Learning approaches to the study of auditing followed by prospective South African chartered accountants

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A B S T R A C T

Learning approaches in accounting, distinguishing between deep, surface and strategic approaches, have been widely researched. This study provides a South African perspective by investigating the learning approaches to the study of auditing of prospective chartered accountants. Demographic impact variables, namely age, gender, population group and language preference, are considered in the study. The widely accepted research instrument, the *Approaches and Studies Skills Inventory for Students* (ASSIST), was used in the research.

Statistical analysis of the data revealed a preference for the strategic approach by candidates who passed the auditing question in Part 1 of the South African Institute of Chartered Accountants' 2010 Qualifying Examination. Both gender groups and three of the four South African population groups favoured such an approach. More mature candidates tended to follow the deep learning approach. No favoured approach was found in relation to the language in which the question was attempted.

Key words: auditing learning approaches; deep, surface, strategic learning approaches; prospective South African chartered accountants; gender and learning preferences; age and learning preferences; South African population groups' learning preferences; first language and learning preferences

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Introduction

Rapid developments in information technology, in which global communication is facilitated by the internet, increased legal actions and actions by stakeholder groups have brought about changes in the business and accounting environment, requiring professional accountants to meet the information needs of many users of financial and non-financial information (IFAC 2003: 29; SAICA 2005: 3/05, 4/05). The result has been a change in the focus of accounting education, substantially driven by the professional accounting bodies, to ensure that accounting education remains relevant to the changing needs of the accounting profession (Boyce 2004: 569; Cullen, Richardson & O'Brien 2004: 252, 253).

In order to accommodate these changes, it is argued that students should learn with understanding (Beattie, Collins & McInnes 1997: 2), rather than engage in mere surface learning, depending on memory to reproduce subject matter (Hall, Ramsay & Raven 2004: 489). The learning approaches of accounting students have been widely researched, especially from a higher education perspective (Arquero Montano, Gonzalez, Hassall, Joyce, Germanou & Asonitou 2010: 347; Baeten, Kyndt, Struyven & Dochy 2010: 244; Donald & Jackling 2007: 104; Entwistle 2001: 595; Faux 2008: 270; Valadas, Gonçalves & Faĩsca 2010: 263; Watson, Apostolou, Hassell & Webber 2007: 38–42). Despite this emphasis on the learning approaches of accounting students, Flood and Wilson (2008: 225, 226) expressed surprise that few prior studies (for example, Hassall & Joyce 2001) have explored student learning issues within the education offered by the profession itself.

A similar tendency is found in South Africa, where the research focus remains on accounting education provided by higher education institutions (Baard, Steenkamp, Frick & Kidd 2010; Barac 2009a, 2009b, Prinsloo & Van Rooyen 2007; Stainbank 2009, 2010; Steenkamp & Rudman 2007). This can be ascribed to the fact that the accounting education of the largest professional body of accountants in South Africa, the South African Institute of Chartered Accountants (SAICA), is initially undertaken by South African higher education institutions.

Research relating to the learning approaches of South African accounting students, from the perspective of either the higher education institutions or the professional accounting bodies, has been ignored. This study aims to contribute to filling the gap by investigating the learning approaches of prospective South African chartered accountants, namely the candidates who have completed their education at universities and attempted the qualifying examination, Part 1 (QE1) of SAICA, which is regarded as the standard-setting examination for prospective South African chartered accountants.

Purpose of the article

This study aims to investigate the learning approaches of prospective South African chartered accountants to the study of auditing by determining whether a statistically significant difference exists between the mean learning approach scores for each category as defined for each of the following demographic variables, namely:

- Gender: Male and female candidates
- Race: Candidates from different population groups of South Africa: African, White, Asian and Coloured
- Age: Candidates from different age groups (younger than 25 years, between 25 and 30 years, between 31 and 35 years, and older than 35 years)
- Language: Whether candidates attempted the 2010 QE1 in their first, second, third or fourth language.

