

# EXPLORING THE INFLUENCE OF STUDENTS' MATRIC ACCOUNTING KNOWLEDGE ON THE SUCCESSFUL COMPLETION OF A BCOM ACCOUNTING MAINSTREAM DEGREE: A COMPARATIVE STUDY AT A UNIVERSITY IN THE WESTERN CAPE

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## ABSTRACT

Studies conducted nationally found that students with Matric Accounting knowledge performed significantly better than students without it in university-level Accounting modules (Baard, Steenkamp, and Kidd 2010; Papageorgiou 2017; Steenkamp, Baard, and Frick 2009). However, the reality at South African universities is that Accounting as a school subject is not always a requirement to pursue BCom Accounting studies. This situation means that at certain universities, Accounting as a school subject is not taken into consideration for this degree, while this is the case at some universities.

This study focuses on two cohorts of students enrolled for the mainstream programme in 2017–2019 at a South African university. The reason for focusing on these two cohorts was to establish the throughput rate of students with or without Matric Accounting knowledge. Two most significant findings of this study are that firstly, students who obtained at least 70 per cent for Matric Accounting completed the degree within the minimum three-year time frame, while students who obtained at least 80 per cent had a higher throughput rate of 48.8 per cent. Secondly, students who achieved lower than 70 per cent for Mathematics and did not complete Matric Accounting were unable to complete the degree in the minimum timeframe.

The research methodology includes both quantitative and qualitative methods. The results can inform the selection and admission criteria at tertiary institutions and inform other stakeholders in higher education on how school subjects and grades influence students' throughput rate.

**Keywords:** accounting education, student success, student attrition, throughput rate

## INTRODUCTION

Studies conducted nationally found that students with Matric Accounting knowledge performed significantly better than students without it in introductory Accounting modules at undergraduate level at universities (Baard et al. 2010; Papageorgiou 2017; Steenkamp et al. 2009). A recent South African study found a positive correlation between the mark achieved in Accounting at school and the mark achieved in Accounting 1 as a university module (Papageorgiou 2017). A similar study conducted in Australia also confirmed that Accounting as a school subject is beneficial for first-year university Accounting studying. The findings of this study suggested that studying Accounting at school is particularly helpful when studying the Accounting module at tertiary level. In addition, the school-level Accounting curriculum is aligned with that of the introductory Accounting module at the tertiary level. Hence, the correlation was anticipated (Alcock, Cockcroft, and Finn 2008). A prior international study conducted also concurs that high school Accounting knowledge positively influences students' Accounting academic performance at tertiary level (Rankin et al. 2003).

An interesting finding of a South African study revealed that academics perceived the lack of prior school Accounting knowledge as a hindrance for students successfully completing an Accounting module in the first year (Steenkamp et al. 2009). On the contrary, first-year Accounting students in this study did not think that prior Accounting knowledge played a significant role to influence their academic success. Statistical data of the study concurs with academics' belief and showed that high school Accounting contributes to success in the tertiary Accounting module. While there is a positive influence on students' performance who did Accounting at school, Xiang and Gruber (2012) note that there is no linear relationship, while other factors such as attitude and motivation towards learning Accounting also play an important role in the students' success.

Contrarily, Byrne and Flood (2008) strongly argue against the perception that school-level Accounting knowledge has a significant influence on students' performance in Financial and Management Accounting modules. The authors did not find a correlation between prior Accounting knowledge and students' performance in Accounting modules. Hence, students without prior Accounting knowledge will not be disadvantaged according to these researchers. Byrne and Flood (2008) concluded that prior academic achievement is the most significant variable which influenced first-year Accounting Irish students' academic performance. They further note that this finding could have severe implications for admission policies of universities, in particular for Accounting programmes.

Xiang and Gruber (2012) postulate that the benefit of high school Accounting is only beneficial at first-year level; however, this benefit diminishes in subsequent year levels. This

finding corroborates a South African study that did not find correlation between the grade achieved in high school Accounting and a third-year Accounting module (Jansen and De Villiers 2016). These authors, who focused on determinants of success in a third-year Accounting module, also found that the previous year level of academic performance in the Accounting module plays a significant role in students' performance at next level.

While this study's main research question focuses on the influence of school-level Accounting on students' academic success in a BCom Accounting degree, this study also focused on other factors, such as school Mathematics, language barriers, overall academic performance, school-level Accounting curriculum in the Further Education and Training (FET) phase and how overall previous academic performance influences students' success. Below is a brief discussion of literature we reviewed in light of these factors.

Several studies indicated that school Mathematics plays a significant role in the success in passing Accounting and quantitative modules at university. Wong and Chia (1996) showed that students who achieved a higher grade in Mathematics performed relatively better in a Financial Accounting course. They provided empirical evidence that there is a strong correlation between the extent of proficiency in English Language and Mathematics on students' performance in an Accounting course. A study conducted more than a decade later confirms that students who studied Mathematics at high school achieved higher grades in introductory business courses, except for the Cost Accounting module (Alcock et al. 2008). On the contrary, Jansen and De Villiers (2016) found insignificant relationship between high school Mathematics and a third-year Accounting module.

