

# **Evidence of Accounting as a Grade 12 subject for first-year Accounting students at a South African university**

**Prof Dr Elmarie Papageorgiou**

School of Accountancy

University of the Witwatersrand

Johannesburg

Email: Elmarie.Papageorgiou@wits.ac.za

## **ABSTRACT**

**Orientation:** The future of Accounting education and the prior knowledge of students entering academic institutions is an ongoing debate. It is important for higher education institutions, students and professional bodies alike that the factors that influence students' academic performance are identified. This study is a work-in-progress.

**Purpose/objective of the study:** The purpose of this study was to investigate the effect of prior knowledge and no prior knowledge of Accounting as a Grade 12 subject on the academic performance of first-year Accounting students enrolled in an undergraduate Chartered Accountant (CA) degree programme.

**Research problem:** In order to achieve the aim of the study, the main objective was to determine whether there were any correlations between the academic performance of first-year Accounting students and prior Accounting exposure at school level, marks obtained in Accounting as a Grade 12 subject, age, gender and race. In addition to also explore Accounting students' opinions by delving more deeply into students' interests in accounting and their experiences of accounting as a school subject.

**Research method:** The research method was a mixed method, using quantitative and qualitative methodologies.

### **Main findings and contribution:**

The findings offer Accounting lecturers, institutions and accounting professionals a better understanding of and a greater sensitivity for the prior knowledge that students bring to universities and which could influence their academic performance. This study concluded with evidence on the ongoing debate as to whether Accounting as a Grade 12 subject is beneficial for students and mixed opinions from respondents if prior accounting knowledge is beneficial or not in becoming a Chartered Accountant. The findings make an important contribution by revisiting the admission requirements for students applying for a Chartered Accountant programme at South African universities.

### **Key words**

Academic performance, Accounting students, gender, university, South Africa

## INTRODUCTION

The future of Accounting education and the prior knowledge of students entering academic institutions is an ongoing debate. For the majority of students, career and educational aspirations, personal interests and characteristics are the main drivers (Samsuddin *et al.*, 2015). The factors that influence students' academic performance have attracted the attention of many researchers. Duff (2004) states that there is a variety of factors that affect students' performance in their first year of study at higher education institutions, while other studies (Papageorgiou and Halabi, 2014; Van Rensburg *et al.*, 1998; Bergin, 2001) have indicated factors that could affect students' performance such as age, gender and prior academic achievement.

This paper reflects on an investigation into the effect on first-year accounting students' academic performance if they had or did not had Accounting as a Grade 12 school subject. The motivation of this study was further enthused by the study of Arquero *et al.* (2009) that recommended future research in particular, future qualitative research by delving more deeply into students' interests in accounting and their experiences of accounting as a school subject. The results of this study indicated a significant association between first-year Accounting students' academic performance of if they had Accounting as a Grade 12 subject compared to students with no prior knowledge of Accounting. In addition, no significant relationships were found between the academic performance of first-year Accounting students in relation with the age, gender and race of students in respect if they had or did not had Grade 12 Accounting. This study concluded with mixed opinions from respondents since the findings contribute to the ongoing debate as to whether Accounting as a Grade 12 subject is beneficial for students who intend becoming South African Chartered Accountants (CA(SA)). A CA(SA) is associated with a person who has a professional accountancy degree, obtained an additional postgraduate Honours degree or postgraduate diploma in Accounting, completed a three-year training contract, passed two board examinations and is a member of the South African Institute of Chartered Accountants (SAICA).

The students in question were enrolled at a South African university for an undergraduate Accounting degree programme accredited by SAICA, with the intention of becoming chartered accountants. This programme is characterised by extremely large classes as well as the diverse range of prior knowledge students bring to these classes (Scott *et al.*, 2007; Müller *et al.*, 2007; Steenkamp *et al.*, 2009). Currently, there are 23 universities in South Africa, 11 of which are research-intensive universities, conducting pure and applied research, six are technology based and the remaining six are comprehensive universities offering traditional university programmes

(Pitso, 2013; SA Info, 2015). The university under review is a public, urban, comprehensive university in South Africa and is the highest ranked university in Africa according to the Center for World University Rankings (CWUR, 2016).

In an attempt to increase students' academic performance and eventually the throughput rate, it is important to explore the factors that affect academic performance. The finding of such research could be useful to higher education institutions, students and professional bodies. This study was inspired by two studies. The first study by Van Rensburg *et al.* (1998) investigated the effect of secondary school Accounting on Accounting performance at a South African university and concluded that prior Accounting exposure improved student performance. The second study by Bergin (2001) explored the effect of previous Accounting studies on student performance in a first-year college Financial Accounting course at an American university. The results of this study confirmed that there was no significant difference in the examination performance between the students that had and those that had not studied Accounting before entering university. The purpose of this study was to investigate the effect on first-year Accounting students' academic performance whether they had or did not have Accounting as a Grade 12 subject. The following two objectives were addressed:

- To determine if there are any correlations between the academic performance of first-year Accounting students and prior Accounting exposure at school level, the symbol (symbol obtained in the National Senior Certificate (NSC)) obtained in Grade 12 Accounting, age, gender and race, and
- To explore the Accounting students' opinions (perceptions) if they had or did not have Accounting as a Grade 12 subject.

This paper begins by reviewing previous research on the benefits or not of having had Accounting as a subject prior to entering an undergraduate CA Accounting degree programme with particular reference to the South African context. Thereafter the literature related to the study will be discussed followed by the research method. The paper concludes with the results, conclusion and limitations of the research and lastly recommendations for future research.

## **LITERATURE REVIEW**

School life spans thirteen years or grades, from Grade 0 (nought), otherwise known as Grade R or "reception year", through to Grade 12 or "matric", before learners enter higher education. South

Africa relies on the matric pass rate as a significant marker of what is happening in schools. The matric pass rate, which was as low as 40% in the late 1990s, has improved considerably. South Africa's 2014 Grade 12 learners achieved a pass rate of 75.8% (SA Info, 2015). However, the national pass rate in the 2015 NSC Grade 12 examinations dropped to 70.7%, down from 2014 (Department of Basic Education RSA, 2016).

