THE COMPETENCIES DEVELOPED IN AN UNDERGRADUATE ACCOUNTING COURSE BEFORE SAICA'S COMPETENCY FRAMEWORK WAS EFFECTIVE: A STUDENT'S PERSPECTIVE

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Abstract

SAICA developed a competency framework prescribing competencies a chartered accountant should master before qualifying. These competencies include compulsory, elective and residual skills (this study focused on compulsory skills: accounting and external reporting as well as pervasive skills). SAICA also issued guidance for academic programmes, detailing how competencies should be developed during academic training. Therefore South African universities should evaluate their academic programmes to ensure compliance with the guidance. The objectives of this study were (1) to determine the extent that an academic programme at a university (before the effective date of the guidance) had developed the compulsory skills and (2) to propose changes to the academic programme in underdeveloped areas. It was found that most skills were addressed in the academic programme but certain pervasive skills (leadership, innovation, understanding the environment, teamwork and communication) had not been well developed. Solutions include additional subjects, case studies, group work, and practical examples.

Keywords

Accounting students; Competencies; Competency framework; Pervasive skills; Chartered Accountant; Student perceptions

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1. INTRODUCTION

During 2008 and 2009 the South African Institute of Chartered Accountants (SAICA) developed a competency framework that sets out the required competencies that a South African chartered accountant (hereafter referred to as a CA(SA)) should have acquired before registration as CA(SA) (Steenkamp, 2012). The competency framework consists of three major sections, namely compulsory skills, elective skills and residual skills (SAICA, 2009b). These competencies can be developed either during their studies (undergraduate or post graduate) or during their training programme. The development of this framework was prompted by pressure from local and international role players who had called for the reformation of accounting education and training by increasing the focus on the so-called soft skills (such as ethics, general business skills, personal attributes, communication and leadership) (SAICA, 2009b).

Based on the competency framework, SAICA also developed a document entitled Detailed guidance for academic programmes (SAICA, 2010) (hereafter referred to as 'the guidance') in which the competencies required at the point of writing the Initial Test of Competence (ITC) (previously called the First Qualifying Examination or QE1) were set out. These competencies are, however, almost identical to those contained in the competency framework itself. The guidance was circulated during 2009, but only became effective for the first time for the ITC that was written in January 2013 (SAICA, 2010). Therefore, between 2009 and 2013 universities needed to evaluate their own educational programmes and make the necessary adjustments to comply with the requirements of the guidance.

Before the development of the guidance universities developed their curriculum based on SAICA's examinable pronouncements (a knowledge reference list rather than a competency-focused document) (SAICA, 2010). However, ever since the ground-breaking work of Albrecht and Sack (2000) it has been argued that universities should equip their graduates with soft skills as well, and not merely technical skills (Sriram & Coppage, 2011; De Villiers, 2010; Kavanagh & Drennan, 2008; Gammie, Gammie & Cargill, 2002). Given this, most universities in South Africa aimed to develop soft skills as a part of their academic programme, although there was no specific requirement to do so before the development of the guidance.

University X is a full-time, residential university, offering a CA-stream undergraduate accounting programme (called the Bachelors of Accounting or B. Accounting degree) that is accredited by SAICA. At University X the effect of the guidance, and to which extent adjustments were needed to the B. Accounting degree, was also considered. The questions that arose were 'to what extent were the necessary skills already developed in this course before the official implementation of the guidance?' and 'what adjustments are needed to implement the guidance?'.

2. RESEARCH OBJECTIVE AND CONTRIBUTION

2.1 Research objective

The purpose of this research was to investigate the perceptions of accountancy students (who were enrolled before the SAICA guidance for academic programmes became effective) regarding:

- (a) The extent to which the compulsory skills (as per the guidance) had been developed during their B. Accounting degree at University X (although it wasn't an official requirement yet); and
- (b) how any underdeveloped compulsory skills could be developed more effectively as a part of the B. Accounting degree (recommendations for improvement)?

An exploratory study was carried out to serve as a starting point for educational institutions reviewing the possible changes that need to be made to the education programme in the light of the guidance. This study focused only on the compulsory skills contained in the guidance because:

- (a) all prospective CAs have to master these skills (which is not true of the elective skills);
- (b) 'advanced experience' must be gained in these skills (as opposed to the 'basic experience' required of the residual skills) (SAICA, 2009b); and
- (c) the compulsory skills include the pervasive skills (the inclusion of which is one of the biggest changes brought about by the competency framework and guidance).

2.2 Research contribution

There has been relatively little research from a South African perspective on the impact of the competency framework and accompanying guidance (Barac & Du Plessis, 2014), and this study will expand the existing literature. For South African academics, this research will highlight potential adjustments that need to be made to the academic curriculum to enable the development of the required competencies. The study will also help academics to understand the views and needs of students relating to the development of specific competencies.