South Africa is a rare country in the world with a large number of official languages (11 in total). This national language policy has implications for overall student success at schools and universities as revealed in literature. A recent study found a strong correlation between students who enrolled English first language, English first additional language and Afrikaans first additional language with Accounting 1 performance (Papageorgiou 2017). Poor proficiency of the English language could result in students' inability to decode Accounting concepts that are not part of their daily vocabulary, which could lead to challenges in applying knowledge to solve problems (Koch and Kriel 2005).

Addow, Abubakar and Abukar (2013) provide statistical data that demonstrates that a statistically significant relationship exists between English language proficiency and academic performance of final-year Somalian students. This finding indicates that the relationship between these two variables is weak. The result further suggests that as English proficiency increases, academic achievement will not necessarily increase. Contrary to the previous study mentioned, a study in Pakistan showed that English proficiency was significantly correlated to

graduates' academic achievement (Ud Din and Saeed 2018). Olanipekun et al. (2014) concur that English proficiency is essential to third-year vocational education students' performance.

In the South African context, learners who are taught in their home language as the official medium of instruction (namely English and Afrikaans) scored higher marks in Mathematics as indicated in a study by Howie (2003). Therefore, learners whose home language is neither English nor Afrikaans were most likely to achieve a lower grade in Mathematics. Similarly to the findings of Howie (2003), a South African study found that Mathematics tuition in first-year calculus students' home language showed a better academic achievement (Gerber, Engelbrecht, and Harding 2005) by these students. A study conducted in both South Africa and Tanzania corroborates these findings and showed English proficiency is a core factor influencing students' academic success (Brock-Utne 2007). Wong and Chia (1996) recommend that universities should consider other means of assessing students' proficiency in English to enhance their academic performance. Their results suggested the presence of correlation between extent of proficiency in English Language and Mathematics as well as students' performance in first-year Accounting.

Overall academic performance indicators can be predicted according to the results achieved in the National Senior Certificate (Grade 12) (Baard et al. 2010; Jansen and De Villiers 2016; Papageorgiou 2017). In a recent study, findings revealed that Matric overall average mark of above 65 per cent is a suitable indicator to forecast academic success at university (Van Rooy and Coetzee-van Rooy 2015). Matric average mark below 65 per cent is not guarantee to ensure university students' academic success; however, grades achieved for languages are not strong predictors of students' academic success at universities. Their study's findings do not correlate with the empirical evidence of other local studies (Brock-Utne 2007; Gerber et al. 2005; Howie 2003).

There have been several changes by the Department of Basic Education to the overall curriculum which had an impact on the delivery of quality education for students (Du Plessis and Mbunyuza 2014). The new Curriculum and Assessment Policy Statement (CAPS) was implemented as follows: Grade 10 only in 2012, Grade 10 and 11 in 2013 and the entire FET phase in 2014 (Rajoo 2012). The CAPS curriculum is a modification of the previous curriculum statement, the National Curriculum Statement and offers detailed and clear assistance regarding the subject specific content and assessment (Venter 2016).

A study conducted to evaluate the implementation of CAPS found the Department of Basic Education implemented the curriculum hastily without proper training to educators and schools (Du Plessis and Mbunyuza 2014). Whilst the previous authors showed that there was a lack of support from the Department of Basic Education, Rajoo (2012) showed that there was

also a lack of leadership and guidance from the school management, especially with the implementation of the new CAPS curriculum. Rajoo (2012) found both learners and teachers highlighted learners' lack of Accounting knowledge and skills when they were in Grade 10. This deficit in knowledge and skills were caused by the neglect Accounting suffers during the Grade 8 and 9 years. The author infers that this deficit was also reflected in matriculation results and thus concludes that this is due to ill-equipped teachers who lack the necessary skills and knowledge to successfully deliver the curriculum.

Current research revealed that the CAPS Accounting curriculum does not adequately prepare students for the BCom Accounting degree. According to Van Romburgh (2014), a group of first-year Accounting students confirmed that the school-level Accounting curriculum did not adequately prepare them for university Accounting courses. Similarly, the questionnaires given to university lecturers showed that academics felt there is not enough focus on basic Accounting principles and there are topics which can be omitted from the current curriculum, which would give teachers more time to prepare students for tertiary studies. Ngwenya and Hall (2014) also encourage the omission of certain topics from the CAPS curriculum to create time for educators to teach the basic Accounting principles in depth. These researchers conducted a comparative study of the National Curriculum Statement (NCS) and CAPS for the Accounting FET phase and found that NCS fortified a learner-centered and activity-based approach to education while CAPS gives guidance for assessment, which has multiple implications for teaching strategies. Therefore, these researchers recommend that policy provides a more plain and overt guidance on the pedagogical methods which will encourage the active, conceptual and critical thinking and avoid rote learning.