Students can apply to higher education institutions to further their studies if they fulfil the admission requirements of the institution. These admission requirements, which vary depending on the degree, are posted on university websites and/or are available at university enrolment centres. The marks learners obtained in their final year at school are the most important admission requirement to enter higher education at South African universities. However, in most universities the total number of points or score provided by the final NSC examinations is used merely as a guideline for admission. Thus, meeting the requirements does not guarantee a place in the institution and the final selection of applicants is made subject to the availability of places, academic results and other entry requirements where applicable. Accounting lecturers and educators confirm that prior research and experience have shown that those learners with a higher score or points in the NSC outperform their counterparts with weaker mathematics abilities in the Accounting stream (Baard *et al.*, 2010). Therefore, Mathematics, English and, in some cases, Accounting marks obtained in the NSC examination are used as admission requirements since these subjects are believed to be a reasonable predictor of student performance (Baard *et al.*, 2010; Du Plessis *et al.*, 2005; Müller *et al.*, 2007).

Duff and Mladenovic (2015) state that first-year Accounting students that had prior knowledge of accounting obtained inconsistent and inconclusive academic results. Such research has in many cases been in isolation and a more comprehensive investigation may consequently provide insights into these inconsistencies. Doran *et al.* (1991) confirmed that students with prior knowledge of Accounting in secondary school tend to perform better at university level than students who did not have prior accounting knowledge. Aidoo-Buameh and Ayagre (2013), who conducted their research at the Central University College in Ghana, investigated relationships between Accounting students admitted to the university predominantly in terms of the prior knowledge they bring to lectures and their academic performance. The results confirmed that pre-university Accounting grades were statistically significant in determining the performance of Accounting students at the university.

A study by Akenbor (2014) investigated the institutional factors influencing the academic performance of first-year students enrolled for the Introduction of Financial Accounting I course at the Federal University Otuoke in Nigeria. One of Akenbor's (2014) recommendations was that pre-university Accounting with a minimum pass is a key success factor for achieving in Accounting and should be part of the requirements for admitting students to the Accounting programme. Gul and Fong (1993) examined the success of first-year introductory accounting students at the University of Hong Kong and confirmed that previous knowledge of Accounting was a significant predictor of student performance. Prior research has confirmed a significant positive relationship between prior academic achievement and academic performance in first-year Accounting courses (Arquero *et al.*, 2009; Byrne and Flood, 2005). Arquero *et al.* (2009) investigated the preparedness and academic performance of 180 first year accounting students enrolled for Financial Accounting I at a Spanish university and concluded that the interest in accounting and the experience of accounting as a subject at school were significantly correlated with academic performance. Schroeder (2001) found that students with more than one year of school Accounting obtained higher scores in a college introductory Financial Accounting course than those with one year and less exposure to Accounting.

Mitchell (1988) investigated high school Accounting and student performance in the first level accounting course at the University of Edinburgh in the United Kingdom. He concluded that students with high school Accounting scored slightly higher than students without high school Accounting. However, the difference in performance was small and not significant at the 5% level. In contrast, Yee Lee (1999) concluded that students who passed Accounting outperformed students with no prior Accounting qualification in Accounting I but not in Accounting II. Furthermore, Baldwin and Howe (1982) investigated secondary-level study of Accounting and subsequent performance in a first-year Elementary Financial Accounting college course at Arizona State University. The findings of the study confirmed that there was no difference in students' performance whether they had prior knowledge of Accounting or not. Xiang and Gruber (2013) studied students who have had a high school accounting course prior to university while others have not and the results suggested a significant and positive relationship between students who had accounting at school and students that did not had accounting at school. Pullen *et al.* (2015) investigated factors that impact on performance of students registered for advanced management accounting at the University of the Western Cape between 2009 and 2013 and confirmed that students who obtained a higher overall final high school grade outperform their counterparts who obtained a lower grade. Jansen and De Villiers (2016) identified the determinants of students

exiting accounting modules in an accounting degree programme at the University of the Western Cape. The findings indicated that high school grades are significantly related to their performance in the final year undergraduate accounting module.

Prior studies (Rowlands, 1988; Van Rensburg *et al.*, 1998; Bergin, 2001) have reported mixed results in relation to students with prior knowledge of Accounting entering higher education to enrol for an Accounting course. Rowlands (1988) and Van Rensburg *et al.* (1998) concluded that students with previous exposure to Accounting performed better in the initial stages of Accounting than students with no prior knowledge, while Bergin (2001) found no relationship between students with prior Accounting knowledge and student performance in a first-year college Financial Accounting course,

Chansarkar and Michaeloudis (2001) investigated student profiles and factors affecting performance of first- year students at university in the United Kingdom. Mixed findings have been reported regarding the relationship between gender and academic performance: Chansarkar and Michaeloudis (2001) concluded that students' academic performance is not affected by factors like age and gender, while Gammie *et al.* (2010) indicated that females outperformed their male counterparts in a first-year Accounting module. In contrary, Arquero *et al.* (2009) concluded that male students obtained significantly higher scores than females since females have more confidence to succeed at university. Fischer *et al.* (2013) investigated 554 German first-year students in their study 'Why female students outperform male students' and concluded that female students perform better than male students due to 'higher achievement motivation', 'self-control' and 'taking pride in their own productivity'. Roos (2009) investigated factors affecting Southern African students' success in the Chartered Institute of Management Accountants (CIMA) and found that female students tend to outperform male students.

### **Chartered Accountant degree**

SAICA accredits programmes designed to train future chartered accountants which are only offered at certain South African universities (SAICA, 2015a). Accreditation means that

... the academic unit has put in place the appropriate resources that, if utilised effectively, should enable it to deliver the programme at the required standards and levels of quality; and the programme meets SAICA' s requirements in terms of the standards of learning and teaching. Accreditation of a programme is not an assurance

that the academic unit is achieving the required standard of delivery of that programme. Rather, accreditation certifies that a programme contains the requirements necessary to meet SAICA's accreditation standards (SAICA, 2015a).