This research is especially important in the light of the increased focus on pervasive skills in the ITC. In the first two ITC examinations after the effective date of the guidance (January and June 2013) between 6% and 7% of the total marks were allocated to pervasive skills (SAICA, 2013a). The pervasive skills marks were awarded for clarity of expression, logical argument, layout and structure, presentation and appropriate structure (which are mostly written communication skills).

3. LITERATURE REVIEW

Two areas were addressed as part of the literature review. The first was the development of the competency framework, which led to the accompanying guidance. The second was how the guidance's changed skill set (an increased focus on pervasive skills) could affect the way in which accountancy should be presented at university level (based on recommendations from previous research studies).

3.1 The competency framework

International professional accountancy organisations (such as the Institute of Chartered Accountants in Australia (ICAA), the Canadian Institute of Chartered Accountants (CICA) and the American Institute of Certified Public Accountants (AICPA)) have been redeveloping the skill set required for membership by firstly moving away from having a knowledge-orientated skill set towards having a capability focus (the ability to apply knowledge in a practical situation) (CICA,

2013; Wessels & Steenkamp, 2009). The skills that accountants need have also moved from being purely technical to including pervasive skills (Wessels & Steenkamp, 2009).

SAICA followed the lead of many other international accounting bodies in developing a competency-based (rather than a knowledge-based) accreditation process (Steenkamp, 2012), which requires prospective CAs to master specific competencies before being allowed to register as CA(SA)s. The competency framework consists of three major sections, namely compulsory skills, elective skills and residual skills (SAICA, 2009b). Compulsory skills are those skills that all CA(SA)s have to master and include accounting and external reporting as well as pervasive skills (SAICA, 2009b). Pervasive skills are those non-technical skills that need to be applied when completing a specific task. There are three main sections under pervasive skills, namely Ethical behaviour and professionalism (IA), Personal attributes (IB) and Professional skills (IC) (SAICA, 2010). Elective skills are skills chosen by the trainee in conjunction with his/her training office wherein the trainee gains detailed experience during articles. The possible elective skills include strategy, risk management and governance; financial management; auditing and assurance; taxation as well as management decision making and control (SAICA, 2009b). Residual skills comprise a lower-level understanding of all skills mentioned in the previous sentence not chosen as elective (SAICA, 2009b). The detailed compulsory skills of the competency framework will be discussed as part of the data analysis (section 5).

The competency framework was introduced because certain aspects had not been addressed sufficiently by the previous training programme. These aspects now form part of the pervasive skills (SAICA, 2009a; SAICA, 2009b) and include the following:

- Soft skills and general business skills.
- Ethics and ethical behaviour.
- The effective use of information technology (IT).

3.1.1 Soft skills and general business skills

Although no one definition exists for soft skills (also referred to as generic skills) (Barac & Du Plessis, 2014), they can be defined as those skills needed to apply technical knowledge in the required format or appropriate fashion (De Villiers, 2010). In research conducted by Albrecht and Sack (2000), it was shown that several skills, besides the traditional technical skills, were important to practitioners when evaluating accountants. These include communication and interpersonal skills, professionalism and leadership qualities. Wessels and Steenkamp (2009) show that professionals, registered with international accountancy bodies, require the following non-technical skills: communication, the ability to manage change as well as general business awareness. A study by Ibrahim and Angelidis (2009) confirmed that although pure technical ability remained a priority, communication and interpersonal skills were vital attributes of a public accountant. The ability to communicate (in writing or verbally) and to relate to others through teamwork has been identified as an area for improvement in the training of future accountants (Ibrahim & Angelidis, 2009).

De Villiers (2010) divides the soft skills into five categories, namely:

- (1) communication,
- (2) problem-solving and thinking,
- (3) leadership and teamwork,
- (4) self-management and

(5) ethical and moral behaviour (discussed further in 3.1.2).

3.1.2 Ethics and ethical behaviour

The reputation of an accountant, especially a CA(SA), as an ethical person is vital to foster trust in the profession. A number of prominent business failures (after the company's auditor had given an unmodified audit opinion) may have tainted the reputation of the accounting profession (Dellaportas, 2006). More emphasis has been placed on the development of ethical behaviour and reasoning in accountancy students through the inclusion of ethics courses in their studies. Dellaportas (2006) and O'Leary and Mohamad (2008) found that a well-designed ethics course led to the development of effective ethical reasoning and judgement and would also improve a student's competence in recognising potential ethical problems (Gautschi & Jones, 1998).

3.1.3 The effective use of information technology

The use of IT (in processing information internally and reporting it externally) has increased in the past decade (Albrecht & Sack, 2000). According to the King III Report (2009), 'Information systems were used as an enabler of business, but have now become pervasive in the sense that they are built into the strategy of the business.' Many entities could not function without effective information systems, and as a result, trainees need to be comfortable working with IT and also understand its risks and the governance required.

