



Factors Affecting First Year Accounting Students' Performance at a South African University of Technology

Matsolo Claurina Mokhampanyane^a, Gawie Schlebusch^b, ^{a,b}Central University of Technology, South Africa, Email: ^ammokhamp@cut.ac.za, ^bgschlebu@cut.ac.za

This study explored the factors that influence first-year accounting students' academic success at a South African university of technology. The high failure rate of first-year accounting students at universities is a worldwide challenge, and South African universities are no exception. According to literature, the failure rate in the first year of study at universities has a detrimental impact on accounting graduates' throughput. Data was gathered qualitatively through semi-structured interviews with a purposive sample of Accounting lecturers. The collected data was reported using a thematic analysis. The key findings revealed that Accounting students' poor performance in their first year of study was due to a lack of English proficiency in the language of instruction, as well as a poor academic foundation in both Accounting and basic mathematical abilities and knowledge at school level. The study recommends intervention options to address this problem. Contribution/ Originality: This research is contributing to existing literature that the proficiency of the language of instruction and proper foundation and basics mathematical skills could attribute to the academic performance of Accounting students.

Key words: *academic performance, Accounting, first-year students, language proficiency, mathematical knowledge.*

INTRODUCTION

Higher education institutions (HEIs) are well positioned to provide students with the generic and specific learning skills they need to succeed in today's fast-paced world (Young & Gamble, 2009). However, students' persistent underachievement and failure to pass subjects in which they are enrolled during their first year of study remains a concern. First-year student underperformance appears to be a worldwide trend, notably in first-year Accounting (Duff, 2004; Steenkamp, Baard & Frick, 2009; Barnes, Dzansi, Wilkinson & Viljoen, 2009; Joubert, 2010). The high failure rate among first-year Accounting students has been a source of concern for all educational stakeholders, including students, parents, faculty lecturers, higher education institutions, and governments. Accounting has been identified as one of the subjects with a low throughput rate at the university under study, with no real improvement over a number of years (Papageorgiou, 2017; Addow, Abubakar & Abukar, 2013; Oosthuizen & Eiselen, 2012).

Universities around the world admit and enroll students depending on specific admission guidelines (Joubert, 2010). Admission policies such as a point system and other requirements are regarded as credible markers of students' prior academic success and act as dependable predictors of their future academic performance (Liu & Chen, 2010). The marks students obtain in their senior year of high school are used as a criterion for admission to most institutions. Aside from the elements stated here, learning Mathematics appears to be another aspect that contributes to Accounting students' academic achievement.

A key factor regarding the academic success of students globally is competence in the language of instruction (Brock-Utne, 2014; Magxaki, 2016; Ambe, 2020). The Higher Education Act of 1997 (as amended) recognizes English as the de facto language of learning and instruction in South African higher education institutions. Students struggle to understand concepts taught in many university subjects, such as Accounting, when they do not have an adequate command of the language of instruction. This has a significant impact on academic performance.

Many first year Accounting students studying through their second or third language tend to memorize and regurgitate information, which prevents them from solving examination questions based on analysis, synthesis and evaluation (Nyika, 2015). According to Manson (2014), the language problem in higher education in South Africa has a significant impact on students' academic achievement, as English communication skills are essential for academic success. Many first-year students are underprepared for university, which has a direct impact on their academic performance and capacity to assimilate what they learn (Nnedu, 2009).

Research Question

Which factors affect first year accounting students' academic performance poorly?



METHODOLOGY

The authors collected data qualitatively by means of semi-structured interviews with Financial Accounting lecturers with more than two years' lecturing experience. The rationale was to collect in-depth data from informed participants (Hendrik, Hutter & Bailey, 2011). The qualitative approach is often applied to a small number of participants who are knowledgeable about a specific topic (Cohen, Manion & Morrison, 2011).

Participants

This study included five Financial Accounting 1 lecturers from both campuses of the selected university of technology in South Africa. The participants were sampled specifically for their knowledge of the issues faced by first-year accounting students. The participants in this study are identified by number (for example, L1) and by campus (for example, C2).