Accreditation status is divided into three opinions: first opinion – accredited; second opinion – accredited, needs improvement; and third opinion – accredited, subject to meeting SAICA requirements. Accredited academic institutions are visited by SAICA once every five years for a full monitoring visit and on an annual basis for follow-up visits. Currently, ten universities have obtained opinion one status (accredited), five universities an opinion two status (accredited, needs improvement) while no university has obtained opinion 3 status (accredited, subject to meeting SAICA requirements). This study will focus on the universities that obtained opinion one status – accredited, that limit the study to a sub-population to therefore standardizes the environment in which the students are taught which makes the universities comparable. The name of the undergraduate qualification for becoming a chartered accountant and the admission requirements vary among the ten accredited universities, but at all the universities the duration of the degree is three years' full time except for one university with a four year undergraduate programme, while a postgraduate diploma in Chartered Accountancy or a BCom Honours in Chartered Accountancy, is one year full-time. The admission requirements of each university vary, with the score/points required for admission depending on the requirements at each university.

In 'How to become a CA(SA)?', SAICA states the following with regard to when scholars exit school with the correct subjects and levels (SAICA, 2015b):

- The minimum requirements for university admission are a Level 5 pass in Mathematics, together with a National Senior Certificate with matriculation exemption. You need to take pure Mathematics (not Mathematical Literacy) as a subject.
- A good grounding in English is essential, as it will help you to understand the concepts you will study.
- Having Accounting as a school subject could help you in your studies towards your degree, but at most universities this is not compulsory

This study investigates whether Accounting as a Grade 12 school subject is a prerequisite and/or a subject requirement for applying for a CA degree at ten accredited universities. The admission requirements for the CA degree of ten universities were sourced from the

university's official Website, documented and analysed and are summarised as follow: (Mathematics and English were included in the study to compare SAICA requirements to the university admission requirement for the completeness of the study) (NMMU, 2015; NWU, 2015; RU, 2015; UCT, 2015a; UCT, 2015b; UJ, 2015; UL, 2015; UP, 2015; US, 2015; UOFS, 2015;Wits, 2015).

- Mathematics: Six universities require Mathematics Level 5 with a minimum of 60%, two universities requires Mathematics Level 4 with a minimum of 50%, however it should be noted that at the one university a four year undergraduate programme was used and at the other university students register for a standard BCom as an undergraduate degree before qualifying for the CA programme, one university requires Mathematics Level 6 with a minimum of 70% and one university requires Mathematics Level 6 with a minimum of 70% or Mathematics Level 5 with a minimum of 60% and Accounting Level 6 with a minimum of 70%. SAICA (2015b) states that a minimum requirement for university admission is a Level 5 pass in Mathematics and pure Mathematics (not Mathematical Literacy (Math Lit)) as a subject.
- English: Three universities do not mention any requirement for English or any other language, three universities require English Level 4 with a minimum of 50%, two universities require English Level 5 with a minimum of 60% with no distinction between HL (Home Language) and FAL (First Additional Language), one university requires English on as least Level 3 with a minimum of 40%, and one university requires English HL at 50% or English FAL at 60%. Additionally, three universities recognise other languages, Afrikaans, IsiXhosa and any other language. SAICA (2015b) states that a good grounding in English is essential, as it will assist in understanding the concepts used, but does not prescribe any level requirement for English as a First Additional Language (FAL) or Home Language (HL) or dictate any other language.
- Accounting as a Grade 12 subject: Six universities do not mention any requirement for Accounting as a Grade 12 subject, one university mentions that Accounting as a Grade 12 subject is a recommendation but not a prerequisite, one university divides the candidates into two groups, one group that had Accounting in Grade 12 and one group that did not have Accounting in Grade 12 when enrolling for the Financial Accounting course and the Accounting course in their first year of study in the CA programme. In addition, one university requires students to write an Accounting proficiency test and

one university requires students to obtain 70% for Mathematics OR 60% for Mathematics and 70% for Accounting. SAICA (2015b) states that having Accounting as a school subject could be advantageous when doing the degree, but at most universities this is not compulsory.

- Life Orientation: Only one university requires Life Orientation Level 3 with a minimum of 40%.
- Other requirements: Only one university requires Other Subjects Level 4 with a minimum of 50%.

At ten of the universities an Admission Point Score (APS) is used to determine the admission score/points, while at one university a Faculty Point Score (FPS) based on the APS score is used. The name of the CA degree varies among the ten universities, three universities name the degree BAcc (Bachelor for Accounting), three universities used the word 'Science' in their degree and the other four universities used BCom with a variation of Accounting for Chartered Accountants, Bachelor of Commerce and Financial Accounting (CA) stream.

## **RESEARCH METHOD**

This research study used a mixed method design, using quantitative and qualitative methodologies (Leedy and Ormrod, 2012; Ryan *et al.*, 2002). The research focused on prior Accounting knowledge and academic performance of first-year degree Accounting students.

### **Participants**

The group selected for this study were 592 first-year full-time Accounting students enrolled for the Financial Accounting I course for the Accounting Commerce degree to become chartered accountants (CAs) at a South African university. The Financial Accounting I course is offered over one academic year and students are assessed by means of three tests during the year (April, June and September) and one final exam in November. Students attend lectures (four to five periods a week) and tutorials (three periods a week). Students also submit projects and assignments as part of the Accounting curriculum and write ad hoc concept tests during tutorial periods. The validity of this study was assessed after one academic year.

### **Data collection and analysis**

Data was collected from two sources. Firstly, data was collected from a university computerised database that was made available in the form of a spread sheet showing student numbers with corresponding academic marks for the final exam. Students need to obtain 50% or higher to pass the Financial Accounting course. For the second source, data was collected from an online questionnaire administered via the university portal. The data was analysed using SPSS in order to identify frequencies and to determine whether any correlations exist between the academic performance of first-year Accounting students and prior Accounting exposure at school level, marks obtained in Accounting as a Grade 12 subject, age, gender and race. In addition, the qualitative data was analysed and summarised in two categories to identify any common themes among the opinions of Accounting students that had either had or not had Accounting as a Grade 12 subject.

### **Research Instrument**

A self-developed questionnaire was used to gain information about the prior knowledge students enrolled for the Financial Accounting I course bring to lectures. The questionnaire consisted of two sections. Section 1 sought to collect biographical data pertaining to students, including whether Accounting had been offered as a Grade 12 subject, whether the student had had Accounting as a Grade 12 subject and, if so, the Accounting symbol obtained in Grade 12. Section 2 was intended to obtain qualitative data relating to students' opinions of Accounting if they had either had or not had Accounting as a Grade 12 subject.

