

CHAPTER 4:
BARRIERS TO ACADEMIC PERFORMANCE OF ACCOUNTANCY
STUDENTS AT A SOUTH AFRICAN UNIVERSITY

Chapter 4 (Article 2)

Title: Barriers to academic performance of accountancy students at a South African university

The reader is requested to take note of the following:

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Abstract

Improving the academic performance of South African accountancy students is critical as the country is experiencing a serious shortage in financial skills. Understanding the barriers to student achievement is therefore essential, although past studies have seemingly not explored them holistically. The primary objective of this study was to identify and gauge the strength of various possible barriers to student achievement. This was achieved largely through statistical analysis of data gathered from undergraduate chartered accountancy students of a specific university, using a questionnaire that was designed for this purpose. The study found that students experienced a lack of communication, motivation, supplemental instruction and soft skills development as the greatest achievement barriers, and these barriers were more serious in higher year levels. The article concludes with recommendations that should be of practical value to educators and, indirectly, to professional bodies, potential employers and the government.

Keywords: *accounting education; barriers; limitations; constraints; academic performance; success; failure; questionnaire; students*

4.1. Introduction

Improving the academic performance of accountancy students is an important topic in accounting education globally and especially in South Africa, as the country is experiencing a serious shortage in financial skills. A massive shortage of approximately 22 000 accountants was one of the findings of research conducted by the South African Institute of Chartered Accountants (SAICA) among 739 organisations employing 1.2 million people (Temkin 2008), and indications are that these skills shortages have persisted or even increased since then (Seggie 2012; Kater 2011). Understanding the barriers to student achievement is therefore essential and, as such, this article is aimed at accounting educators as the training agents of professional accountancy bodies and, indirectly, at the government. It could also provide helpful information to professional bodies, potential employers and the government itself, since the education of professionals is seen to contribute to the public good (McLean and Walker 2012).

Accounting education faces numerous challenges, such as the decreasing number and quality of students majoring in accounting and the inability of accounting education to adapt quickly enough to the changing business environment and requirements of practitioners (Russell, Kulesza, Albrecht and Sack 2000). This pressure on accounting educators is mainly linked to the hefty requirements of practitioners and the professional services firms; a situation which is fairly unique in the accountancy field (Evans, Gbadamosi, Wells and Scott 2012; Clovey and Oladipo 2008; Dillard 2001, 396). Through strict accreditation criteria imposed on universities, SAICA plays an important role in reconciling the chartered accountancy (CA) qualifications offered at universities with the requirements of practitioners. CA is an exceptionally challenging qualification to pursue

due to the elevated skills required to be a member of SAICA and the continually changing accounting and auditing standards and tax legislation (Neophytou 2012; Temkin 2005, 2).

The university that forms the subject of this article ('University X') offers a SAICA-accredited programme up to honours level, one of only 14 universities (SAICA 2013), and was chosen for this study because of its inherent diversity, which offered the prospect of rich data analysis. The university has three campuses covering a large geographical area spanning two provinces. Being in fairly close proximity to some large metropolitan cities, University X attracts many students from urban areas, but is also perfectly situated to tap into the greatly under-utilised potential of prospective CAs from rural communities and, as such, has the potential to make a significant contribution to the accountancy skills shortage in the country. The university, however, faces many challenges in its CA programme: all three campuses must be aligned with regard to outcomes, course structure, study material and assessment, putting immense strain on limited resources and leaving less time to focus on pedagogy. The philosophy of University X is to offer a fair chance to citizens to ultimately become CAs, which translates into reasonable entrance requirements which, in turn, require mammoth efforts from lecturers to prepare students for a career in accountancy.