Data collection instruments

Qualitative data collection instruments employed were individual semi-structured interviews. Interview questions were open ended to elicit the opinions, views and perceptions of participants and the protocol for audio-recording the interview data was established with them (Leedy & Ormrod, 2013; Creswell, 2013). The rationale for semi-structured interviews was to ensure in-depth qualitative data was obtained to address the research question.

Data analysis

The data in this study was analyzed using an interpretive technique. According to Okeke and Van Wyk (2015), an interpretative approach strives to understand, describe, and interpret participants' ideas on the topic under research. Furthermore, in order to acquire a greater understanding of participants' experiences, the interpretive approach must look at them within their particular social and historical context (Collis & Hussey 2009; Rubin & Babbie 2010). The interview recordings were transcribed saved with a protected password, with the originals securely stored. This approach enabled the authors to categorize data into themes with the aim to answer the research question.

Ethical considerations

Permission was obtained from the Directorate of Academic Planning and Quality of the university of technology. The identity of participants was protected by reporting on their information through numbers, namely L1: C1 for a specific lecturer on a specific campus. Participants were informed of their right to terminate their participation if they so wish.

RESULTS

The focus of the research was on the analysis and interpretation of the data collected by means of individual interviews with Accounting lecturers.

English as the language of instruction

Participants were of the opinion that many students have difficulty understanding Accounting terminology and practice. These students' lacking ability to extract the essences of some questions during tests and examinations lead to under-performance in the subject. Participants also stated that, due to the complexity of Accounting concepts, some students found such concepts challenging and therefore struggle to interpret and apply them during lectures, tests and examinations.

L2:C2: "Language, to our students, is a problem; to follow all instructions made in English, to make sense, because some of the Accounting concepts and interpretation are very difficult for them".

Some participants stated that the students can speak English during the lecture, but that many struggle when they deal with the academic terminology (language of Accounting). Their inability to analyse transactions and subsequent application of such transactions using the academic Accounting language hamper their academic performance.

L1:C1: "English is not a problem when they talk in the lecture, but when they must look at the transactions and write them practically into journals, they struggle more".

In addition, participants mentioned that the university introduced a 'Pre-English' course to assist students when reading and interpreting certain types of questions. However, they stated that this intervention does not seem to bear much fruit at this stage.

L3:C1: "We have the bridging course for English, so-called Pre-English for the first year, but English language is still a problem to our students. From this intervention they do not seem to become better in academic language".

A participant mentioned that peer instruction by Supplemental Instruction (SI) leaders (senior students) seem to be more successful. This participant attended some SI sessions as an observer and stated that SI leaders use a more explanatory type of approach to explain concepts. She stated that time during normal lectures is too limited for her to follow the same approach. In some instances, the SI leaders use code switching if all students in the SI session speak the same first language (not English).

L2:C2: *“Students seem to understand Accounting concepts better when they are explained by peers rather than by us as lecturers. This could be because of the different level of English they use to explain longer and sometimes even use their first language in these groups to give more detail”.*

These findings support the notion that a lack of linguistic competency in the language of instruction is a major factor in poor academic achievement (Van Zyl-Schalekamp & Mthombeni, 2015). This idea is reinforced in part by Joubert (2010), who claims that poor command of the language of instruction can affect students' academic achievement to some extent, but that other factors also play a role. According to Pule (2015), academic achievement in Accounting is affected when students are required to use their second or third language as the language of instruction. The importance of Cognitive Academic Language Proficiency (CALP) is thus evident for academic success.