3.2 The effect on accounting education

One of the biggest changes brought about by the competency framework and accompanying guidance is the inclusion of pervasive skills (which includes soft skills) as compulsory skills (SAICA, 2009b). These pervasive skills bring with them many challenges for the accounting academic seeking to integrate the teaching of such skills. These challenges may include that (Doran, Healy, McCutcheon & O'Callaghan, 2011; De Villiers, 2010):

- traditional accounting courses mainly focus on a high standard of technical knowledge, resulting in a very full curriculum that leaves little time for the development of additional competencies;
- pervasive skills can be more difficult to develop than technical skills (consuming more time and resources), especially in undergraduate students with no exposure to the working environment and in a large class group; and
- pervasive skills can be more difficult to assess on an academic level than in the working environment.

Boyce, Williams, Kelly and Yee (2001) suggest that the way in which many students learn is not conducive to the acquiring of pervasive skills but that lecturers who adapt their teaching style could change students' learning styles (improving the students' acquisition of pervasive skills). Although the pervasive skills could be challenging to incorporate in the academic programme, at least some skills should be taught at university level (Barac, 2009), and this should be seen not as a sacrifice of academic knowledge but rather as an enhancement of technical excellence (SAICA, 2008). Pervasive skills will then be developed further during the training programme, as universities see the development of pervasive skills as a shared responsibility between themselves and the respective training offices (Barac & Du Plessis, 2014).

The examiners' comments on Part 1 of the Qualifying Examination (QE 1) in 2012 emphasised the need for a change in the approach to accounting studies. Some of the comments were as follows (SAICA, 2012):

- Candidates do not have the skill of answering discursive questions they arrive at conclusions without identifying the relevant issues and addressing all considerations, using bad language and 'sms' messaging style.
- Presentation and layout are not up to standard.
- Candidates do not show a logical thought pattern, giving only a generic dumping of theory.
- Candidates know only the theory and cannot apply their knowledge to a specific scenario, giving irrelevant facts.
- Candidates are unwilling to commit to one answer when asked to make recommendations and use inconsistent arguments.

Most of these comments are found in the general comments on the ITC of January 2013 as well (SAICA, 2013b), which was after the effective date of the guidance. Added to the comments for 2013 is the fact that candidates struggle with integrated questions. These comments highlight the lack of the soft skills (communication, logic thought, problem solving and innovation) and general business skills (understanding the business environment, planning and management) that are essential in the professional working environment.

The pervasive skills required by the guidance should be incorporated into the academic syllabus, but the question remains how best to achieve this. Below some research on the teaching of non-technical skills is reported, which could serve as a starting point in this debate.

3.2.1 Developing pervasive skills through a purpose-designed separate module

Gammie, Gammie and Cargill (2002) argue that trying to develop pervasive skills when teaching the normal technical aspects of accounting is problematic and that such skills are best developed in a separate purpose-designed module (which is included as part of the compulsory modules of the specific accounting degree). Freudenberg, Brimble and Cameron (2011) explain how a professional development programme (PD programme) can be added as a module to an existing accounting curriculum. The PD programme aims to develop pervasive skills and expose students to the industry in which they will be working. The programme is offered before the start of each trimester and consists of sessions on selected topics (presented by practitioners from industry as well as academics). The skills developed and activities to achieve this (in brackets) are as follows:

- Interpersonal skills (workshop on interview skills and business lunches/breakfasts where accountants from industry are present).
- Self-management (sessions on planning and time management).
- Problem solving (session teaching this skill).
- Oral and written communication (networking with accountants from industry, giving an oral presentation and attending workshops that develop writing skills).
- Working in a team (some sessions are conducted in a group or team context, where a group consists of students, academics and practitioners).
- IT (workshops that develop IT skills).

Barac and Du Plessis (2014) surveyed Heads of Departments (HoDs) at SAICA-accredited

universities in South Africa and found that:

- (a) all the respondents offered dedicated IT modules,
- (b) 83% of the respondents offered dedicated modules for ethical behaviour, but
- (c) only 1 of 12 respondents had a separate module for the remaining pervasive skills (such as communication).

If the pervasive skills were not covered in a separate module, they were integrated into the other core modules in the programme (Barac & Du Plessis, 2014). The following tools were employed to achieve this: projects, assignments, teamwork and case studies (Barac & Du Plessis, 2014).

3.2.2 Developing pervasive skills using case studies

Students should be able to solve complex problems to which there is not always a clear solution. A way to facilitate this is the use of case studies. Case studies help students to practically apply their theoretical knowledge, apply judgement, realise that some problems have more than one 'correct' answer, interact with others, communicate in verbal and written form and integrate other aspects such as ethics and social justice (Boyce et al., 2001). Lecturers should then also act as facilitators of the case study process (and might need to change their teaching style) and select appropriate case studies (Boyce et al., 2001). Weil, Oyelere, Yeoh and Firer (2001) found that South African postgraduate accounting students realised the value of using case studies, while Doran et al. (2006) noted that case studies can be used in large class groups as well (if appropriate strategies are followed).

Ragan (2007) explains how a case study can be used to teach students about key business processes using an enterprise resource planning (ERP) system. Students formed teams and followed a step-by-step process to implement an ERP system based on the business requirements of a certain company. Many advantages were noted, such as the development of communication skills, teamwork and understanding of the business environment. Springer and Borthick (2004) advocate using a business simulation (simulating a real business with its problems and issues) to teach students to think critically to solve problems (especially in grey areas where there might be more than one solution).