## **CONTEXT OF THE STUDY**

According to Universities South Africa, currently there are 26 universities in South Africa (Universities South Africa n.d). The university where the study took place was established during the apartheid era, to provide education to the "so-called" coloured population in the Western Cape province and broader South Africa (UWC 2021). It is also one of the few universities that still operate autonomously because most of them merged with other higher education institutions in the mid-2000s (Jansen and De Villiers 2016). Hence, the student demographic at this university provides a unique context compared to other universities in South Africa as it still comprises of students from the historically disadvantaged areas, who are often first-generation varsity students (Jansen and De Villiers 2016).

As alluded to earlier in the article, the reality at South African universities is that admission requirements for the BCom Accounting degree differ. At some universities, Accounting as a

school subject is not taken into consideration for this degree, while this is the case at other universities. There is a dearth of research that provides empirical evidence that students who successfully completed Accounting at Grade 12 have an added advantage in completing the BCom degree successfully within a minimum timeframe (i.e., three years). Hence, the motivation of this study is to explore the influence of Matric Accounting knowledge on students' academic success in a BCom Accounting degree at a university in the Western Cape. The study also seeks to understand whether Accounting successfully completed at Matric level is related to the successful completion of the degree (Rowbottom 2013). This study also explored other factors that affect the academic performance of students with or without previous Matric Accounting knowledge.

This study focuses on two cohorts of students who enrolled the mainstream programme from 2017 to 2019, in order to establish the success rate of students with or without Matric Accounting knowledge. The first cohort includes students who registered for mainstream BCom Accounting and successfully completed Matric Accounting and Mathematics. The second cohort is also mainstream but includes those who only completed Matric Mathematics successfully. These two cohorts' academic performance will be tracked from 2017 to 2019.

There are two types of minimum requirements for admission to the BCom Accounting mainstream degree at this university. The first type of admission requirements, for the first cohort, is follows: Code 4 (50–59 marks) for English, first or second additional language); Code 3 (40–49 marks) for Mathematics; Code 4 (50–59 marks) for Accounting (UWC 2019). Admission requirements for the second cohort are that they should obtain at least Code 5 (60–69 marks) for Mathematics and meet all the other minimum requirements as stipulated for the first cohort (UWC 2019).

The Bachelor of Commerce in Accounting (BCom Accounting) qualification at this university is endorsed by the South African Institute of Chartered Accountants (SAICA). Due to accreditation with the professional body, it is a structured degree programme, which means that students are required to follow a set of modules as required by the professional body. This university currently offers BCom Accounting degree over three and four years, with the four-year extended programme catering for those learners who require additional support based on an assessment of their competencies on entering the university. However, our study will focus solely on the BCom mainstream students.

The aim of the study is to determine the influence of students' Grade 12 Accounting knowledge and their overall academic success to complete the BCom Accounting mainstream degree at a university in the Western Cape in a minimum timeframe. The specific research are as follows:

- To determine if there is a statistical difference in overall academic performance by comparison between students with Matric Accounting knowledge and those students without Matric Accounting knowledge.
- To determine the influence of factors such as overall academic performance in Matric Accounting, Mathematics, English, as well as demographic characteristics (gender and race) on the successful completion of a BCom Accounting degree over a three-year period.

## **THEORETICAL FRAMEWORK**

The Tinto (1975; 1993) student integration model forms the overarching framework of this study because of the particular theoretical underpinning as well as the great amount of work explicating the theory. His model is mainly used to develop, compile and analyse empirical evidence on matters such as attrition, student persistence, as well as academic performance and success, and engagement. The model has also been implemented in various settings ranging from individual programmes and subjects to multiple institutions. The model has greatly contributed to our understanding of student persistence and dropout rates.

Tinto (1993) states that students possess numerous individual characteristics when they start pursuing university studies, such as background (parents' educational level, socio-economic status); individual characteristics (gender, age, ethnicity, ability) as well as prior academic experience (schooling experience, grades). All these factors affect students' performance and directly influence their decisions to either stay at or drop out of the university. This study is underpinned by Tinto (1975), who hypothesised that students' entry characteristics directly affect their initial commitment to the university and their primary intention to graduate.

## **RESEARCH DESIGN**

According to Cresswell (2014) the purpose of employing quantitative methods is to provide a proposed explanation for the relationship among variables being tested. The quantitative methods that were employed to conduct this research included document analysis, using the university's student administration system, namely the marks administration system (MAS) and student administration system (SASI).

With regards to previous Matric Accounting knowledge, two cohorts were distinguished from the sample based on the students' previous Accounting knowledge: cohort1 – those who enrolled Accounting at Grade 12 (Matric); cohort2 – who did not do so, students who enrolled Accounting and those who did not. However, we would like to highlight that all students in the South African education system are required to complete a subject called Economics and

Management Sciences in Grades 7–9. As such, all students would have some level of Accounting knowledge, but due to the passage of time, it is assumed that students would have forgotten what they learned.