A thorough literature search on a variety of academic databases revealed that various studies have identified or explored some of the barriers to achievement in accounting studies, but these appear to have investigated only one (or at most a few) of these problems. A truly holistic study that measures and compares the severity of various controllable barriers, even at a single institution, seems to be few and far between. The current study therefore attempts to fill this gap. The central argument of this article is that research is more useful if focused on the barriers which universities can indeed control or influence and change through appropriate educational and other solutions. The results of this study contribute to the identification and further understanding of at least some of the possible achievement barriers which could exist in any accountancy programme of any institution, and suggestions are offered for affecting change at institutional level which should play an essential part in alleviating the accounting skills shortage in South Africa.

The literature study unearthed several possible controllable barriers to academic performance in accountancy, including insufficient career-oriented and similar communication by the university; a lack of motivation; financial difficulties; a lack of supplemental instruction; insufficient self-assessment opportunities; language incompetence; inadequate study material, lecturers and teaching methods; deficient facilities, equipment or technology; and insufficient skills development opportunities in curricula (refer to the next section in this article, page 90). Several researchers (e.g. Santhanam and Hicks 2002; Campbell, Baronina and Reider 2003; Hassall and Joyce 2001) have also suggested that students' gender and course year influence their perceptions of a range of these issues; thus, a demographical analysis could also provide informative results.

Against this backdrop, the primary objective of the largely quantitative, empirical study reported on in this article was to identify and gauge the strength of possible barriers to student achievement in University X's CA programme, as perceived by its undergraduate students, with an aim to identify weaknesses in the programme and recommend possible courses of action to address them. This aim was achieved through statistical analysis of data gathered from University X's CA students by means of a questionnaire that was designed for this purpose. More specifically, the study followed these research objectives:

- Determine which of the possible factors identified in the literature are considered by the CA students of University X as actual barriers to student achievement;
- Measure the strength of each barrier;
- Compare perceptions of different student groups based on gender and academic study year; and
- Identify weaknesses in the programme from the above analyses and recommend possible solutions.

The remainder of this article is structured as follows: First a summary of recent accounting education literature is presented to identify possible barriers to academic performance in accountancy. Drawing on the themes uncovered in this literature review, the methodology that was followed to address the research objectives is then motivated and described. Finally, the results of the study are discussed, conclusions are drawn and recommendations are made as to how to address the most significant barriers. The limitations of the study are then also recognised.

4.2. Possible barriers to academic performance in accountancy

Several important themes have converged in recent years to impact the landscape of accounting education, unearthing several possible barriers to academic performance in accountancy. The issues that were considered by the author, in his experience as accounting educator (supported by a review of literature), and as especially relevant to the South African setting, are summarised in table 4.1 on the next page.

Table 4.1: Literature overview of barriers to academic performance in accountancy

Barrier	Explanation	Literature references
Insufficient career communication by university	CA students often underestimate the level of commitment required to achieve the CA qualification, and universities should communicate the challenges/ expectations sufficiently to students. Students often study CA for the wrong reasons and in South Africa only some students are properly advised about the CA profession by career advisors or high school teachers. Career guidance and promoting confidence among students are fundamental, as studies found that career uncertainty has a negative impact on advancement. Universities should help students determine whether they have the interest, aptitude and discipline to pursue a career in accountancy and assist them in developing personal career plans. Studies also found that students' performance is negatively affected by negative perceptions of accounting, which lecturers can influence positively, since they are typically the people students look to for career advice.	Duff and McKinstry 2007, 188; Wynn-Williams 2009; Odendaal and Joubert 2011, 32; Byrne and Flood 2008; Jordaan, Smithard and Burger 2009; Hurt 2007; Ferreira and Santoso 2008; Pollara 2008
Lack of motivation	Motivation has been cited by many as a predictor of student achievement in accounting. Accounting educators' uneasiness about students' lack of motivation to learn is therefore a cause for concern as increased motivation facilitates students' willingness to learn. To affect behaviour in line with expectancy theory, universities can, to some extent, influence the general level of motivation of students, e.g. through creating an enriched and stimulating learning environment, creating valuable learning opportunities and stressing the desirability of a successful outcome.	Müller, Prinsloo and Du Plessis 2007; Davidson 2002; Rankin, Silvester, Valley and Wyatt 2003; Barnes, Dzansi, Wilkinson and Viljoen 2009; Gabbin 2009; Montaña, Cardoso and Joyce 2004; Adler, Milner and Stablein 2001; De Lange Suwardy and Mavondo 2003; Ferreira and Santoso 2008; Campbell et al. 2003
Financial difficulties	Some students suffer great financial stress, which prohibits them from concentrating on their studies which, in turn, contributes to the attrition crisis in South Africa. The recent global economic recession places psychosocial stressors on tertiary students, affecting their performance and is of particular interest in the South African context given that many students come from desperately poor backgrounds, a remnant of the apartheid era. Studies have shown that students' social environment, including financial pressures, could affect performance in accounting.	Bokana 2010; Berg-Cross and Green 2010; Evans 2010; Tatikonda 2007, 31