Previous Accounting knowledge

Participating maintained that their experience indicated that prior knowledge of Accounting was a crucial factor towards academic success. They stated that their first-year students who passed Accounting in secondary school performed generally better than those who failed it, or who never did Accounting prior to their first year. According to them, prior knowledge and exposure to Accounting concepts and theories are the foundation needed to bridge the gap between secondary school and first-year Accounting. They asserted that previous Accounting content knowledge serves as a building-block when students enter university. According to Steenkamp et al. (2009), it is indeed that background knowledge, personal experience, evaluation, and ongoing interaction with lecturers, all improve students' chances of academic success in Accounting

L2:C1 *“You have to have a background of Accounting because some of the topics covered at the first year requires the basic principles that one has learned from high school and move it up to the university level. Those who passed Accounting at school are the better students in my class”.*

Response from another participant: L2:C2 *“I see high school Accounting as a building block when they come to university. I am sure if they do not have this building blocks, they struggle and may fail then”.*

However, a participant indicated that some students pass even though they did not study Accounting at school.

L3:C1: *“It is a big jump if you have not done Accounting in matric, but I had such students. My opinion is that some of them know they must work harder and put in more effort”.*

An interesting aspect mentioned by a participant is that the marks obtained in the National Senior Certificate Grade 12 examination are not always a true reflection of expected first year Accounting performance. The participant is of the opinion that final NSC marks are adjusted to reach a certain overall pass percentage for Accounting. This provides a skewed picture of their real potential in the first year.

L1:C2: *“I do not always believe in the final marks they got from matric. I think matric marks are adjusted, because if really a student got 50% at matric level, they must have a good idea of journals and proper debiting and crediting in the first year”.*

In addition, a participant indicated that students appeared to have poor comprehension of what they previously studied at school level, and that students’ performance during the Grade 12 year bore no relation to their performance in their first year. The participants stated that some students could not even recall what they had covered during their Grade 12 year.

L2:C2: *“I gave one group of mine one question from their previous matric exam; they did not pass at all the same paper that they wrote in matric the previous year. So, to me a previous mark obtained in matric does not have any impact in Accounting performance at the first year”.*

These findings are corroborated by Bosua and Van der Nest (2015:25), who found that students' accounting performance is largely determined by past knowledge and success. Participants agreed that prior knowledge is advantageous for Accounting students (especially those who passed in Grade 12), but that in some cases the marks obtained in Grade 12 are not always a true reflection of student potential in first year Accounting studies.

Mathematical background

Participants indicated that arithmetical literacy is sufficient for Accounting studies, but that a basic background in Mathematics would be preferable.

L2:C1: *“Maths is necessary in order for them to engage in reasoning out their Accounting answers. Arithmetic literacy as a basic of mathematics can really assist our students to be able to work out answers correctly”.*

Participants indicated that students with a background in Mathematics seemed to be better equipped to engage successfully with Accounting tasks. Participants asserted that Mathematical skills assist students to reason logically. They made it clear, however, that they were referring to students who studied Mathematics, not Mathematical Literacy. Overall, they said that students with a background in Mathematics stood a better chance of succeeding because they had the intellectual ability to understand the Accounting course content.

L1:C1: *“Students with Mathematics background are able. They think deeper and have an analytical analysis and they turn out to be more logical. I refer to students who have done pure Mathematics, not Maths Literacy. They stand a good chance of even understanding quicker than a person without Mathematical background”.*

Participants indicated that a mathematical background relates to aspects of Accounting such as calculating transactions, logical reasoning as to where such calculations should be reflected and adjustments using various formulas, percentages and interpretations. Their opinion is that students without such a background tend to make basic mistakes and do not seem to grasp the intricacies of Accounting calculations.

L3:C1: *“I think Accounting for first-year students have to get a certain level of Mathematics, because in Accounting they work with numbers and logical sequencing of transaction capturing. Students with good marks in school Mathematics do better in Accounting. Students who do not have Mathematics do experience calculation problems”.*

Another participant stated: L2 C2: *“A Mathematical background enable students to become more accurate in their calculations and they reason out why they have calculated that answer that way, of which is the reason and interpretation needed in Accounting. They can analyse the information and give meaning to it”.*

Participants agreed that a mathematical background was required for first-year accounting students to achieve the best results in Accounting. They concluded that students with a mathematical background perform better in more challenging Accounting tasks than their counterparts without such a background. This conclusion is reinforced by Papageorgiou and Halabi (2014), who argue that students at the university level are more likely to perform well in Accounting due to the high levels of logic and expertise required in Mathematics. The logical reasoning and interpretation derived from a mathematical background is supported by studies conducted by Joubert (2010) and Pule (2015). Both Pule and Joubert discovered a clear relationship between high school math performance and first-year accounting performance. Pule (2015) stated that admission into an accounting programme should be linked to a prerequisite in Mathematics.