## **RESULTS AND DISCUSSION**

The study reports on the demographics of the 559 Financial Accounting I students that responded to the questionnaire (response rate of 94.4%): average age of 19.1 years, 67.1% were African, 11.8% Asian, 10.6% white, 4.3% coloured and 6.3% 'other', while 55.1% of the class was female. Nearly 86.5% of the students had Accounting as a Grade 12 subject. The results of the study are discussed to address the two objectives of the study.

### **Correlations between the academic performance of first-year accounting students and prior Accounting exposure at school level, marks obtained in Accounting as a Grade 12 subject, age, gender and race**

The first objective was addressed in the first part of the study. Pearson chi-square tests for independence were conducted to determine whether there was any significant correlation between

academic performance in Financial Accounting I and the fact that students had or did not have Grade 12 Accounting, the symbol obtained in Accounting as a Grade 12 subject, age, gender and race.

*Correlation between academic performance of first-year accounting students and prior Accounting exposure at school level*

The Financial Accounting I marks were split into two categories; Pass (50% and above) and Fail (less than 50%) and thereafter relationships were determined between the two categorical variables. The tests compare the observed frequencies that occur in each of the categories with the values that would be expected if there were no association between the two variables. The chi-square test indicated a significant association between academic performance and whether the student had Accounting as a Grade 12 subject,  $\chi^2 (2, n = 559) = 8.640, p = .013, \phi = .124$ . The finding of this study confirms with the finding of Aidoo-Buameh and Ayagre (2013) that there is a statistically significant relationship between Accounting at pre-university level and academic performance in Accounting.

*Correlation between academic performance of first-year accounting students and marks obtained in Accounting as a Grade 12 subject*

Nearly 68% of the students obtained an A symbol for Accounting in Grade 12. The chi-square test confirmed a significant association between academic performance and the symbol obtained in Grade 12 Accounting,  $\chi^2 (6, n = 559) = 29.983, p = .000, \phi = .232$ . In addition, a Kruskal-Wallis test was conducted to compare the scores of the final marks obtained for Financial Accounting I with symbols obtained for Accounting in Grade 12. This test revealed a statistically significant difference in marks obtained across the three different groups of the symbols obtained for Accounting in Grade 12 (Symbol A,  $n = 379$ , Symbol B,  $n = 86$ , Symbol C,  $n = 17$ , Symbol Other,  $n=1$ ),  $\chi^2 (3, n = 483) = 42.517, p = .000$ . The students who obtained an A symbol recorded a higher median score than the other two groups.

*Correlation between academic performance of first-year accounting students and age, gender and race*

The Pearson chi-square tests indicated that there were no significant relationships between the academic performance of first-year Accounting students and age,  $\chi^2 (8, n = 559) = 11.254, p = .188, \phi = .142$ , gender  $\chi^2 (2, n = 559) = 4.343, p = .114, \phi = .088$  and race  $\chi^2 (8, n = 559) =$

7.172,  $p = .518$ ,  $\phi = .113$ . Furthermore, a t-test was conducted to compare the Accounting marks of males and females. As confirmed earlier, no significant difference was found between the final Accounting marks for males ( $M = 57.32$ ,  $SD = 18.531$ ) and females ( $M = 59.64$ ,  $SD = 15.325$ ),  $t(557) = 1.62$ ,  $p = .11$ . In contradiction, Fischer *et al.* (2013) Roos (2009) concluded that female students perform better than male students. A Kruskal Wallis test was conducted which revealed that there was no significant difference between Accounting marks and the five race groups (Asian,  $n = 66$ ,  $MD = 57.92$ ; Black,  $n = 375$ ,  $MD = 57.82$ ; Coloured,  $n = 24$ ,  $MD = 57.17$ ; White,  $n = 59$ ,  $MD = 64.61$ ; Other,  $n = 35$ ,  $MD = 59.06$ ),  $\chi^2(4, n = 559) = 11.629$ ,  $p = .020$ . The race group that obtained the highest median score was the White group, followed by the Asian group and then the Black group.

### **Opinions of Accounting students if they had or did not have Accounting as a Grade 12 subject**

Arquero *et al.* (2009) recommended in their study in particular, future qualitative research that would have provided the opportunity to enrich the findings of their study by delving more deeply into students' experiences of accounting as a school subject. This recommendation of Arquero *et al.* (2009) was further explored to engage with students to explore the opinions of Accounting students if they had or did not have Accounting as a Grade 12 subject' was addressed as the second objective of the study. Students had the opportunity to respond to an open-ended question to express their opinions whether Accounting as a Grade 12 subject was beneficial or not in their first year of study at the university. This question was not compulsory but surprisingly 82.2% students responded to the question. The students demonstrated energy and enthusiasm in expressing their opinions; most questionnaires comprise of close questions and do not give students an opportunity to express their opinions. Nearly 95% of students who did not had Accounting in Grade 12 responded to the open-ended questions, while 80.3% of students that had Accounting in Grade 12 responded. These responses were analysed by determining common factors and common themes addressed by participants in the qualitative part of the study of whether or not the student had Accounting in Grade 12. The responses were categorised into two categories namely; 'Responses from students that did not have Grade 12 Accounting as a Grade 12 subject' and 'Responses from students that had Accounting as a Grade 12 subject'.

#### ***Responses from students that did not have Grade 12 Accounting as a Grade 12 subject***

It do appear from these following verbatim quotes that students are positive and confident to perform well in Financial Accounting I who had no prior knowledge of Accounting in Grade 12 and their first exposure to Financial Accounting I. There is a sense of students expressing their opinions and they confirmed that they did not have Accounting as a Grade 12 school subject but nevertheless responded with gratitude that with hard work and perseverance is seems possible to pass Financial Accounting I.

*'As someone who has not done Accounting in Grade 12, the volume of concepts to execute is difficult. However, with much hard work and perseverance, it seems possible to pass.'*

*'I believe that it is more challenging for us students who didn't do it in high school but it is doable.'*

Students furthermore stated that of not having Accounting as a Grade 12 school subject did not disadvantage them from other students that had Accounting. Furthermore it was not a major problem if they did not have Accounting as a Grade 12 subject since they can still proceed with university if they are passionate about the subject. These students are aware that support lectures are available on a weekly basis to assist students that did not had Accounting as a Grade 12 subject and/or students that are at risks and/or students feel that they need additional lectures on certain topics.