Moreover, the Matric Mathematics mark is used as an indicator of students' mathematical aptitude (Jansen and De Villiers 2016). English proficiency was measured using the Matric English mark achieved. The dependent variable is students' academic performance related to Financial Accounting in each year level of the BCom Accounting degree.

We will analyse throughput rate a lot in this study. This rate is defined as the number of students, within a specific cohort, who successfully completed each year level and graduated within the minimum required time. Lastly, the authors obtained approval and ethical clearance from the university's Higher Degrees Committee and the Humanities and Social Sciences Research Ethics Committee.

## EMPIRICAL FINDINGS

Descriptive statistical findings are presented below. Note that, students with Matric Accounting will be referred to as cohort1, whereas those without it are referred to as cohort2, for the remainder of this section. First, Table 1 shows that in 2017, the number of students registered for Financial Accounting 1 in cohort1 (114 students) was nearly three times bigger than the size of cohort2 (35 students). The 2017 pass rate in cohort1 was 15 percentage points above pass rate in cohort2. Cohort1 once again had a higher pass rate in 2018 but the difference with cohort2 pass rate was smaller (4.7 percentage points). Lastly, in 2019, it is interesting that cohort1 pass rate (71.2%) was somehow smaller than the cohort2 pass rate (76.5%). For the remainder of this section, only students who were counted as part of the passes number will be included for the analysis.

**Table 1<sup>1</sup>:** Class size and throughput statistics

	Cohort1			
	2017	2018	2019	Graduands
Student size	114	86	73	
Passes	89	73	52	
Pass rate (%)	78.1	82.0	71.2	
Throughput number	86	73	52	43
	Cohort2			
	2017	2018	2019	Graduands
Student size	35	22	17	
Passes	22	17	13	
Pass rate (%)	62.9	77.3	76.5	
Throughput number	19	16	13	7
Pass rate difference (percentage points)	15.2	4.7	-5.3	

<sup>1</sup> In Table 1, the differences between the number of passes (in 2017) and student size (in 2018) can be explained as follows: In general, some students passed the accounting modules and ceased their studies in the following year. For first year specifically, the second semester Accounting module has a 55 per cent requirement before the students are allowed to continue with the second-year BCom Accounting studies. Thus, students may have obtained the required pass mark of 50 per cent but not the required 55 per cent to continue with second-year BCom Accounting. Thus, the number of students passed was 89, however, only 86 students met the 55 per cent requirement and continued with second-year BCom Accounting.

Table 2 shows the demographic characteristics of the throughput students in each year by cohort. The male share has always been more dominant in cohort1, but it shows a slight downward trend over time. On the contrary, while the male share was more dominant in 2017 and 2018, it was exactly 50 per cent in 2019, and the female share was much more dominant (85.7%) when examining the graduands in cohort2. With regard to race, the results in the table clearly indicate that the black share has always been dominant, ranging from as low as 74.6 per cent (2017 in cohort1) to as high as 100 per cent (2019 and graduands, in cohort2).

**Table 2:** Demographic characteristics of the throughput students in each year by cohort (%)

	Cohort1				Cohort2			
	2017	2018	2019	Graduands	2017	2018	2019	Graduands
Male	61.4	60.5	59.1	55.8	68.6	52.6	50.0	14.3
Female	38.6	39.5	40.9	44.2	31.4	47.4	50.0	85.7
	100.0	100.0	100.0	100.0	100.0	100.0	100	100.0
Black	74.6	82.6	84.8	86.0	91.4	94.7	100.0	100.0
Coloured	24.6	16.3	13.6	11.6	5.7	5.3	0.0	0.0
Other	0.9	1.2	1.5	2.3	2.9	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0	100	100.0

Table 3 shows that about two-thirds of cohort1 students enrolled English first additional language in Grade 12, whereas a very high proportion of cohort2 students enrolled this subject. In addition, whilst not shown in the table, most of the students obtained 60–79 per cent in Grade 12 English, regardless of whether they enrolled it as home language or first additional language. Table 3 also shows that over the years, about a quarter of cohort1 students enjoyed at least 80 marks in Matric Mathematics, while above 45 per cent obtained 70–79 marks. Moving on to cohort2, it is interesting to see that the share represented by the 80–100 marks category increased over the years (2017: 37.1%; graduands: 71.4%), that is, students with stronger Matric Mathematics performance were more likely to survive the UWC Accounting studies to proceed to a higher level and eventually graduated.