Table 4.1 continued

Barrier	Explanation	Literature references
Insufficient supplemental instruction	The need for peer helping programmes in higher education institutions is not disputed. It is difficult to obtain a challenging qualification such as CA without the aid of supplemental instruction (SI), most often in the form of group tutorials facilitated by the students' peers. Studies have found that SI is effective at increasing academic performance in accountancy, since peer support aids in developing the skills students need to succeed in accounting. One American study covering various disciplines indicated that SI attendance for at-risk modules, all other factors held constant, increases the probability of timely graduation by approximately 11%.	De Jager and Ntlokwana 2011, 680; Steenkamp, Baard and Frick 2012; Jones and Fields 2001; Byrne and Flood 2008, 209; Bowles, McCoy and Bates 2008
Insufficient homework assignments	Homework assignments of good quality encourage and provide structure to independent learning and are one of the most significant factors in accounting education that lead to student learning success. It has been an essential tool since the dawn of accounting education. Research indicated that continuous assessment is more likely to encourage deep approaches to learning than examinations. Take-home assessment tasks and self-assessment encourage students to apply their own judgement. The type of homework assignments also has communication value, as the students' perceptions of assessment methods influence their choice of learning approaches.	Ng 2012; Ijiri 1983, 170; Tang 1992; Duff and McKinstry 2007, 188; Hassall and Joyce 2001; Bezuidenhout and Alt 2011
Language incompetence	South Africa has 11 official languages of which only two are catered for at University X (which are still more than most universities in the country). Students who are not instructed in or do not study and write examinations in their home language (mainly African black students) could be significantly disadvantaged, e.g. have difficulty understanding complex terms used in questions and difficulty in communicating their answers. Literature on the correlation between proficiency in the language of study and academic performance is not conclusive, with some authors finding a positive relationship, some no significant/clear relationship, while others attribute weak performance to poor reading ability rather than the actual knowledge of language. Further research in this area is therefore warranted.	Eiselen and Geysers 2003, 122–128; Baard, Steenkamp, Frick and Kidd. 2010; Barnes et al. 2009; Van Wyk 2011; Wong and Chia 1996; Ward and Wilson 1994; Du Plessis Muller and Prinsloo 2005; Hartnett, Römcke and Yap 2004; Koch and Kriel 2005, 223–227