*'If you didn't have Accounting in high school, you are not at a disadvantage because the concepts and standards are taught thoroughly in varsity.'*

*'Not doing Accounting at school is not a major problem; you can still do it in varsity if you are really passionate about it.'*

Responses from students that did not have Accounting in Grade 12 stated that Accounting was not offered at their school. Strong evidence confirmed that when students were in Grade 9 they were advised by their subject guidance teacher not to take Accounting as a Grade 12 subject however some students are unaware of different career options and only discover the importance of subject choices when they apply at a university. Five percent of students that responded to the questionnaire confirmed that Accounting was not offered as a Grade 12 school subject and the following respondents replied:

*'Accounting was not offered in the school I attended. I find it challenging to adapt quickly because some lecturers assume that we all did accounting.'*

*'As a science student I was not allowed to take accounting at the same time which I feel is not fair since this disadvantaged me when I got to varsity.'*

Some responses from students that did not have Accounting in Grade 12 displayed negative feelings and some uncertainty about their way forward. There are many factors that influence academic performance and as stated below respondents confirmed that transition from high school to university, coping with new exam methods and teaching approaches could affect their academic performance. Transition from school to higher education can be exciting, but also potentially stressful and overwhelming. Pascarella and Terenzini (1991:58) describe this as a “culture shock ... involving new academic, personal and social demands” and poor tertiary performance or drop-out can result from poor adjustment, or failure to adjust, particularly in terms of social and academic demands (Woollacott *et al.*, 2013). Similarly, dissatisfaction, as well as the loneliness, anxiety, and depression associated with poor adaptation, can result in transition difficulties, or poor throughput (Riggo *et al.*, 1993).

*'I didn't have it as a subject and I think that has made my transition into university accounting slightly challenging.'*

*'I found it extremely difficult in terms of exam methods and how to approach accounting.'*

*'It has been extremely difficult.'*

Students that did not have Accounting in Grade 12 indicated that they believed that Accounting in Grade 12 would assist students and that they would advise learners to take Accounting as a Grade 12 subject. Rowlands (1988) and Van Rensburg *et al.* (1998) concluded that students with previous exposure to Accounting performed better in their first-year of accounting than students with no prior knowledge and in the second and third year of study no difference were found, while Bergin (2001) found no relationship if students had or did not have Accounting a Grade 12 subject.

*'I believe that Accounting at school definitely helps you with Financial Accounting 1. It gives a person a general understanding of the work covered in first year. Many people say it is not necessary to take Accounting at school level but I would advise a pupil to take it as a subject just to understand the basics of first-year Financial Accounting.'*

*'If I had Accounting at high school, it would have made things a little bit easier, like understanding the language and concepts.'*

One student who did not have Accounting in Grade 12 commented that students must be allocated to different groups in their first year of Accounting. At one South African university candidates who passed Accounting at school, must write an Accounting proficiency test and will only be admitted to Financial Accounting Code 11 if their results in this test are acceptable to the Head of the Department of Accounting/CA Programme. If not, they must register for Financial Accounting Code 12 in their first study year. Candidates that did not take Accounting as a school subject must register and pass Financial Accounting Code 12 in their first study year to proceed to the following year.

*'I feel that a separate lecture group or tut group should be held for students who did not take accounting at school.'*

### ***Responses from students that had Accounting as a Grade 12 subject***

Students entering university embodies a new stage of life after school and face a level of independence, personal responsibility and new-found freedom not previously experienced. Students need to adapt not only to adaptive changes to higher education challenges but also to coping with differential responsive to different personality endowments. Personality differences are associated with differences in attitudinal, interpersonal, motivational, experiential and emotional styles (McCrae & John, 1992). Therefore some students were confident, positive and self-assured about their previous exposure of Grade 12 Accounting and how it assisted them with Financial Accounting I since they did not have the same experiences as students that did not take Accounting in Grade 12.

*'I would not be able to cope with the university work had I not done accounting in high school.'*

*'Accounting at first-year university level is basically the same as matric accounting.'*

*'It is good to take accounting as a subject in high school if you want to pursue accounting as a career later. It helps you with the basics such as understanding and interpreting and applying the given information.'*

*'If I did not have accounting, I would have struggled a lot in my course.'*

*'Accounting is useful, you need to have prior knowledge.'*

*'If I did not have accounting as a Grade 12 subject I would be at a disadvantage.'*

*'I believe that it is better to have chosen Accounting as a subject in school. Students, such as me, who have done Accounting prior to university, seem to be at an advantage, as we are more familiar with the basic and fundamental principles of the subject.'*

However, different opinions were raised that confirmed that the content of Accounting as a Grade 12 school subject is different to university accounting and it does not really matter whether you had Accounting at school or not.

*'In my opinion school accounting does not in any way help you with varsity accounting'.*

*'Accounting at school is quite different from university accounting so it is quite difficult to adjust.'*

*'It's only like 5% of the work we do in Financial Accounting 1.'*

*'Accounting can be very tricky and times and in most cases requires high level thinking. I have come to enjoy ever since I came to university as the lecturers know what they are doing and in most cases never mislead us.'*

*'Accounting at University is way different compared to high School accounting. So it doesn't really matter whether you have done it or not.'*

A number of the students made suggestions and comments on Accounting as a pre-requisite for the CA Degree programme as to allocate students in two groups that had or did not have Accounting as a Grade 12 subject. One of the South African university's admissions requirements are that students who did not take or pass Accounting at the NSC performance level will register for the Accounting (not Financial Accounting) in the first semester of their first year and need to pass with 60% in order to continue with the CA Degree programme in the second semester. Should these students not meet the abovementioned requirement they will be converted to the Non-CA Degree (Accounting) programme in the second semester. One of Akenbor's (2014) recommendations was that pre-university Accounting with a minimum pass is a key success factor for achieving in Accounting and should be part of the requirements for admitting students to the Accounting programme.