The last few rows of the table show that in cohort1, over the years, the share represented by those who obtained 80–100 marks in Matric Accounting increased (2017: 59.6%, graduands: 74.4%). In other words, those with strong Accounting performance in Grade 12 were more

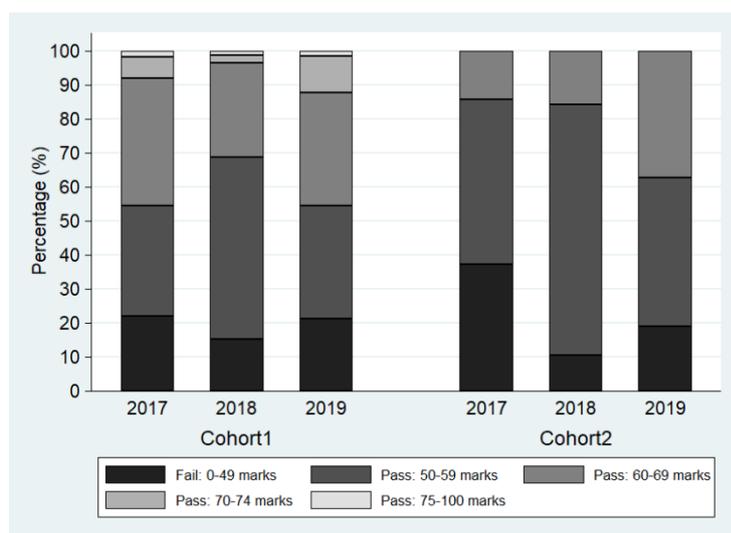
likely to be the students who passed the Accounting modules across all levels and graduated successfully.

**Table 3:** Matric characteristics in each year by cohort (%)

	Cohort1				Cohort2			
	2017	2018	2019	Graduands	2017	2018	2019	Graduands
Matric English								
Home language	36.8	31.4	33.3	34.9	11.4	5.3	0.0	0.0%
First additional language	62.3	68.6	66.7	65.1	88.6	94.7	100.0	100.0
Not specified	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Matric Mathematics final mark								
Below 40 marks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40–49 marks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50–59 marks	7.9	4.7	4.5	7.0	0.0	0.0	0.0	0.0
60–69 marks	24.6	24.4	22.7	20.9	5.7	0.0	0.0	0.0
70–79 marks	45.6	45.3	47.0	48.8	57.1	42.1	31.3	28.6
80–100 marks	21.9	25.6	25.8	23.3	37.1	57.9	68.8	71.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Matric Accounting final mark								
Below 40 marks	0.0	0.0	0.0	0.0	N/A			
40–49 marks	0.0	0.0	0.0	0.0				
50–59 marks	3.5	0.0	0.0	0.0				
60–69 marks	8.8	1.2	1.5	0.0				
70–79 marks	28.1	29.1	27.3	25.6				
80–100 marks	59.6	69.8	71.2	74.4				
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The results in Table A1 in the Appendix focus on students' performance in the year mark (or continuous assessment mark, CAM) and final examination mark, at each level – 2017, 2018 and 2019 represent undergraduate Accounting module level 1, 2 and 3 respectively. The results suggest that for cohort1, they performed relatively better in both year mark and exam mark, compared with cohort2, as they enjoyed a higher mean (especially in 2017), and a higher proportion of them fell under the higher mark categories. For cohort2 students, it is shocking that none of them obtained at least 70 marks in both year mark and examination mark, but the majority of them were clustered in the 50–59 and 60–69 marks cohorts.

Figure 1 and the last few rows of Table A1 once again show that cohort1 students performed relatively better in the final mark. Specifically, more than 20 per cent of the students from this cohort obtained a distinction (at least 75%) in 2017 (first-year) and 2019 (third-year or final year of their studies). On the contrary, none of the students from cohort2 obtained at least 70 per cent in their final mark, despite them enjoying higher pass rate (81.3%) in 2019.



**Figure 1:** Undergraduate Accounting final mark in each year by cohort (%)

The proportions of students who enrolled in 2017 and graduated are presented in Table 4. These proportions were derived by dividing the number of graduands by the number of students enrolled in 2017, in each cohort. First, the females (43.2%) slightly outperformed males (34.3%) in cohort1, whereas females clearly outperformed males (54.5% versus 4.2%) in cohort2.

**Table 4:** Proportion of students from 2017 who graduated (%) at the end of 2019 by demographic and Matric characteristics

		Cohort1	Cohort2
Throughput rate per cohort		37.7	20.0
Gender	Male	34.3	4.2
	Female	43.2	54.5
Race	Black	43.5	21.9
	Coloured	17.9	0.0
	Indian or White	100.0	0.0
Matric English subject	English Home	35.7	0.0
	English 1st additional	39.4	22.6
Matric English final mark	50–59 marks	50.0	0.0
	60–69 marks	30.8	13.3
	70–79 marks	42.0	18.8
	80–100 marks	35.3	66.7
Matric Maths final mark	50–59 marks	33.3	N/A
	60–69 marks	32.1	0.0
	70–79 marks	40.4	10.0
	80–100 marks	40.0	38.5
Matric Accounting final mark	50–59 marks	0.0	N/A
	60–69 marks	0.0	N/A
	70–79 marks	34.4	N/A
	80–100 marks	47.1	N/A

The majority of students in both cohort1 (63%) and cohort2 (89%) are English First additional

language speakers. Table 4 shows that none of the English home language speakers in cohort2 graduated within minimum time, whereas 36 per cent of students in cohort1 graduated on time. Again, English first additional language speakers in cohort1 outperformed their peers in cohort2, with a graduate rate of 39 per cent as opposed to a graduate rate of 23 per cent for cohort2. With regard to the achievement in Matric English, Table 4 shows that cohort1 outperformed cohort2 when marks between 50–59, 60–69 and 70–79 are compared. However, when performances are measured using the 80–100 marks category, cohort2 somehow outperformed cohort1, with a 67 per cent graduate rate compared to cohort1's 35 per cent graduate rate.