Table 4.1 continued

Barrier	Explanation	Literature references
Inadequate study material	Educational material which lacks quality and does not optimally support the process of learning could be to the detriment of academic achievement. Textbooks are one of the most important teaching resources for business faculties, yet have received little or no research attention. Studies found that very little end-of-chapter material is at the highest levels of Bloom's taxonomy, that the ordering of topics in accounting textbooks and their readability may affect student learning and that there is a disconnect between accounting textbooks and the needs of the profession. This disparity prompted some authors to recommend supplementary reading material for accounting courses. Other authors identified a slow pace of change in textbooks, incomplete coverage and an unwanted time lag for new topics to appear in accounting textbooks.	Correll, Jamal and Robinson 2007, 137; Barker and Stowers 2005; Roos 2009; Tootelian and Bush 1992; Davidson and Baldwin 2005; Wouters 2008; Noreen 2008; Davidson 2005; Bargate 2012; Cable, Healy and Mathew 2009; Böer 2000; Ferguson, Collison, Power and Stevenson 2007; Laksmana and Tietz 2008
Inadequate lecturers and teaching methods	Some authors believe the most critical element in a student's successful classroom experience in accounting is an inspiring and passionate professor. The process of learning is also negatively affected when methods to teach accountancy principles are ineffective. Studies have found instances where performance in accounting is positively associated with the presence of an instructor versus no instructor. Some suggest that the enthusiasm of lecturers can influence students' motivation to succeed. Teaching strategies should be flexible to embrace diversity, foster long-term and active learning and appeal to students to help break down their often parochial view of accounting which, in turn, affects achievement.	Russell et al. 2000; Halabi, Essop, Joosub, Padia, Vawda and Yasseen 2010; Jackling and Calero 2006; Hartnett, Römcke and Yap 2003; Pillay 2010; Brown, 2006; Duff and McKinstry 2007, 188; Ferreira and Santoso 2008
Deficient facilities and technology on campus	Deficient supporting facilities (e.g. lecture rooms, educational media and technology, computer facilities and libraries) can harm student achievement even if lecturers are superb. Classroom and institutional climate is an input in achieving learning outcomes, and classroom configuration can enhance the development of core accounting competencies. Many authors cite the benefits of educational technology and one put it frankly: 'If [accounting] educators are to keep the institutional walls of higher education from crumbling down altogether, it is imperative that they learn to harness the enormous power and potential of instructional technology'.	Ramsden 2003, 82; McVay, Murphy and Wook Yoon 2008; Apostolou, Hassell, Rebele and Watson 2011; Bryant and Hunton 2000

Table 4.1 continued

Barrier	Explanation	Literature references
Insufficient opportunities for skills development	Soft skills such as time management and the ability to plan are not only crucial to have in the modern workplace, but are also necessary for students to effectively manage their studies in the university setting. Of particular relevance in accounting is the ability of professional judgement, which can be improved through developing the underlying skills. Other subject skills that are advocated include critical, conceptual and analytical thinking, and problem-solving and intellectual skills, whereas other authors call for the cultivation of more generic skills such as communication, technological and ICT skills, and social/interpersonal skills. Practising of these non-technical skills also facilitate the learning of subject content and complement the development of such technical skills.	Clovey and Oladipo 2008; Müller et al. 2007, 30; Correll et al. 2007; Duff and McKinstry 2007; Hurt 2007; Du Preez and Fossey 2012; Rhodes 2012; Davidson 2005; McVay et al. 2008; Montañó et al. 2004; Gabbin 2009, 4; De Villiers 2010

4.3. Research method

This study measured students' perceptions of achievement barriers. Research that reflects an interest in understanding students' perspectives contrasts with traditional methods of educational research that uses constructs such as intelligence, ability or personality – approaches that have been criticised by some scholars for being 'top-down' and 'acontextual' (e.g. Ramsden 2003). Students' perceptions of the learning environment influence the way in which they learn (Ferreira and Santoso 2008, 213; Duff and McKinstry 2007, 187), and faculties should therefore value students' voices.

The research design applied in this study was largely quantitative in nature. The instrument used was a written questionnaire consisting of seven demographical questions and 66 questions on a five-point Likert scale that aimed to capture student perceptions on the barriers to achievement in accounting studies. The questionnaire concluded with an open-ended question regarding any other achievement barriers as perceived by the students. Although the instrument was newly constructed by the author, as no suitable existing instrument was available, its validity, reliability and completeness were ensured through meticulously compiling questions based on the educational barriers identified in the literature review and the author's teaching experience, keeping in mind the particular factors that could influence the CA programme of University X. The questions were also scrutinised by a number of experienced colleagues as well as a qualified statistician. Separate meetings were then arranged with four first-year students representing a wide variety of demographical constituents, during which the questionnaire was discussed with them to determine whether they understood each question as intended by the author. First-year students were selected for this purpose as theoretically they had the highest chance of misinterpreting the questions. The instrument was then pilot tested on 92 accounting students outside the CA programme and refined before it was finally administered to the study population of CA students.