DISCUSSION OF THE FINDINGS

The findings indicated that there is a relationship between students who lack English proficiency and their first-year Accounting performance, which relate to the findings of Steenkamp et al. (2009) that students who lack a CALP level of language proficiency seem to struggle in their first year of Accounting studies. These findings are supported by Steyn and Kamper (2011) and Pule (2015) who state that, where a second language is used as the language

of instruction, students who are not linguistically competent and whose study skills do not meet the academic demands of the course, are more inclined to be academically unsuccessful.

Furthermore, this study indicated that students with no Accounting background or who did not obtain pass marks in Grade 12 Accounting, found it difficult to keep up at the first-year level. Prior knowledge in Accounting is highlighted by this study as one of the factors for academic success in the first year of Accounting studies. This is reinforced by Bosua and Van der Nest (2015), who found that students' accounting performance is primarily determined by their prior knowledge and achievement.

A clear link between prior Mathematics studies and success in first year Accounting was established by this study. The logical reasoning, interpretation and calculation skills acquired by prior mathematical studies provides first year Accounting students with the building blocks to be academically successful. According to Mkhize (2019), the importance of number operations in Mathematics, such as the place-value numerical system; basic arithmetic operations; rational numbers (e.g. percentages, fractions, and decimals); integers, averages, and weighted average; and ratios and proportions, has a direct relationship with aspects studied in Accounting.

CONCLUSION AND RECOMMENDATIONS

Based on the research findings, it could be concluded that mastery of English as the language of instruction, the study of Mathematics and the extent of students' previous knowledge seemed to be key factors determining first year Accounting students' academic performance. The study acknowledged different interventions and collaborations (Pre-English course and voluntary Supplemental Instruction), but they seemed to be insufficient, considering the number of students who continue to fail every year.

Therefore, the authors recommend that 'at risk' first year Accounting students be identified as soon as possible during the first semester of their studies (through their lecturers) and a compulsory senior student mentor collaboration programme be implemented to assist such students during the remainder of their first year. Such mentorship should be organized according to a clear monitoring schedule of attendance and feedback on progress to lecturers.

It is also recommended that lecturers use the feedback from the mentor programme and build a support programme to assist 'at risk' Accounting first year students. This support programme can include aspects such as language which should include try to support their students during lectures by providing information and simplified explanations that assist students in passing and acquiring the skills to achieve their ambitions. There should be a strong partnership between the university and high schools, since the university can assist the schools with information on how to go about teaching some of the subject content. Another tool that can be



used to break down academic barriers is the inclusion of bridging courses that close the gap between previous and current content and also reinforce basic Mathematics.