There is also a slight difference in the graduation rate between students who obtained 50–59 marks and 60–69 marks. A higher graduation rate is noted for students with an achievement between 70–79 marks and 80–100 marks for Matric Mathematics. It was observed in the Matric Mathematics achievement for cohort2 that none of the students who obtained 60–69 marks for Matric Mathematics graduated within minimum time. Only 10 per cent of students who obtained 70–79 marks and 38 per cent of students who obtained 80–100 marks graduated within three years. We can deduce that the higher the Matric Mathematics mark, the better the odds of the student graduating within the minimum three-year timeline.

Only students who obtained marks between 70 and 100 in Matric Accounting graduated on time, whereas all students who obtained a mark between 50 and 59 in Matric Accounting failed first-year Accounting modules. Only one student who obtained a mark between 60 and 69 in Matric Accounting passed first and second-year accounting, but did not pass third-year accounting and neither did the student graduate. Similarly, as we observed with Matric Mathematics, students who obtained a better grade in Matric Accounting had a better graduation rate and we can conclude that the higher the Matric Accounting marks, the better the chances of students graduating on time.

Looking at other results in Table 4, cohort1 significantly outperformed cohort2 overall; the total throughput for cohort1 was 38 per cent but it was only 20 per cent for cohort2, as shown in the first row of the table. Whilst not shown in the table, average final mark in cohort1 was 55 per cent and 50 per cent in cohort2. Cohort2, however, outperformed cohort1 on the final-year pass rate (81% vs 79%) in the final-year Accounting modules. Furthermore, the graduates in cohort2 had an average final mark of 64 per cent in Financial Accounting, which was slightly higher than the average final mark of cohort1 graduates (62%). Despite the latter finding, it may still be asserted that students who enrolled BCom Accounting three-year programme with Matric Accounting performed much better than students without Matric Accounting, in the undergraduate Accounting modules, as the former cohort enjoyed a much

higher throughput rate during the three-year period under study.

## DISCUSSION

Higher education institutions in South Africa have been grappling with low throughput rates, particularly at undergraduate level. Despite universities having different admission requirements to give students access to the BCom Accounting degree, there is hardly any empirical evidence to validate that these requirements have a positive influence on the throughput rate within the minimum timeframe, which is three years. While the Baard et al. (2010) study found that students with Matric Accounting knowledge performed significantly better than students without it in university-level Accounting modules, we want to highlight that our study focus on a specialised accounting degree. Further to this, we also analysed the academic performance of the compulsory module, Financial Accounting over the three years. The reason for this analysis is that we also want to gain an insight into how students' Matric Accounting knowledge influences their academic performance in this module over the three years.

The findings showed that the majority of enrolment in the BCom Accounting degree was students in cohort1 (76.5%). The higher enrolment number for cohort1 is understandable, as most students in this cohort exceeded the admission requirements for both Matric Accounting and Mathematics. While it is evident cohort2 performed academically better than cohort1 in the degree programme for 2018 and 2019, it is noteworthy that the throughput rate for cohort1 (37%) was significantly higher than cohort2 (20%). This significant finding demonstrates that cohort1 had a slightly better chance of success (17%) in completing the degree. Hence, our findings do not concur with Van Romburgh (2014) that school Accounting curriculum does not sufficiently prepare students for university Accounting studies.

It was interesting to note in Table 2 the resilience shown by the females in cohort2. While the male first-year enrolment was 37.2 per cent higher, there was a significantly higher throughput rate for females in this cohort which was 71.4 per cent. The females in cohort1, however, had a lower throughput rate (40.9%) compared to the males (59.1%). A notable finding pertaining to race is the high proportion of black students who enrolled in both cohort1 (74.6%) and cohort2 (91.4%). Linked to this finding, black students in cohort1 have a 74.4 per cent higher throughput rate than the students in other race groups and in cohort2, only black students (100%) successfully completed the degree.

In Table 3, it is shown that in cohort2 only those with English as an additional language successfully completed the degree, while cohort1 achieved a 30.2 per cent higher throughput rate. This is contrary to findings that second language English students experience studying in

English as a barrier for success (Koch and Kriel 2005; Papageorgiou 2017).