*'I think Accounting should have been a required subject for this course.'*

*'Necessary for first year accounting!'*

*'Those who did not had Accounting in Grade 12 should be grouped together and have a different slot.'*

## **CONCLUSION**

This paper reflects on an investigation of the effect on academic performance of having had or not had Accounting as a Grade 12 subject in students enrolled for an undergraduate CA Accounting degree programme at a South African university. Two objectives were addressed to respond to the purpose of the paper. The first objective, 'To determine if there are any correlations between the academic performance of first-year Accounting students and prior Accounting exposure at school level, marks obtained in Accounting as a Grade 12 subject, age, gender and race' was addressed and the following was found. The results indicated a significant association between the academic performance of first-year students if students had Grade 12 Accounting as a subject compared to students with no prior knowledge of Accounting. The studies of Uyar and Güngörmüş (2011), Van Rensburg *et al.* (1998) and Rowlands (1988) confirm that prior Accounting exposure tends to improve student performance, while Bergin (2001) found no relationship between prior Accounting exposure or not. A response from a student that did not have Grade 12 Accounting: *'Accounting is the most interesting and challenging subject on Earth'* was noted as it depends on various factors that could have influence this specific student in raising his/her opinion. Some students believed that not having Accounting as a Grade 12 subject did not hinder them from passing first-year Accounting. Currently, the following interventions are in place for students who did not have Grade 12 Accounting: students can register for the pre-Accounting school which is offered prior to the start of the academic year at the institution, attending additional tutorials, attending support lectures and consulting with lecturers.

Furthermore, the results confirmed a significant association between academic performance in first year Accounting and the symbol obtained in Grade 12 Accounting. However, no significant relationships were found between the academic performance of first-year Accounting students and age, gender and race. Students aged nineteen ( $M = 60.53$ ) had a higher mean score for their academic performance compared with students aged eighteen ( $M = 57.15$ ), but surprisingly students older than nineteen also had a lower mean (Age 20,  $M = 56.94$ ; Age 21,  $M = 54.23$ ; Age 20+,  $M = 50.00$ ). According to De Clercq and Venter (2009), who investigated the financial literacy of prospective CAs, financial literacy level increases with the students' age. Male and female academic performance was very similar except that female students displayed slightly higher academic performance ( $M = 59.64$ ) than male students ( $M = 57.32$ ). However, Chansarkar

and Michaeloudis (2001) concluded that students' academic performance is not affected by factors like age and gender,

In response to the second objective, 'To explore the opinions of Accounting students if they had or did not have Accounting as a Grade 12 subject' expressed the following mixed responses.

*'Having accounting at school became a huge benefit in transitioning to university accounting where being familiar with the terms made it easy to engage with new ways of recognising and defining.'*

*'Having Accounting at Grade 12 isn't really beneficial instead it's confusing and hard not to bring or do the things you learnt in high school. The only good thing about it is that you understand some terminology a bit better.'*

*'Accounting is high school should be a prerequisite as it sets the foundation for university accounting.'*

One of the four stages of Biggs's model (Biggs, 2003), the teaching strategy and academic environment indicated that it may influence students' academic performance. The way lecturers teach were acknowledge in the students' responses and the impact of the teaching strategy on students' academic performance since it is also imperative to understand the role of lecturers in the academic environment.

*I believe that is a disadvantage to me that I didn't do accounting at school as it would have helped me with this year's studies. The lecturers teach as if we have all done accounting at school and it is hard to always follow what is going on.'*

This study concluded with evidence on the ongoing debate as to whether Accounting as a Grade 12 subject is beneficial for students and mixed opinions from respondents if prior accounting knowledge is beneficial or not in becoming a CA. Furthermore, this study is important for students, Accounting lecturers, professional bodies and decision-makers in terms of whether or not to include Accounting as a Grade 12 subject in the admission requirements for the CA degree programme, as this could be one of the many factors that influence academic performance. SAICA states that 'Having Accounting as a school subject could help you in your studies towards your degree, but at most universities this is not compulsory' (SAICA, 2015b). In addition, the transition from school to higher education may be easier for students that have studied Grade 12

Accounting prior to entering the CA programme. For many students the transition from school to higher education is an exciting experience but for others it is a stressful and overwhelming period. The assumption is that although students may be capable of successfully completing the course for which they have been permitted to enrol, there are no guarantees that they will eventually graduate.

## **LIMITATIONS AND FUTURE RESEARCH**

The limitations of the study include, firstly, the use of a single university since the results of the study of Arquero *et al.* (2009) at a Spanish university were compared with the results of the study of Byrne and Flood (2005) at an Irish university using the same research instrument, secondly with only one cohort of students; the sample included only first-year Accounting students enrolled for the CA degree since second and third students were excluded who may have added value to investigate if prior accounting knowledge was beneficial or not for students enrolled for the CA degree and thirdly, other factors which could have an effect on the academic performance of first-year accounting students other than students that had or did not have Grade 12 Accounting. Ligadu *et al.* (2012) confirm that students will experience many unexpected circumstances adjusting to the new environment including coping with workload, assignments, different teaching methods, working with lecturers and other students that could influence academic performance.

In conclusion, this study was conducted within the context of the South African education system and was based on one year's results from an Accounting course for the CA degree. In highlighting these limitations, it is recommended that more replicative work is required between universities, admission requirements and SAICA's requirements before any general conclusions can be drawn on the influence of high school Accounting on university performance. Further research might add value by considering the students' performance in subsequent years, examining more than one year's data, identifying the type of school attended prior to university and whether it had an effect on the academic performance of first-year Accounting students. In addition, the study could be extended to other higher education institutions in South Africa.