3.2.3 Developing communication skills

Generally, students spend little time during their academic training refining their written communication skills, although such skills are important in the business world (Sriram & Coppage, 2011). In the Sriram and Coppage (2011) study, it was advised (by both educational staff and accountants in practice) that a course on language and writing skills be added to the accounting curriculum. Barratt, Hanlon and Rankin (2011) describe how 'at-risk' students (whose written communication skills are inferior) are identified and provided with tailored support workshops. These workshops are focused on three areas of language development, including technical language issues (such as grammar), the use of academic terminology and how academic writing should be organised and structured. The authors also found that the students who attended the workshops improved their writing skills, which might lead to improved performance in the core academic module as well. This study is especially relevant as it was conducted in Australia in the context of multinational students whose first language was not English (a situation similar to the South African context).

Ng, Lloyd, Kober and Robinson (1999) also reported on the interventions employed to develop

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written communication skills in a large accounting class. These included handing out a guide on academic writing, including in the primary lecturing time a class focusing on academic writing, giving writing assignments and feedback on these as well as referring students who have inferior writing skills to language specialists.

4. RESEARCH METHODOLOGY

4.1 Overall research design and method

The main research design is in the positivistic paradigm and quantitative in nature. To examine the perceptions of accounting students (on the two issues listed in 2.1) an empirical research methodology was followed using a custom-designed survey. The development and format of the survey, as well as the data collection and analysis are discussed below.

4.2 Survey instrument (including development)

The survey consisted of three parts. The first part (Part 1) related to the pervasive skills and the second part (Part 2) to the competencies in accounting and external reporting. The third part (Part 3) of the survey contained an open-ended question, asking students to provide recommendations for improvement on how the development of the compulsory skills could be improved in the B. Accounting degree.

Both Part 1 (pervasive skills) and Part 2 (accounting and external reporting) of the survey were structured as follows: The survey listed the specific competencies contained in SAICA's Detailed guidance for academic programmes. The students were asked to answer the question 'Has this skill been developed in you as student? for each competency. Students were to use the following Likert scale: 'Not at all developed', 'Developed to an extent' and 'Well developed'.

Part 1 (pervasive skills) was divided into three subheadings, namely Ethical behaviour and professionalism (IA), Personal attributes (IB) and Professional skills (IC) (which is the same subdivision used by the competency framework and guidance itself). A detailed list of all the competencies can be found in the data analysis section (sections 5.2 and 5.3).

4.3 Data collection

The data was collected at University X in 2010, to enable lecturers to assess to what extent the skills (required by the guidance) were developed in the B. Accounting degree, even before the guidance was effective. The reasoning for this was explained in section 1 (introduction), and this would enable an understanding of the full spectrum of changes required by the introduction of the guidance.

Final year B. Accounting students at University X were asked to participate in the study. In the final year, the compulsory subject with the highest weighting is Financial Accounting 3 (a subject that the students have for the entire year). A total of 455 students were enrolled for Financial Accounting 3 in 2010 and were invited to participate in the survey during September 2010. This was one month before the end of the students' undergraduate course; therefore, their perceptions would be based on the entire undergraduate course. The survey was web-based and students were asked during a lecture to complete the survey in their own time. Ethical clearance was obtained from the relevant university structures.

4.4 Data analysis

The data from the completed surveys were transferred to a summary report using the web-based survey program (SUrveys). Statistical analysis was then done on the summary report, using STATISTICA software. The results of the analysis are discussed below.

5. EMPIRICAL RESEARCH FINDINGS

5.1 Response rate

Some 127 students completed Part 1 (pervasive skills) and this data is reported in Section 5.2. One student completed only Part 1, leaving 126 responses for Part 2 (competencies in accounting and external reporting). Not all students answered Part 3 (open-ended question asking for recommendations for improvements). The total response rate for the survey was therefore 28%. The responses listed in Tables 1 to 4 do not always add up to 100%, as not all students answered all the questions.

5.2 Part 1: Student perceptions of pervasive skills

The results of students' perceptions on the development of the pervasive skills are shown in Tables 1 to 3 and are presented according to the three main skill sub-sets in the guidance, namely Ethical behaviour and professionalism (IA), Personal attributes (IB) and Professional skills (IC).

Due to the difficulty to assess pervasive skills, SAICA does not prescribe levels of proficiency for these skills (SAICA, 2010). For this reason both 'well developed' and developed 'to an extent' (in the tables below) were seen as satisfactory development, and the 'not at all' developed column was used to identify deficiencies in the current programme. When doing statistical evaluation, p-values of 0.01, 0.5 and 0.1 are often used to identify items that are statistically significant (percentages of between 1% and 10%) (ESB, undated).

