar klerke is in staat om die omvang te bepaal van die toetsing wat benodig word in oudits.	

PART C: IDENTIFICATION OF SKILLS SHORTAGES / ***DEEL B: IDENTIFISERING VAN VAARDIG-HEIDSTEKORTE***

24. In your opinion, do you feel **universities** prepare **first-year** CA trainees adequately for practice? Please motivate thoroughly: / *In u opinie, dink u* ***universiteite*** *berei* ***eerste-jaar*** *GR klerke voldoende voor vir die praktyk? Motiveer asb. volledig:*

Type in the box / *Tik in die blokkie*

25. Please identify all skills shortages in first-year CA trainees **at the point of entering practice (i.e. at the beginning of first year of articles):** / *Identifiseer asseblief alle vaardighede wat eerste-jaar GR klerke kortkom* ***by die punt waar hulle die praktyk betree (m.a.w. aan die begin van hul eerste jaar van klerkskap):***

Type in the box / *Tik in die blokkie*

26. Please make any recommendations you feel will help improve the skills shortages in **first-year** CA trainees when entering practice. These may include interventions at university level: / *Maak asseblief voorstelle wat u dink sal help om die tekort aan vaardighede by* ***eerste-jaar*** *GR klerke te verbeter. Hierdie voorstelle mag intervensies op universiteitsvlak insluit:*

Type in the box / *Tik in die blokkie*

27. Please feel free to type any other remarks in the space below: / *Voel gerus vry om enige verdere opmerkings in die spasie hieronder in te tik:*

Type in the box / *Tik in die blokkie*

Annexure D.1 – Submission confirmation: SAJAR

From: Maureen Lawrence [mailto:Maureen.Lawrence@uct.ac.za]
Sent: 12 November 2013 12:25
To: Van Romburgh, Henriëtte
Subject: Manuscript submitted to SAJAR - Ref 13/23

Dear Henriette

I apologise for the delay in acknowledging with thanks receipt of your paper submitted to SAJAR. I will contact you in due course regarding the progress of your submission.

Regards

Maureen

Maureen Lawrence
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Fax: +27 21 6505124
maureen.lawrence@uct.ac.za

Annexure D.2 – Submission confirmation: Industry & Higher Education

From: John Edmondson [mailto:jedmondson@ippublishing.com]
Sent: 07 November 2013 17:02
To: Van Romburgh, Henriëtte
Subject: RE: Manuscript submission

Dear Henriette

Re: University versus practice...

This is to acknowledge with thanks safe receipt today of your submission to Industry and Higher Education. I shall send the paper out for review within the next few days - this process normally takes around 6 to 8 weeks. I shall be back in touch with you as soon as possible, but in the meantime please don't hesitate to contact me at any time if you would like an update on the status of your paper.

With best regards,

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Website: www.ippublishing.com

Annexure E.1 – Author guidelines: SAJAR

Manuscript submissions

Authors should submit their manuscripts by e-mail to sajar@saica.co.za Alternatively they may submit 3 hard copies to Prof Enrico Uliana, Editor SAJAR, Department of Finance, Bremner Building, University of Cape Town, Private Bag Rondebosch 7701, South Africa. Manuscripts must include an abstract and up to ten keywords. Manuscripts must be free of any identification of the author(s), affiliations, and acknowledgements. A separate sheet should include the title, affiliation, contact address, phone number, fax and email address and any appropriate acknowledgements. The letter to the editor should contain a statement that the manuscript or a similar one has not been published and is not, nor will be, under consideration for publication elsewhere while being reviewed by SAJAR.

The above instructions must be adhered to for resubmission.

Manuscript preparation and style

Manuscripts should be prepared for A4 paper and be 1.5 or double-spaced. Authors are requested to use a 12 point easily legible font, and margins should be at least one inch to facilitate editing.

References in the text. Cited information must be identified accurately. The surname(s) or the author(s), year of publication and page number(s) appear in parentheses after the quotation, for example (Coetzee, 2003:2-5), (Brown & Jones, 2003:2-5). Omit the page number(s) if the entire publication is referred to, for example (Berger, 2001). In works by three or more authors the surnames of all the authors should be given in the first reference to such a work, for example ‘A recent study (Jones, Smith, Boren & White, 2002) shows … .' In later references to this work only the first author's name is given, and the abbreviation et al., a comma and the year of publication. For example: (Jones et al., 2002).

References at the end of the manuscript. More details about sources referred to in the text must appear at the end of the manuscript under the caption ‘References'. All sources must be arranged alphabetically according to the surnames of the first author. If more than one publication by the same author(s) appear in one year they must be distinguished by a, b, etc., for example 2003a, 2003b.

References from books. After the year of publication, follows the title. The Edition, Place of publication: publisher, total number of pages:

Steers, R.M. and Porter, L.W. (1991). Motivation and work behaviour. 5th Edition. Singapore: McGraw-Hill.

References from journals. After the year of publication, follows the title of the article, title of the journal, volume, number, page(s).

Doyle, R.J. (1983). Gainsharing – A total productivity approach, Journal of Contemporary Business, 11(2):57-70.

Annexure E.2 – Author guidelines: Industry & Higher Education

Submissions - Notes for authors

Please send submissions, either by e-mail or post, to John Edmondson, Industry and Higher Education, IP Publishing Ltd, 258 Belsize Road, London NW6 4BT, UK. jedmondson(at)ippublishing.com

Type and length of contributions

The major part of the journal is taken up by papers between 4,000 and 8,000 words long. These should be analytical and evaluative in approach and not simply descriptive. Other contributions include opinion or 'viewpoint' pieces (1,500-3,000 words); case studies of specific ventures or programmes (1,500-3,000 words); brief factual summaries of reports, agency programmes, educational institutions, etc (1,000-2,000 words); and letters to the editors.

Presentation

Submissions should be double-spaced. They can be sent either by e-mail to the **editor** or by post (in which case one hard copy and a disk or CD should be enclosed). Papers should preferably be sent in Word (please note that PDF versions are not acceptable for review purposes). The title page should contain full names of the authors, their professional status or affiliation and the address to which they wish correspondence to be sent. There should be an abstract of about 100 words at the beginning of the paper. The text should be organized under appropriate cross-headings and where possible these should not be more than 800 words apart.

Between 3 and 6 keywords should appear below the abstract, highlighting the main topics of the paper.

References should follow the Harvard system. That is, they should be shown within the text as the author's surname (or authors' surnames) followed by a comma and the year of publication, all in round brackets: for example, (Smith, 1998). For textual citations, where there are two authors please use the word 'and', not the ampersand (thus: '(Smith and Jones, 2012)'. Where there are more than two authors, please use the first-named author only, followed by 'et al' in italics (thus: Smith et al, 2012). At the end of the article a bibliographical list should be supplied, organized alphabetically by author

(surnames followed by initials - all authors should be named). Bibliographic information should be given in the order indicated by the following examples:

Articles: Woollard, D. (2010), 'Towards a theory of university entrepreneurship', *Industry and Higher Education*, Vol 24, No 6, pp 413–427.

Books: Viale, R., and Etzkowitz, H., eds (2010), *The Capitalization of Knowledge*, Edward Elgar, Cheltenham.

Notes should be numbered consecutively in the text and typed in plain text at the end of the paper (not as footnotes on text pages).

Figures and tables should be presented separately on separate sheets at the end of the text. Each figure or table must be referred to in the text - the first reference will be used to locate the figure or table in the final printed version.