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REFERENCES

- Addow, A.M., A.H. Abubakar & Abukar, M.S. (2013). English language proficiency and academic achievement for undergraduate students in Somalia. *Educational Research International*, 2(2), 59–66.
- Ambe, M.B. (2020). *Exploring first-year Students' Voice and Subjectivity in Academic Writing at a University in South Africa*. MEd, University of the Western, Cape Town.
- Barnes, H., Dzansi, D., Wilkinson, A. & Viljoen, M. (2009). Researching the first year accounting problem: Factors influencing success or failure at a South African higher education institution. *Journal for New Generation Sciences*, 7(2),36-58.
- Bosua, W.S. & Van der Nest, D.P. (2015). The effect of prior knowledge and academic performance on success in first-year university accounting. *New Generation Sciences*, 13(3),17-33.
- Brock-Utne, B. (2014). Language of instruction in Africa – the most important and least appreciated issue. *International Journal of Educational Development in Africa*, 1(1), 4-18.
- Cohen, L., Manion, L. & Morrison, K. (2011). *Research methods in education*. New York: Routledge.
- Collis, J. & Hussey, R. (2009). *Business Research: A practical Guide for Undergraduate and Postgraduate Students*. United Kingdom: Palgrave MacMillan.
- Creswell., (2013). *Qualitative inquiry & research design: choosing among five approaches*. 3rd ed. Thousand Oaks, CA: Sage Publications.
- Duff, A. (2004). Understanding academic performance and progression of first-year accounting and business economic undergraduates: The role of approaches to learning and prior academic achievement. *Accounting Education*, 13(4),409-430.
- Hendrik, M., Hutter, I. & Bailey, A. (2011). *Qualitative research methods*. London: Sage Publications.
- Jones-White, D.R. Radcliffe, P. Huesman, R. & Kellogg, J. (2010). Redefining student success: Applying different multinomial regression techniques for the study of student graduation across institutions of higher education. *Research in Higher Education*, 51(2),154-174.
- Joubert, J.A. (2010). *Significant predictors of success and non-completion in first year accounting at a South African university(pp.1-45)*. PhD Thesis. Bloemfontein: University of the Free State.
- Leedy, P.D and Ormrod, J.E.201. *Practical research: planning and design*. New Jersey: Pearson Education Inc.
- Liu, C. & Chen, I. (2010). Evolution of constructivism. *Contemporary Issues in Education Research*, (3)4,63-66.
- Magxaki, A. (2016). *The effect of English as a medium of instruction on the academic performance of students in life orientation at Dower Campus of the Port Elizabeth College*. MA, Nelson Mandela University, Port Elizabeth.



- Manson, T.A. (2014). *A relationship between matriculation English results and academic performance in nursing students at the KwaZulu-Natal College of Nursing*. MEd, Durban University of Technology, Durban.
- Mkhize, M. (2019). Transdisciplinary relationship between mathematics and accounting. *The Journal for Transdisciplinary Research in Southern Africa*, 15(1), a451. <https://doi.org/10.4102/td.v15i1.451>.
- Nnedu, C.C. (2009). Recruiting and retaining minorities in nursing education. *Association of Black Nursing Faculty Journal*, 20(4),93-96.
- Nyika, A. (2015). Mother tongue as the medium of instruction at developing country universities in a global context. *South African Journal of Science*, 111(1/2),1-5.
- Okeke, C. & Van Wyk, M. (2015). *Educational research: An African approach*. Cape Town. Offord University Press.
- Oosthuizen, A. & R. Eiselen. (2012). Factors associated with success in first-year Accounting after the implementation of the National Senior Certificate. *Acta Academica* 44(3),156–74.
- Papageorgiou, E. (2017). Accounting students' profile versus academic performance: A five-year analysis. *South African Journal of Higher Education*, 31(3), 209-229.
- Papageorgiou, K. & Halabi, A.K. (2014). Factors contributing toward student performance in a distance education accounting degree. *Meditari Accountancy Research*, 22(2), 211-223.
- Pule, N.G. (2015). *Factors influencing the throughput rate of students in an Accounting Programme*. MEd, University of the Free State, Bloemfontein.
- Rubin, A. & Babbie, E.R. (2010). *Essential research methods for social work*. New York: Brooks/Cole Cengage Learning.
- Steenkamp, L., Baard, R. & Frick, B. (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.
- Steyn, M. G. & Kamper, G. D. (2011). Barriers to learning in South African higher education: Some photo voice perspective. *Journal of New Generation Sciences*, 9(1):116-136.
- Van Zyl-Schalekamp, C. & Mtombeni, P. (2015). Social-background factors affecting the academic success of first-year sociology students at the University of Johannesburg, South Africa. *Journal of Sociology and Social Anthropology*, 6(1),31-44.
- Young, M. & Gamble, J. (2006). *Knowledge, curriculum and qualifications for further education in South Africa (pp.5)*. Pretoria: HSRC.