	Has this skill been developed in you as student?				
To an Not at all extent					
		%	%	%	
IA-1	Protects the public interest	13%	54%	33%	
IA-2	Acts competently with honesty and integrity	3%	35%	61%	
IA-3	Carries out work with a desire to exercise due care	3%	36%	61%	
IA-4	Maintains objectivity and independence	3%	33%	64%	
IA-5	Avoids conflict of interest	6%	43%	50%	
IA-6	Protects the confidentiality of information	6%	36%	58%	

TABLE 1: Ethical behaviour and professionalism (IA)

IA-7	Maintains and reputation	enhances	the	profession's	3%	32%	65%
IA-8	Adheres to the rul	es of profess	sional	conduct	2%	30%	68%

Source: SAICA, 2008 and Authors' analysis

Because there had been no explicit requirement to develop the pervasive skills in the academic environment previously, it was decided that a higher benchmark than the percentages mentioned in the previous sentence would be used. For these reasons, all skills that 15% or more of the students felt were 'not at all' developed signalled significant deficiencies in the current academic programme.

The majority of students believed that their ethical behaviour and professionalism had been well developed during their undergraduate course. The perception of well-developed ethical behaviour could be attributed to an undergraduate course that had been specifically designed for accounting students at University X, namely Business Ethics.

TABLE 2: Personal attributes (IB)

	Has this skill been developed in you as student?				
		Not at all	To an extent	Well developed	
		%	%	%	
IB-1	Self-manages	4%	35%	61%	
IB-2	Demonstrates leadership and initiative	25%	56%	19%	
IB-3	Maintains and demonstrates competence and recognises limits	4%	51%	43%	
IB-4	Strives to add value in an innovative manner	18%	58%	23%	
IB-5	Manages change	13%	50%	37%	
IB-6	Treats others in a professional manner	11%	43%	46%	
IB-7	Understands the national and international environment	24%	53%	23%	
IB-8	ls a lifelong learner	9%	44%	47%	
IB-9	Works effectively as a team member	18%	46%	35%	
IB-10	Manages time effectively	1%	35%	64%	

Source: SAICA, 2008 and Authors' analysis

The students were less convinced that their personal attributes had been developed during their undergraduate studies. The following skills were poorly developed (based on student perceptions):

- Leadership and initiative (IB-2)
- Innovation (IB-4)

- Understanding the environment (IB-7) and
- Working in a team (IB-9).

TABLE 3: Professional skills (IC)

	Has this skill been developed in you as student?				
		Not at all	To an extent	Well developed	
		%	%	%	
<u>IC-1</u>	Obtains information				
IC-1.1	Gathers or develops information and ideas	6%	57%	35%	
IC-1.2	Develops an understanding of the operating environment	7%	63%	29%	
IC-1.3	Identifies the needs of internal and external clients and develops a plan to meet those needs	17%	51%	32%	
<u>IC-2</u>	Examines and interprets information and ideas critically				
IC-2.1	Analyses information or ideas	8%	39%	53%	
IC-2.2	Performs computations	3%	31%	66%	
IC-2.3	Verifies and validates information	2%	35%	64%	
IC-2.4	Evaluates information and ideas	3%	42%	55%	
IC-2.5	Integrates ideas and information from various sources	7%	48%	45%	
IC-2.6	Draws conclusions/forms opinions	1%	36%	63%	
<u>IC-3</u>	Solves problems and makes decisions				
IC-3.1	Identifies and diagnoses problems and/or issues	1%	38%	61%	
IC-3.2	Develops solutions	2%	43%	55%	
IC-3.3	Decides/recommends/provides advice	5%	35%	60%	
<u>IC-4</u>	Communicates effectively and efficiently				
IC-4.1	Seeks and shares information, facts and opinions through written and oral discussion	17%	50%	33%	
IC-4.2	Prepares documents in written and graphic form	17%	43%	39%	
IC-4.3	Presents information effectively	5%	44%	51%	

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<u>IC-5</u>	Manages and supervises			
IC-5.1	Plans and manages projects	18%	46%	36%
IC-5.2	Identifies need for internal and external expertise	15%	47%	38%
IC-5.3	Facilitates decision making	13%	45%	42%
IC-5.4	Leads effective meetings	42%	44%	14%
IC-5.5	Supervises	39%	46%	15%
<u>IC-6</u>	<u>Understands how IT impacts a CA's daily functions</u> and routines	4%	38%	58%
<u>IC-7</u>	Considers basic legal concepts	1%	54%	45%

Source: SAICA, 2008 and Authors' analysis

Most of the skills mentioned in TABLE 3 were perceived to be developed to a sufficient extent. However, under 'Obtains information', IC-1.3 (Identifies the needs of internal and external clients and develops a plan to meet those needs) was not considered to be developed sufficiently. Students might not be made aware of relevant client groups nor why certain tasks are performed.

Furthermore, one of the most important pervasive skills required by SAICA (SAICA, 2010) and also by practitioners (Hesketh, 2011; Kavanagh & Drennan, 2008), namely communication skills (IC-4.1 and IC-4.2), was perceived to have been neglected in the accounting programme. This perception was confirmed by the examiners' comments on the QE 1 of 2012 and the ITC of 2013 (SAICA, 2012, 2013b). The need for change in the accounting curriculum regarding communication skills is apparent.