## REFERENCES

- Aidoo-Buameh, J. and Ayagre, P. (2013), “The effect of entry grades on academic performance of university Accounting students: a case of undergraduates on Central University College.” *Research Journal of Finance and Accounting*, Vol. 4 No. 7, pp. 198-206.
- Akenbor, C.O. (2014), “Institutional factors influencing the academic performance of students in principles of Accounting,” *International Journal of Higher Education*, Vol. 1, pp. 15-26.
- Arquero, J.L., Byrne, M., Flood, B. and Gonzalez, J.M. (2009), “Motives, expectations, preparedness and academic performance: a study of students of accounting at a Spanish university” , *Revista de Contabilidad-Spanish Accounting Review*, Vol. 12 No. 2, pp. 279-300.
- Baard, R.S., Steenkamp, L.P., Frick, B.L. and Kidd, K. (2010), “Factors influencing success in first-year Accounting as a South African university: the profile of a successful first year Accounting student” , *South African Journal of Accounting Research*, Vol. 24 No. 1, pp. 129-147.
- Baldwin, B.A. and Howe, K.R. (1982), “Secondary-level study of accounting and subsequent performance in the first college course”, *The Accounting Review*, Vol. LVII No. 3, pp. 619-626.
- Bergin, J.L. (2001), “The effect of previous accounting study on student performance in the first college-level financial accounting course”, *Issues in Accounting Education*, pp. 19-28.
- Biggs, J.B. (2003), *Teaching for Quality Learning at University*, 2<sup>nd</sup> Ed. The Society for Research into Higher Education, Open University Press.
- Byrne, M. and Flood, B. (2005), “A study of accounting students’ motives, expectations and preparedness for higher education”, *Journal of Further and Higher Education*, Vol. 29 No. 2, pp. 111-124.

Center for World University Rankings (CWUR). (2016), “Center for World University Rankings by institution”. <http://cwur.org/2015/> (Accessed 22 January 2016).

Chansarkar, B.A. and Michaeloudis, A. (2001), “Student profiles and factors affecting performance”, *International Journal of Mathematics Education in Science Technology*, Vol. 32 No. 1, pp. 97-104.

De Clercq, B. and Venter, J.M.P. (2009), “Factors influencing a prospective chartered accountant’ s level of financial literacy: an exploratory study”, *Meditari Accounting Research*, Vol. 17 No. 2, pp. 47-60.

Department of Basic Education RSA. (2015), National Senior Certificate Examination 2015. Department of Basic Education, Republic of South Africa. (Accessed 10 May 2016 <http://www.education.gov.za/Portals/0/Documents/Reports/2015%20NSC%20School%20Performance%20Report.pdf?ver=2016-01-04-161424-000>)

Doran, B.M., Bouillon, M.L. and Smith, C.G. (1991), “Determinants of student performance in Accounting Principles I and II”, *Issues in Accounting Education*, Vol. 6 No. 1, pp. 74-84.

Du Plessis, A., Müller, H. and Prinsloo, P. (2005), “Determining the profile of the successful first-year accounting student”, *South African Journal of Higher Education*, Vol. 19 No. 4, pp. 684-698.

Duff, A. (2004), “Understanding academic performance and progression of first-year accounting and business economics undergraduates: the role of approaches to learning and pro academic achievement”, *Accounting Education*, Vol.13 No. 4, pp. 409-430.

Duff, A. and Mladenovic, R. (2015), “Antecedents and consequences of accounting students' approaches to learning: a cluster analytic approach”, *The British Accounting Review*, Vol. 57, pp. 321-338.

Fischer, F., Schult, J. and Hell, B. (2013). “Sex differences in secondary school success: why female students perform better”, *European Journal of Psychological Education*, Vol 28, pp. 529–543.

Gammie, E., Paver, B., Gammie, B. and Duncan, F. (2010), “Gender differences in accounting education: an undergraduate exploration”, *Accounting Education*, Vol. 12 No. 2, pp. 177-196.

Gul, F.A. and Fong, S.C.C. (1993), “Predicting success for introductory accounting students: some further Hong Kong evidence”, *Accounting Education*, Vol. 2 No. 1, pp. 33-42.

Jansen, J. and De Villiers, C. (2016). “Determinants of student performance in an accounting degree programme”, *South African Journal of Accounting Research*, Vol. 33 No. 1, pp.1-28.

Leedy, P.D. and Ormrod, J.E. (2010), *Practical research*. Boston, MA: Pearson.

Ligadu, C.P., Abbas, R.H. and Han, C. (2012). Perceptions of new students’ coping skills during their first year in the university: A case study, International conference the future of education. ([http://conference.pixel-online.net/edu\\_future2012/common/download/Paper\\_pdf/588-SE86-FP-Ligadu-FOE2012.pdf](http://conference.pixel-online.net/edu_future2012/common/download/Paper_pdf/588-SE86-FP-Ligadu-FOE2012.pdf)).

(Accessed 12 May 2016).

McCrae, R.R. and John, O.P. (1992). “An Introduction to the Five-Factor Model and Its Applications”, *Journal of Personality*, Vol. 60 No. 2, pp. 175–205.

Mitchell, F. (1988), “High school accounting and student performance in the first level university accounting course: a UK study” , *Journal of Accounting Education Research*, Vol. 6, pp. 279-291.

Müller, H., Prinsloo, P., and Du Plessis, A. (2007), “Validating the profile of a successful first-year Accounting students” , *Meditari Accounting Research*, Vol. 15 No. 1, pp. 19-33.

Nelson Mandela Metropolitan University (NMMU). (2015), "Undergraduate admission requirements, general information & admission requirements" <https://www.nmmu.ac.za/www/media/Store/documents/apply/ForParents/Undergrad-Guide-2016.pdf> (Accessed 25 November 2015).

North West University (NWU). (2015), "BCom Chartered Accountancy: admission requirements" <http://www.nwu.ac.za/bcom-chartered-accountancy-accounting-sciences-north-west-university> (Accessed 25 November 2015).

Papageorgiou, K. and Halabi, A.K. (2014), "Factors contributing toward student performance in a distance education accounting degree" , *Meditari Accounting Research*, Vol. 22 No. 2, pp. 211-223.

Pascarella, E.T. and Terenzini, P.T. (1991). *How College Affects Students*. San Francisco, CA: Jossey-Bass.

Pitso, T. (2013), "Status of scholarship of teaching and learning in South Africa" , *South African Journal of Higher Education*, Vol. 27 No. 1, pp. 196-209.

Pullen, E., Toerien, F. and Anthony, J. (2015), Student Endogenous Factors that impact on performance in advanced management accounting: an Exploratory study". *South African Accounting Association Conference Proceedings*, East London, South Africa, June.

Rhodes University (RU). (2015), "Faculty requirements". <https://www.ru.ac.za/admissiongateway/departmentsandfaculties/requirements/> (Accessed 25 November 2015).

Riggo, R.E., Waring, K.P. and Throckmorton, B. (1993). "Social skills, social support, and psychological adjustment", *Personality and Individual Differences*, Vol. 15, pp. 275–280.