The most significant finding of this study is that the school academic performance in Accounting and Mathematics in both cohorts had a strong influence on the throughput rate. In relation to Mathematics, students in both cohorts who obtained 70 marks or higher enjoyed a significantly higher chance to successfully complete the degree in the minimum timeframe. This finding is to a certain extent aligned with the empirical findings of Van Rooy and Coetzee-van Rooy (2015) that Matric average mark of above 65 per cent is a valuable indicator to predict students' academic success at university.

The findings also show that 27.9 per cent of cohort1 who achieved 50–69 marks in Mathematics were successful. However, cohort2 students who achieved a mark lower than 70 did not complete the degree in the minimum timeframe. The findings also reveal that students in cohort1 with marks between 60 and 69 for Mathematics have the ability to complete the degree in minimum time, while this is not the case for students in cohort2. This factor could be attributed to the students in cohort1 having both Matric Accounting and Mathematics.

With regards to Accounting, in cohort1 only students who obtained 70 marks or higher completed the degree in record time, while those with 80–100 marks have a higher throughput rate of 48.8 per cent. This finding does not correlate with Xiang and Gruber (2012) that the benefit of high-school Accounting is only evident at first-year level and this benefit diminishes in subsequent year levels. Moreover, the findings illustrate that students who have achieved 80 per cent or more in Accounting or Mathematics have a significantly higher probability of success which was 74.4 per cent and 71.4 per cent respectively. As such, we concur with Tinto (1993) that prior academic experience plays a part in student departure and directly influences their success rate.

## **RECOMMENDATION AND CONCLUSION**

This study explored the factors influencing throughput rate of two cohorts of students in the BCom Accounting degree at a South African university. The evidence revealed that the higher the academic performance achieved in Grade 12 Accounting and Mathematics, the greater the probability to complete the degree in three years. We argue that school academic performance in relation to subjects that link directly with compulsory modules in a degree programme should be considered when enrolling students. We also assert that personal characteristics such as gender and race have little or no influence on the throughput rate.

The recommendation for South African universities is to conduct empirical analysis to determine how Matric academic performance and demographic characteristics influence the throughput rate of a particular degree. We believe that studies of this nature could mitigate the

high failure rate in undergraduate programmes. Lastly, we recommend the findings of our study could be used to revise the admission requirements of the BCom Accounting degree.

To conclude, this study sought to examine the influence of Matric Accounting knowledge on the successful completion of students in a BCom Accounting degree and the findings confirm our hypothesis. Finally, while are under pressure to increase epistemological access, it is also their obligation to implement intervention programmes throughout the degree programme, in particular, to those students who only meet the requirements for the mainstream courses.

## REFERENCES

- Addow, A. M., A. H. Abubakar, and M. S. Abukar. 2013. "English language proficiency and academic achievement for undergraduate students in Somalia." *Educational Research International* 2(2): 59–66.
- Alcock, J., S. Cockcroft, and F. Finn. 2008. "Quantifying the advantage of secondary mathematics study for accounting and finance graduates." *Accounting and Finance* 48: 697–718.
- Baard, R. S., L. P. Steenkamp, B. L. Frick, and M. Kidd. 2010. "Factors influencing success in first-year Accounting at a South African university: The profile of a successful first year Accounting student." *South African Journal of Accounting Research* 24(1): 129–147.
- Brock-Utne, B. 2007. "Language of instruction and student performance: New insights from research in Tanzania and South Africa." *International Review of Education* 53(5–6): 509–530.
- Byrne, M. and B. Flood. 2008. "Examining the relationship among background variables and academic performance of first year Accounting students at an Irish University." *Journal of Accounting Education* 26: 202–212.
- Cresswell, J. W. 2014. *Research design: Quantitative, qualitative and mixed methods approaches*. 4<sup>th</sup> Edition. California: Sage Publications.
- Du Plessis, E. C. and M. M. Mbunyuza. 2014. "Does the Department of Basic Education take the international call to provide quality education for all seriously?" *Journal of Social Sciences* 41(2): 209–220.
- Gerber, A., J. Engelbrecht, and A. Harding. 2005. "The influence of second language teaching on undergraduate Mathematics performance." *Mathematics Education Research Journal* 17(3): 3–21.
- Howie, S. J. 2003. "Language and other background factors affecting secondary pupils' performance in Mathematics in South Africa." *African Journal of Research in SMT Education* 7: 1–20.
- Jansen, J. and C. de Villiers. 2016. "Determinants of student performance in an Accounting degree programme." *South African Journal of Accounting Research* 30(1): 1–28.
- Koch, E. and M. Kriel. 2005. "An argument for integrating language or language related skills in the accounting curriculum." *South African Journal of Higher Education* 19(3): 218–229.
- Ngwenya, J. and T. Hall. 2014. *What's in the CAPS Package? A comparative study of the National Curriculum Statement (NCS) and the Curriculum and Assessment Policy Statement (CAPS): FET Phase Accounting*. Pretoria: Umalusi Pretoria: Council for Quality Assurance in General and Further Education and Training.
- Olanipekun, S. S., I. A. Garuba, Y. K. Mohammed, and A. E. Ohiemi. 2014. "Students' English language proficiency and academic performance in vocational education in College of Education." *Journal of Research and Method in Education* 4(5): 63–66.
- Papageorgiou, E. 2017. "Accounting students' profile versus academic performance: A five-year