The students also felt that they lacked management skills (IC-5). However, such skills are more readily developed during the training programme than during academic training (Kavanagh & Drennan, 2008; SAICA, 2010) and are thus not as big a concern.

5.3 Part 2: Student perceptions of skills in accounting and external reporting

Student's perceptions regarding the development of competencies in accounting and external reporting are shown in TABLE 4. Because these technical skills have long been part of the requirements for the academic programme, a higher level of compliance is expected. For this reason, a more traditional 10% benchmark was used to identify potential problems. Because of this, all skills that 10% or more of the students felt were 'not at all' developed were identified as significant deficiencies.

These competencies involve the recording, recognition, measurement and presentation of financial and non-financial data (knowledge-based skills). The results of the students' perceptions show that they perceive most of these competencies to have been developed sufficiently during their studies.

The students perceived the skill of explaining financial statement results and balances (III-2.7) as not being developed well. It was shown in the examiners' comments to the QE 1 of 2012 and the ITC of 2013 that students could do calculations but were unable to explain them or to make recommendations (SAICA, 2012, 2013b). This might also be due to poor communication skills (as was also reported earlier, under the pervasive skills).

	Has this skill been developed in you as student?				
		Not at all	To an extent	Well developed	
		%	%	%	
<u> -1</u>	Analyses financial reporting needs and establishes the necessary systems				
-1.1	Analyses financial reporting needs	1%	39%	60%	
-1.2	Develops or evaluates reporting processes to support financial reporting	3%	47%	50%	
-1.3	Develops reliable information	2%	33%	64%	
-1.4	Establishes or enhances financial reporting using IT	8%	46%	46%	
<u> -2</u>	Conducts external financial reporting				
-2.1	Identifies the appropriate basis of accounting	5%	24%	71%	
111-2.2	Develops or evaluates accounting policies in accordance with GAAP	2%	27%	71%	
111-2.3	Accounts for the entity's routine transactions	2%	31%	67%	
111-2.4	Accounts for the entity's non-routine transactions	4%	46%	50%	
111-2.5	Prepares financial statements using the identified basis of accounting	1%	11%	87%	
-2.6	Prepares or evaluates financial statement note disclosure	1%	17%	82%	
-2.7	Explains the financial statement results and balances to stakeholders	10%	44%	45%	
111-2.8	Maintains awareness of key ideas and principles of proposed financial reporting standards changes	7%	48%	45%	
-2.9	Identifies circumstances in which companies are not required to use full IFRS	25%	50%	25%	

TABLE 4: Accounting and external reporting

<u> -3</u>	Conducts specialised reporting			
-3.1	Identifies and analyses specific reporting obligations	2%	45%	52%
111-3.2	Identifies regulatory and other filing requirements	8%	55%	37%
-3.3	Identifies and analyses non-financial reporting needs	14%	52%	34%
-3.4	Conducts external and internal non-financial reporting	14%	56%	29%

Source: SAICA, 2008 and Authors' analysis

The students who participated in the survey were undergraduate students. At the specific university, IFRS for small and medium-sized entities (SMEs) and integrated reporting are covered only during the honours year, explaining why the students felt that the skills necessary for identifying circumstances in which companies were not required to use full IFRS (III-2.9), identifying and analysing non-financial reporting needs (III-3.3) and conducting external and internal non-financial reporting (III-3.4) had not been developed. For this reason these areas were not regarded as a major source of concern.

5.4 Further statistical analysis of the findings in Parts 1 and 2

The competencies discussed in sections 5.2 and 5.3 all fall into specific skill sub-sets, as can be seen in TABLES 1 to 4. These sub-sets are Ethical behaviour and professionalism (IA), Personal attributes (IB), Professional skills (IC) and Accounting and external reporting (III). Both IC and III can be further divided into sub-sets as indicated by underlining in TABLES 3 and 4 (into, for example, IC-1 Obtains information and IC-2 Examines and interprets information and ideas critically).

Code	Name	Cronbach Alpha
<u>IA</u>	Ethical behaviour and professionalism	0.88
<u>IB</u>	Personal attributes	0.84
<u>IC</u>	Professional skills	0.88
IC-1	Obtains information	0.62
IC-2	Examines and interprets information and ideas critically	0.77
IC-3	Solves problems and makes decisions	0.73
IC-4	Communicates effectively and efficiently	0.77
IC-5	Manages and supervises	0.87
<u> </u>	Accounting and external reporting	0.83
///-1	Analyses financial reporting needs and establishes the necessary	0.74

TABLE 5: Reliability of the sub-sets

	systems	
<i> -2</i>	Conducts external financial reporting	0.77
///-3	Conducts specialised reporting	0.79

Source: Authors' analysis

To enable inferential statistics to be done per sub-set (to statistically back the findings in sections 5.2 and 5.3) reliability testing was done on each of the sub-sets (IC-6 Understands how IT impacts a CA's daily functions and routines and IC-7 Considers basic legal concepts were not included in the reliability testing as they only contain one skill each). The results of this can be seen in TABLE 5.