All undergraduate CA students at University X (from all three campuses and all year groups, first-years through to third-years) who were enrolled at the time were targeted to participate in the study. The questionnaire was administered during accounting lectures near the end of the academic year, as students had experienced nearly the full year of the programme and could hence provide meaningful input into the research. All students attending the lecture on the day were invited to participate in the study and a total of 790 responses were obtained, representing approximately 80% of the target population. The response rate suggests adequate representation of the target population, although results might not be fully generalisable due to the non-random sample of students who participated. Construct validity of the questionnaire was confirmed through confirmatory factor analysis, and statistical reliability measures were also calculated (refer to section 4.4 below).

Different genders, campuses, study years and languages were well represented in the study population:

Table 4.2: Demographics of University X students

Gender			University X campus			Course delivery		
	N	%		N	%		N	%
Male	340	43%	Campus 1	229	29%	Full time	754	95%
Female	449	57%	Campus 2	388	49%	Part time*	36	5%
			Campus 3	171	22%			
Academic study year			Home language			Study language		
	N	%		N	%		N	%
First	286	36%	Afrikaans	447	57%	Afrikaans	386	49%
Second	242	31%	English	42	5%	English	402	51%
Third	262	33%	Setswana	176	22%			
			Other African	125	16%			

* Offered only at Campus 3.

4.4. Results

4.4.1. Barriers to academic achievement at University X

To confirm whether the different questions in the questionnaire on each barrier identified in the literature measured the same construct, a confirmatory principal components factor analysis was performed on each group of questions using IBM SPSS (IBM SPSS, 2011) after confirming the factorability of the data using all the measures suggested by Pallant (2007). The questions that were subject to factor analysis were reduced into nine components as per table 4.3 on the next page, which also shows descriptive statistics for these components.

Table 4.3: Descriptive statistics on the barriers to academic achievement

Component	MSA	Cronbach alpha	N	Mean	Std Deviation
Sufficient communication by university	.749	.691*	790	3.46	.675
Efforts of university to motivate students	.672	.756	790	3.40	.746
Students experience financial difficulties	.806	.788	790	2.31	.990
Need more supplemental instruction	.748	.745	790	3.57	.875
Sufficient homework assignments given	.786	.727	790	3.84	.683
Students competent in language of study	.775	.707	790	4.22	.653
Quality of study material offered	.743	.687*	790	3.84	.658
Quality of lecturers and teaching methods	.910	.847	790	3.71	.621
Sufficient soft skills development	.868**	.809	790	3.37	.785
Sufficient subject skills development		.717	790	3.79	.715

* These Cronbach alpha coefficients are slightly below the suggested value of .7. Although the author considered these components reliable based on the close proximity of the alpha coefficients to the accepted norm, Pallant (2007:95) and Cortina (1993) advise that smaller values for Cronbach's alpha can be expected for scales with fewer than ten items (these components contained six and five items respectively), where it may be more appropriate to report the mean inter-item correlation for the items. The mean inter-item correlations for the questions in these two components were .275 and .308 respectively; therefore within the range of .2 to .4 suggested by Briggs and Cheek (1986).

** Subjected to factor analysis as a group; two components extracted.

From the above table it is clear that, overall, the students held more positive views than negative (a mean of 3 represents a neutral response). However, the areas where students had more negative views relative to other areas were in respect of communication by the university, the university's efforts to motivate them and the lack of opportunities for soft skills development. The majority of students also indicated that they had a greater need for supplemental instruction to support their study endeavours. Each of these four main problem areas is explored in more detail below and significant findings of some of the individual questions within each of these components are discussed in the next section.