- analysis.” *South African Journal of Higher Education* 31(3): 209–229.
- Rajoo, T. 2012. *An investigation into the role of the Head of Department (HOD) as an instructional leader in the leadership and management of the teaching & learning of Accounting in two secondary schools in one district in Gauteng*. Johannesburg: University of the Witwatersrand.
- Rankin, M., M. Silvester, M. Vallely, and A. Wyatt. 2003. “An analysis of the implications of diversity of students’ first level Accounting performance.” *Accounting and Finance* 43(3): 365–393.
- Rowbottom, N. 2013. “A-Level subject choice, systematic bias and university performance in the UK: The case of Accounting.” *Accounting Education* 22(3): 248–267.
- Steenkamp, L. S., R. S. Baard, and B. L. Frick. 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* 23(1): 113–140.
- Tinto, V. 1975. “Dropout from higher education: A theoretical synthesis of recent research.” *Review of Educational Research* 45(1): 89–125.
- Tinto, V. 1993. *Leaving college: Rethinking the causes and cures of student attrition*. 2<sup>nd</sup> Edition. Chicago: University of Chicago Press.
- Ud din, K. and M. Saeed. 2018. “Relationship between university students’ English proficiency, academic achievement and their satisfaction on teacher feedback.” *Bulletin of Education and Research* 40(3): 129–143.
- Universities South Africa. n.d. “Public universities in South Africa.” <https://www.usaf.ac.za/public-universities-in-south-africa/>. (Accessed 9 August 2018).
- University of the Western Cape. 2019. *University Calendar: Faculty of Economic and Management Science*. Bellville: University of the Western Cape.
- University of the Western Cape. 2021. “About: History.” <https://www.uwc.ac.za/Pages/History.aspx>. (Accessed 5 March 2019).
- UWC see University of the Western Cape.
- Van Romburgh, H. 2014. *Accounting education: Investigating the gap between school, university and practice*. Potchefstroom: North West University.
- Van Rooy, B. and S. Coetzee-Van Rooy. 2015. “The language issue and academic performance at a South African University.” *Southern African Linguistics and Applied Language Studies* 33(1): 31–46.
- Venter, A. 2016. *Cognitive preparation of NCS (Grade 10 – 12) Accounting learners for studies at a university of technology*. Cape Town: Cape Peninsula University of Technology.
- Wong, D. S. N. and Y. M. Chia. 1996. “English language, Mathematics and first year financial Accounting performance: A research note.” *Accounting Education* 5(2): 183–189.
- Xiang, M. and R. Gruber. 2012. “Student performance in their first postsecondary Accounting Course: Does high school Accounting matter?” *Advances in Accounting Education: Teaching and Curriculum Innovations* 13: 297–311.

## Appendix

**Table A1:** Undergraduate Accounting performance in each year by cohort (%)

	Cohort1			Cohort2		
	2017	2018	2019	2017	2018	2019
Year mark						
Below 40 marks	17.5	2.3	1.5	37.1	0.0	6.3
40–49 marks	5.3	7.0	15.2	11.4	10.5	12.5
50–59 marks	24.6	45.3	50.0	28.6	21.1	43.8
60–69 marks	36.0	36.0	30.3	22.9	68.4	37.5
70–74 marks	12.3	5.8	1.5	0.0	0.0	0.0
75–100 marks	4.4	3.5	1.5	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0
<i>Mean (marks)</i>	53	59	57	40	60	56
Exam mark						
Below 40 marks	17.5	4.7	12.1	37.1	10.5	18.8
40–49 marks	9.6	23.3	13.6	0.0	31.6	12.5
50–59 marks	32.5	52.3	27.3	31.4	42.1	25.0
60–69 marks	29.8	17.4	28.8	31.4	15.8	43.8
70–74 marks	9.6	1.2	7.6	0.0	0.0	0.0
75–100 marks	0.9	1.2	10.6	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0
<i>Mean (marks)</i>	51	52	55	41	50	49
Final mark						
Below 40 marks	21.9	15.1	21.2	37.1	10.5	18.8
40–49 marks	32.5	53.5	33.3	0.0	31.6	12.5
50–59 marks	37.7	27.9	33.3	31.4	42.1	25.0
60–69 marks	6.1	2.3	10.6	31.4	15.8	43.8
70–74 marks	1.8	1.2	1.5	0.0	0.0	0.0
75–100 marks	21.9	15.1	21.2	0.0	0.0	0.0
	100.0	100.0	100.0	100.0	100.0	100.0
<i>Pass rate (%)</i>	78.1	84.9	78.8	62.9	89.5	81.3
<i>Mean (marks)</i>	52	55	55	40	53	50