To statistically evaluate the data per sub-set (i.e. look at the average student response per sub-set), the items contained in the specific sub-set should reliably test the competencies identified. This is true if the Cronbach Alpha is above 0.70. In this case, as can be seen in TABLE 5, this is true of all the sub-sets except IC-1 Obtains information. This is due to it only having three competencies in the sub-set, of which the one (IC-1.3 Identifies the needs of internal and external clients and develops a plan to meet those needs) shows a different results pattern to the rest of the competencies. This was discussed with a statistician, who concluded that 0.63 on a three-item sub-set is still appropriately reliable.

Each sub-set's competencies were then combined to determine a mean rating for each of the sub-sets, using the following scale: 1 = Not at all developed; 2 = Developed to an extent and 3 = Well-developed. The results of this can be seen in TABLE 6.

Code	Name	Mean
<u>IA</u>	Ethical behaviour and professionalism	2.52
<u>IB</u>	Personal attributes	2.27
<u>IC</u>	Professional skills	2.38
IC-1	Obtains information	2.23
IC-2	Examines and interprets information and ideas critically	2.54
1C-3	Solves problems and makes decisions	2.56
IC-4	Communicates effectively and efficiently	2.28
IC-5	Manages and supervises	2.03
IC-6	Understands how IT impacts a CA's daily functions and routines	2.54
IC-7	Considers basic legal concepts	2.44
<u>III</u>	Accounting and external reporting	2.45

TABLE 6: Mean ratings of sub-sets

///-1	Analyses financial reporting needs and establishes the necessary systems	2.52
///-2	Conducts external financial reporting	2.54
-3	Conducts specialised reporting	2.29

Source: Authors' analysis

The mean ratings (as seen in TABLE 6) of each of the main sub-sets (IA, IB, IC and III) were statistically compared using an F-test. It was found that there are statistically significant differences (at p < .05 level) between the mean responses to all the main sub-sets (this is illustrated in FIGURE 1 where the 'a', 'b', 'c' and 'd' shown on the graph indicates statistically different ratings). The skills contained in IA (Ethical behaviour and professionalism) were seen to be best developed, while those contained in IB (Personal attributes) were perceived to be the least developed.



FIGURE 1: Statistical comparison of the main sub-sets (IA, IB, IC and III)

Source: Authors' analysis

The mean ratings (as seen in TABLE 6) of each of the IC sub-sets (Professional skills C-1 to IC-7) were statistically compared using an F-test. It was found that there are statistically significant differences (at $\rho < .05$ level) between the mean responses to some of the IC sub-sets (this is illustrated in FIGURE 2, where the 'a', 'b', 'c' and 'd' shown on the graph indicate statistically

different ratings, but where two a's are statistically similar). Thus IC-2, IC-3 and IC-6 are seen to be similar (most highly developed, marked 'a' on graph), while IC-5 Manages and supervises (marked 'd' on the graph) is dissimilar to all the other IC sub-sets and seen as least developed.



FIGURE 2: Statistical comparison of the IC sub-sets

Source: Authors' analysis

The mean ratings (as seen in TABLE 6) of each of the III sub-sets (III-1 to III-3) were statistically compared using an F-test. It was found that there are statistically significant differences (at p < .05 level) between the mean responses to some of the III sub-sets (this is illustrated in FIGURE 3 where the 'a' and 'b' shown on the graph indicates statistically different ratings, but where two a's are statistically similar). Thus III-1 and III-2 are seen to be similar (most highly developed, marked 'a' on graph), while III-3 Conducts specialised reporting (marked 'b' on the graph) is dissimilar to the other III sub-sets and is seen as least developed.

The inferential statistics done in this section confirm the preliminary findings in sections 5.2 and 5.3 (which were done using basic statistics). It shows that the skills contained in IA (Ethical behaviour and professionalism) were seen to be best developed (none of the competencies seem to be under-developed), while those contained in IB (Personal attributes) were perceived to be the least developed (four of the ten competencies were underdeveloped). It also re-emphasised that IC-5 Manages and supervises and III-3 Conducts specialised reporting was less developed than the other competencies in its respective sub-set.



FIGURE 3: Statistical comparison of the III sub-sets

Source: Authors' analysis

5.5 Part 3: The students' recommendations for improvement

The third part of the survey asked students to make recommendations for improvement on how compulsory skills could be developed better. Each narrative comment received was summarised to highlight the main recommendation(s) made. Similar recommendations made by different students were combined, and the number of times each recommendation was made was tallied. This enabled recommendations that were only made once to be excluded from this article, as this was the view of a single student and not necessarily representative of the group.