4.4.2. Communication by the university

This component in the questionnaire aimed to measure whether University X's efforts are sufficient to communicate to students the extent of CA as a career, the benefits of being a CA and the challenges that students are likely to face while studying towards this qualification. The overall mean of 3.46 is not ideal. Even though students felt that lecturers make it fairly clear what is

expected from them in the course ($M = 3.73$), students indicated less understanding of what to expect from each new study year ($M = 3.18$) and many did not have a clear understanding of what they will be doing in practice ($M = 3.38$). University X also could do more to inform students about the challenges they are likely to face while studying towards their qualification ($M = 3.28$).

4.4.3. Efforts to motivate students

This component aimed to establish whether University X's efforts are sufficient to keep students motivated. With a relatively low mean of 3.40, many students felt they are not being particularly highly motivated and encouraged to work hard at their studies. The biggest contributing factor was that University X does not do enough to create passion in students for the CA degree ($M = 3.17$). Students awarded a higher rating to encouragement by the university to work hard ($M = 3.50$) and to be committed to their studies ($M = 3.53$), although there is room for considerable improvement.

4.4.4. Need for supplemental instruction

In general, students appeared to be expressing a need for more frequent and effective SI opportunities of higher quality ($M = 3.57$). With an almost neutral mean of 2.96, it appears that the issue was not so much the quantity of SI opportunities, but the quality and frequency where individual question means ranged from 3.72 to 3.83.

4.4.5. Opportunities for soft skills development

The aim of this component was to establish whether students are of the opinion that University X's efforts are sufficient to equip them with soft skills. The development of these skills is an imperative learning outcome in accounting curricula, but they also allow students to cope better with their studies. In general, students rated this component the worst of all (component mean of 3.37). The university fared best in developing the communication skills of students ($M = 3.56$), although this could have been better still. The weakest areas are developing study management skills ($M = 3.05$) and life skills, e.g. promoting self-confidence and leadership ability ($M = 3.25$).

4.4.6. Other areas for improvement

Apart from the weakest components discussed above, there were individual questions in some of the other components as well as the additional sundry questions (which were not subject to factor analysis) which pointed to areas upon which University X can improve. The perceptions about the adequacy of homework assignments for the purposes of examination preparation were not strongly positive ($M = 3.47$). Students also did not regard teaching methods as particularly exciting ($M = 3.11$), effective ($M = 3.48$) or varied ($M = 3.32$). Furthermore, with a mean of only 3.47, students did not rate the helpfulness of study guides particularly high, which contradicted their more positive views on textbooks. Another alarming statistic is that 31.4% of students indicated that, if they study hard, they can generally pass without really understanding the work ($M = 2.73$). A further 19.7% gave a neutral response to this sundry question, meaning that less than half of

students viewed understanding the work as necessary to pass examinations. The problem is clearly not limited to a particular study year, as these students were almost equally distributed across all year groups.

Next, the perceptions of different demographical groups were compared using independent samples *t*-tests and one-way between-groups analyses of variance (ANOVAs). Levene's test was also performed and in instances where the assumption of homogeneity of variances was violated, the Sig (*p*) values which compensate for the violation were reported (Pallant, 2007:246). Sig values (statistical significance) are reported for completeness only, but because of the non-random sample of participants, the results are interpreted based on effect sizes (*d*) (practical significance). Steyn (2000) suggests that *d* should be calculated as the mean difference divided by the maximum standard deviation of the two groups that were compared. Cohen (1988) provides the following guidelines for the interpretation of the effect size *d*:

- Small effect: $d = .2$
- Medium effect: $d = .5$
- Large effect: $d \geq .8$ (and also practically significant)

4.4.7. Comparison by gender

Although the mean differences for a few components reached statistical significance (if random sampling was assumed), all effect sizes (*d*) were small. Therefore, no practically significant differences existed between the perceptions of male and female students and further exploration of this aspect was not considered useful.

4.4.8. Comparison by academic study year

The means between different study years (i.e. first-year, second-year and third-year students) were compared in order to identify any significant differences in perceptions. The results of the ANOVAs are encapsulated in table 4.4 on the next page.