Roos, S. (2009). "Factors affecting Southern African students' success in CIMA examinations", *Meditari Accountancy Research*, Vol. 17 No 1, pp.48-67.

Rowlands, J.E. (1988), “The effect of secondary school Accounting study on university Accounting performance”, *De Ratione*, Vol. 2 No. 2, pp. 17-21.

Ryan, B., Scapens, R.W. and Theobald, M. (2002), *Research Method and Methodology in Finance and Accounting* (2<sup>nd</sup> ed.), South-Western, London.

Samsuddin, M.E., Khairani, N.S., Wahid, E.A. and Sata F.H.A. (2015), “Awareness, motivations and readiness for professional Accounting education: a case of Accounting students in UiTM Johor”, *Procedia Economics and Finance*, Vol. 31, pp. 124-133.

Schroeder, N.W. (2001), “Previous accounting education and college-level accounting exam performance”, *Issues in Accounting Education*, pp. 37-47.

Scott, I., Yeld, N. and Hendry, J. (2007), “A case for improving teaching and learning in South African higher education” , *Higher Education Monitor No. 6. Pretoria: Council on Higher Education*.

South Africa. Info (SA Info). (2015), South Africa Info, Education in South Africa. <http://www.southafrica.info/about/education/education.htm#.VmZ54FQaKwk> (Accessed 8 December 2015).

South African Institute for Chartered Accountants (SAICA). (2015a), SAICA Accredited Programmes, <https://www.saica.co.za/LearnersStudents/InformationonEducationProviders/InformationonAccreditedProgrammes/tabid/465/language/en-ZA/Default.aspx> (Accessed 24 November 2015).

South African Institute for Chartered Accountants (SAICA). (2015b), SAICA Becoming a CA(SA), <https://www.saica.co.za/Training/BecomingaCA/tabid/157/language/en-ZA/Default.aspx> (Accessed 30 November 2015).

Steenkamp, L.P., Baard, R.S. and Frick, B.L. (2009), “Factors influencing success in first-year accounting at a South African university: a comparison between lecturers’ assumptions

and students' perceptions", *South African Journal of Accounting Research*, Vol. 23 No. 1, pp. 113-140.

University of Cape Town (UCT). (2015a), Guidelines for admission to UCT for holders in 2015 of National Senior Certificate (NSC). [https://www.uct.ac.za/downloads/uct.ac.za/apply/apps/undergrad/uctadmis\\_guidelines\\_2015.pdf](https://www.uct.ac.za/downloads/uct.ac.za/apply/apps/undergrad/uctadmis_guidelines_2015.pdf) (Accessed 18 January 2016).

University of Cape Town (UCT). (2015b), Faculty of Commerce: Admission requirements, <http://www.commerce.uct.ac.za/Pages/Admission-Requirements> (Accessed 25 November 2015).

University of Johannesburg (UJ). (2015), Bachelors of Accounting (CA Stream) admission requirements. <http://www.uj.ac.za/faculties/fefs/accounting/Pages/Bachelors-of-Accounting.aspx> (Accessed 25 November 2015).

University of Limpopo (UL). (2015), Academic programmes, admission requirements. [http://www.ul.ac.za/index.php?Entity=sch\\_eco\\_man\\_aca](http://www.ul.ac.za/index.php?Entity=sch_eco_man_aca) (Accessed 25 November 2015).

University of Pretoria (UP). (2015), Economic and Management Sciences Undergraduate faculty brochure, [http://www.up.ac.za/media/shared/360/Faculty%20Brochures%202015%202016/fb-ems-2015\\_16-final.zp42845.pdf](http://www.up.ac.za/media/shared/360/Faculty%20Brochures%202015%202016/fb-ems-2015_16-final.zp42845.pdf) (Accessed 25 November 2015).

University of Stellenbosch (US). (2015), Undergraduate admission requirements. [http://www.maties.com/assets/File/Elektronies\\_boekie\\_Eng\\_print2.pdf](http://www.maties.com/assets/File/Elektronies_boekie_Eng_print2.pdf) (Accessed 25 November 2015).

University of the Orange Free State (UOFS). (2015), "Faculty of Economic and Management sciences Bloemfontein campus Undergraduate Rule book 2015", <http://www.ufs.ac.za/docs/default-source/admission-requirements-and-general-regulations-documents/2013-1-general-institutional-rules-first-qualifications-1110-eng.pdf?sfvrsn=0> (Accessed 18 January 2016).

University of the Witwatersrand (Wits). (2015), “Admission requirements” [http://www.wits.ac.za/prospective/undergraduate/admissionrequirements/11644/admission\\_requirements\\_nsc.html](http://www.wits.ac.za/prospective/undergraduate/admissionrequirements/11644/admission_requirements_nsc.html) (Accessed 25 November 2015).

Uyar, A. and Güngörmüş, A.H. (2011), “Factors associated with student performance in financial Accounting courses” , *European Journal of Economics and Political Studies*, Vol. 4 No. 2, pp. 139-153.

Van Rensburg, P., Penn, G. and Haiden, M. (1998), “A note on the effect of secondary school Accounting on university Accounting performance”, *South African Journal of Accounting Research*, Vol. 12 No. 2, pp. 93-99.

Wally-Dima, L. and Mbekomize, C. J. (2013), “Causes of gender differences in Accounting performance: students perspective”, *International Education Studies*, Vol. 6 No. 10, pp. 13-26.

Woollacott, L., Snell, D. and Laher, S, (2013). “Transitional distance: A new perspective of conceptualizing in the transition from secondary to tertiary education”. Proceedings on the 2nd Biennial Conference of the South Africa Society for Engineering Education, 11–12 June, Cape Town.

Xiang, M. and Gruber, R. (2013). “Student Performance in their First Postsecondary Accounting Course: Does High School Accounting Matter?” *Advances in Accounting Education: Teaching and curriculum Innovations* Volume 13. Emerald Group Publishing Limited, pp. 297-311.

Yee Lee, D.S. (1999), “Strength in high school Accounting qualification and student performance in university-level introductory Accounting courses in Hong Kong”, *Journal of Education and Business*, Vol. 74 No. 5, pp. 301-306.