The recommendations made (more than once) were evaluated to determine which of the underdeveloped skills (identified in sections 5.2 and 5.3) they would address, if any. The recommendations were then grouped under each underdeveloped skill and reported as such. As some of the recommendations address more than one skill, the recommendations could be reported more than once (once under each skill addressed). The recommendations made by the students on how the academic programme could be adjusted to improve the development of these skills can be seen below:

- Leadership and initiative (IB-2)
 - Develop leadership skills through a custom-designed course in which CAs from practice are invited as guest speakers.

- Innovation (IB-4)
 - Provide improved and more projects and assignments (that are more practical, employ case studies and expose students to a real business environment).
 - Encourage students to think for themselves, develop their own ideas and voice their own opinions.
- Understanding the environment (IB-7)
 - Provide improved and more projects and assignments (that are more practical, employ case studies and expose students to a real business environment).
 - Add an additional subject that teaches students about the economic environment in which businesses function as well as pervasive skills such as report writing and critical thinking (e.g. Economics second and third year).
 - Make the work more practical (use examples from practice, explain how things will be done in practice and use actual financial statements, current events, news articles and real-life scenarios in questions and in class).
- Working in a team (IB-9)
 - Provide more opportunities for group work.
- Communication (IC-4)
 - Provide more opportunities for interaction in class (e.g. through smaller tutorial classes).
 - Provide more opportunities for group work.
 - Add an additional subject that teaches students about the economic environment in which businesses function as well as pervasive skills such as report writing and critical thinking (e.g. Economics second and third year).
- General
 - Explain to students what skills are required by the competency framework and how these skills are developed through a specific task or assignment in the syllabus.
 - Provide more practical classes where students can practise their skills (e.g. working on a computer, practically auditing a section in class, doing e-filing, practising share investing or discussing real-life scenarios and finding solutions for actual problems).
 - Make vacation work during the academic programme compulsory.

The recommendations for improvement made by the students (as detailed above) correspond to a large extent with the findings of previous scholarly research regarding the teaching of pervasive skills (as discussed in sections 3.2.1 to 3.2.3). Both the previous research and the students mention two (often divergent) ways of teaching pervasive skills, namely: (a) teaching pervasive skills in a purpose designed separate module (separately from the 'technical' courses/skills) (Freudenberg et al., 2011; Gammie et al., 2002) and (b) making extensive use of case studies and other methods (when the teaching of pervasive skills is integrated into other 'technical' modules) (Boyce et al. 2001).

Very few recommendations were made in respect of the accounting and external reporting competencies. Some students mentioned that students should be encouraged to stay up to date by giving them more homework and more frequent small tests.

6. CONCLUSION, RECOMMENDATIONS AND FUTURE RESEARCH

6.1 Conclusion

The first objective of this study was to examine the perceptions of University X students regarding the extent to which the compulsory skills detailed in SAICA's guidance had been developed during the B. Accounting degree, even before the guidance became effective. It was found that the technical accounting and external reporting skills had been (in general) well developed but that some significant deficiencies existed in the development of pervasive skills. The skills that raised the most concern are leadership and initiative, innovation, understanding the environment, working in a team as well as communication. It is therefore clear that before the effective date of the guidance the academic programme at University X did not develop the necessary skills (as required by guidance). Therefore changes to the programme were essential.

The second objective was to suggest changes that could be made to the academic programme to improve the development of the skills mentioned above. This objective was achieved by considering recommendations from students. Smaller classes in which students are forced to study and stay up to date (with practical examples, group work, case studies and more interaction between students and lecturers) will be the ideal starting point to integrate the pervasive skills with theoretical knowledge. Workshops or additional subjects (focusing on leadership skills, the economic environment in which businesses function as well as other pervasive skills) were suggested. Compulsory vacation work was also strongly recommended to help students to understand the business environment and prepare them better for what they can expect in practice.

6.2 Implications and recommendations

SAICA does not prescribe specific modules or methods of developing the required competencies (SAICA, 2010). It is the responsibility of academics to equip students with the competencies required by SAICA that students are currently lacking. Based on this, it seems that accounting education in South Africa still needs to adapt; even though this study was only conducted at one university, it can help South African academics to understand which skills are potentially underdeveloped and provides recommendations on how these skills could be developed to a greater extent. This will help academics to adapt the academic programme to incorporate the required competencies, based on SAICA's guidance and the needs of students.

6.3 Limitations of the study

It must be noted that this research was done before the guidance became effective, and was a case study at one university. Therefore the findings cannot be generalised. Furthermore, universities might have subsequently amended and modified their accountancy programmes to meet the requirements of the guidance, and the findings might not represent the situation that currently exists.

6.4 Future research possibilities

Firstly, a follow-up project could be undertaken to re-assess the perceptions of students after the effective date of the guidance, to ascertain whether development of the compulsory skills has improved and to what extent. Future research could also attempt to answer some of the

questions that arise in the challenge to incorporate the pervasive skills in accounting curriculums. In an already overfilled programme, will there be time to implement new skills without sacrificing theoretical excellence? Another question is how these skills will be assessed in an examination situation. Research on how to implement these changes in large classes will also be relevant.

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