Table 4.4: ANOVA on academic study year

Component	First year		Second year		Third year		Mean square (within groups)	df1	df2	F	Sig.
	N	Mean	N	Mean	N	Mean					
Sufficient communication by university	286	3.58	242	3.35	262	3.43	.447	2	787	8.47	.000*
Efforts of university to motivate students	286	3.56	242	3.26	262	3.36	.764	2	787	8.01	.000*
Students experiencing financial difficulties	286	2.06	242	2.32	262	2.56	.938	2	787	18.43	.000*
Need more SI	286	3.33	242	3.71	262	3.71	.734	2	787	18.26	.000*
Sufficient homework assignments given	286	4.07	242	3.78	262	3.63	.433	2	787	32.03	.000*
Students competent in study language	286	4.30	242	4.18	262	4.17	.424	2	787	3.21	.041*
Quality of study material offered	286	3.95	242	3.73	262	3.83	.426	2	787	7.31	.001*
Quality of lecturers and teaching methods	286	3.81	242	3.62	262	3.69	.381	2	787	6.48	.002*
Sufficient soft skills development	286	3.50	242	3.33	262	3.28	.609	2	787	6.06	.002*
Sufficient subject skills development	286	3.88	242	3.70	262	3.78	.507	2	787	4.38	.013*

* Means differ significantly at the $p = .05$ level, if random sampling was assumed.

There were significant differences in perception between students in different academic study years for **all** components ($p < .05$, assuming random sampling). Post-hoc comparisons using the Tukey HSD test were also performed, which showed that first-year students were more satisfied with the university's efforts to communicate to them regarding the profession and course compared to other study years, e.g. the effect between first and second year is small to medium at $d = .332$. Similarly, first-year students were also the most satisfied with the university's efforts to motivate them; the effect size (d) between first and second year is $.310$.

With medium effect sizes (d) of $.438$ and $.443$ respectively, both the second- and third-year students were almost equally less satisfied with the quality and frequency of SI sessions compared to first-year students. Similarly, students grew increasingly less satisfied with homework assignments as they progress from one study year to the next. The effect size between first and third year is $.622$, which is considered medium to large. First-year students were also more satisfied with their study material and lecturers compared to second- and third-years ($d = .306$ and $.302$ respectively). A similar trend emerged in regards to skills development, although the effect sizes were smaller.

4.4.9. Qualitative remarks by students

A total of 524 different qualitative responses were obtained. All remarks where ten or more students identified the same issue are listed in table 4.5 below.

Table 4.5: Qualitative remarks by students

Issue number	Comments by students	Number of instances mentioned
1	Lectures / homework / class tests not on same standard as examinations / not adequate preparation for examinations	42
2	Lack of / ineffective facilitation / supplemental instruction	23
3	Poor lecturers / lecturers not qualified/trained to teach (the fact that lecturer is qualified does not make him/her a good teacher)	22
4	Test/examination timetables too full / not enough time to study for tests/examinations	22
5	Negative remarks towards one specific lecturer	18
6	Lecturers overqualified / unable to explain work in a simple/ understandable manner	16
7	Pace is too fast / not enough time to master the work / too little contact time	13
8	Lecturers demotivate students / negative attitude towards students / create a view that CA course is impossible or students are not clever enough	13
9	Too many unnecessary additional modules especially at first-year level; rather have more main subjects / more difficult content at first-year level	13
10	Air conditioners not working properly; hot lecture rooms / poor ventilation in lecture rooms (inhibits concentration)	12
11	Lack of practical examples during lectures or for homework / focus too much on theory and too little on exercises	12
12	Not enough computer facilities on campus	10

The above issues will be further considered in the next section.

4.5. Discussion and recommendations

From the study results it is clear that there is room for improvement in all areas, especially in respect of career-oriented and similar communication, motivation, SI and soft skills development. It is recommended that University X (and other institutions) put interventions in place to ensure students know exactly what to expect from each new study year and the challenges they might face, and that they are constantly reminded of what they will be doing in practice (e.g. by exposing them to more practical, real-world assignments and case studies). From the qualitative comments it appears that a contributing factor to low levels of motivation is negative lecturers who create the perception that the CA qualification is near impossible to obtain. It is recommended that universities take a more positive stance in motivating students, e.g. by creating a pleasant learning environment where hard work is rewarded, where there is a sense of proud among CA students

and where the difficulty of assessments lead students gradually to where they need to be. The university also needs to put more resources into SI, especially in later years of the degree.

The biggest barrier identified in this study is the lack of efforts by the university to help students develop their soft skills, especially managing their studies, promoting self-confidence and developing leadership ability. It is suggested that more non-traditional assessment modes (e.g. group work assignments, case studies, practice simulations and role plays) be utilised to expose students to circumstances where their soft skills can be enhanced. Another suggestion is to regularly present workshops to students on issues such as study approach and time management skills. The services of a professional life coach can also be utilised. Various online tools also exist that can help with identifying weaknesses in learning and study strategies. Career-oriented communication and motivation can, among others, be improved by arranging more visits by potential employers and motivational speakers, at all three campuses.

Other areas that need improvement are the standard of homework assignments and the apparent disconnect between homework standard and examination standard. It is recommended that lecturers make the effort to adapt integrated questions from prior examination papers to supplement easier homework questions taken from question books. The university also needs to enhance their efforts in ensuring that teaching methods are exciting, effective and varied, and that study guides are optimal for learning. It is also recommended that different lecturers regularly come together to exchange ideas to improve the teaching experience.

As first-year students generally held more positive views than other year groups, it is recommended that the university investigates ways to soften the transition between study years and lessen the 'jump' in standard of difficulty between years one and two. This seems to be supported by the qualitative comments of some students calling for more difficult and core content at the first-year level. In addition, the university may need to put in the same efforts and give the same level of guidance for second- and third-years as it does for first-years, even though conventional wisdom dictates that students should become more independent as they progress in their studies. Increased input should, however, never be to the detriment of independent learning.

The fact that so many students viewed understanding the work as not so important to pass modules is truly concerning. It could signal that students are coached or 'spoon fed' to pass examinations or that examinations are not sufficiently challenging in some modules. It is recommended that more research is conducted on the reasons for this finding in order to search for ways to ensure that students value insight into principles. Other areas that may need interventions are congested test/examination timetables and the rapid pace of work ('syllabus overload'). The university may need to investigate more creative ways to assess students with a reduced quantity of assessments, as well as creative ways to teach universal principles with a lesser focus on technical intricacies.

4.6. Conclusion

Through a statistical analysis of questionnaire responses from its undergraduate students, this article explored possible barriers to student achievement in the CA programme of University X. The originality of this study lies in the fact that it is one of very few comprehensive studies that investigated many achievement barriers in one study. Based on the findings it can be concluded that students experienced a lack of career-oriented and similar communication, motivation, supplemental instruction and soft skills development as the greatest achievement barriers. Furthermore, the barriers grew more serious in higher year levels.

The research contributed to the understanding of at least some of the reasons why students fail in CA studies, and shed new light on themes that have not yet been sufficiently illuminated by prior research, for example, the value of career-oriented communication. In addition, a new empirical questionnaire was developed and its reliability confirmed, making further research possible in various other settings. The recommendations also have practical value.

The study was, however, not without limitations. The questionnaire was developed for the purpose of the specific study and offers opportunities for improvement. Future research could usefully attempt to develop the instrument further. Due to the non-random sample the results were also not fully generalisable. Future research could also adopt a longitudinal approach to better understand how and why perceptions on achievement barriers change over time.

The implications of the results of this study are certainly not confined to University X. The study provides food for thought which should stimulate readers to spot possible weaknesses in their own programmes and spark further research in order to break down achievement barriers one at a time and to increase the contribution of accounting education to the public good and to the eradication of skills shortages on this continent and abroad.

4.7. Reference list

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