The importance of the demographic variables relating to the population groups in South Africa and the language in which the 2010 QE1 was attempted should be considered in relation to the following statistics: in March 2011 (SAICA 2011), out of the 32 058 SAICA registered members, only 1946 (6.1%) were African, 26 324 (82.1%) were White, 2876 (9.0%) were Asian and 816 (2.5%) were Coloured, while 96 members (0.3%) did not disclose their population group. In their study of the academic success and failure of African chartered accounting graduates in South Africa, Sadler and Erasmus (2005: 30, 42, 46–48) ascribe the high failure rate of African chartered accounting graduates to factors that include social pressures, poor communication skills, inadequate or poor examination preparation, inadequate or poor study techniques, heavy workloads, insufficient study effort and the inability to gain an in-depth understanding of the material. Against this background, this study makes a contribution by exploring whether the auditing learning approaches of prospective chartered accountants from the different population groups in South Africa differ, especially since many candidates did not attempt the SAICA QE1 in their first language.

Other demographic variables such as traineeship progression, the number of times a candidate had attempted the QE1, the specific university where a candidate obtained his/her undergraduate and postgraduate qualifications, and current employment status were also obtained as part of the present study but, because of the limited scope of this article, these results are not reported here. This is a scope limitation, and the results reflected in this article should be considered against this background. A further limitation of the study that should also be taken into account is that it did not distinguish between candidates who were attempting the 2010 QE1 for the first time and those who were repeat candidates. Further research to determine whether

the learning approaches followed by first-time QE1 candidates differ from those of repeat QE1 candidates could fruitfully be undertaken.

Qualification process of South African chartered accountants

This article reports on learning approaches followed by prospective South African chartered accountants. Once qualified, these chartered accountants play a major role in the South African economy. A recent survey showed that at the top 200 JSE-listed companies, more than 90% of their chief financial officers, 25% of their directors and 22% of their chief executive officers were chartered accountants (*Finweek* 2010). This high demand for chartered accountants has been ascribed to the rigorous qualifying process followed by CA(SA)s (Temkin 2010).

In South Africa, a person wishing to qualify as a chartered accountant and earn the designation CA(SA) is required to complete a three-year accounting degree at a university accredited by SAICA, to successfully complete a postgraduate programme (thereby obtaining the Certificate in Theory of Accounting [CTA] or equivalent) at a university accredited by SAICA, to pass the SAICA QE1, to complete a training contract (either in public practice or outside public practice), to complete an audit or financial management specialisation course and to succeed in the final test of professional competency. The latter is either the Public Practice Examination (PPE), which is currently administered by the Independent Regulatory Board for Auditors (IRBA), or the QE11 administered by SAICA (SAICA 2007).

The SAICA qualifying examinations (QE1 and QE11) are open-book examinations, consisting of a series of case-based questions (in the core disciplines of financial accounting, management accounting, financial management, auditing and taxation) designed primarily to simulate the engagements and assignments that chartered accountants encounter in professional practice or commerce and industry (SAICA 2005: 18/05). The objective of QE1 is to establish, as far as is possible in a written examination, whether candidates are able to apply concepts and principles underpinning the defined field of study to the problems arising within the relevant practical domain (SAICA 2005).

In 2010 the QE1 consisted of two papers, made up of three case-based questions each, carrying 200 marks in total, which covered the core disciplines (financial accounting, management accounting, financial management, auditing and taxation). The total mark allocation for the 2010 QE1 was therefore 400 marks. In the 2010 QE1, a case-based 75-mark question (thus amounting to 37.5% of the paper and 18.8% of the whole QE1 exam) on auditing topics was included in paper 1 as

question 2 (SAICA 2010a). This question forms the focus of this study, in which the learning approaches of the candidates, prospective chartered accountants, for the auditing question in the 2010 QE1 were investigated.

Respondents were required to consider their auditing learning experiences during their final SAICA-accredited postgraduate programme/CTA as preparation for the auditing question in the 2010 QE1. The postgraduate programme is a one-year programme, which extended from January 2009 to November 2009 for respondents, with the 2010 QE1 being written at the end of January 2010. The study therefore included auditing learning experiences of respondents covering their studies at postgraduate level up to the time they sat for the 2010 QE1.

Auditing was specifically chosen for this study because anecdotal evidence over the years has shown that the performance of QE1 candidates in auditing questions is of a much lower standard than in the other core disciplines. For example, in 2010 only 629 (21.5%) of the total number of 2921 candidates who had sat for the SAICA QE1 passed the auditing question, while the overall pass rate for the 2010 QE1 was 51% (SAICA 2010a). The corresponding percentages were 26.6% compared to 58.5% in 2009, 17.4% compared to 53.7% in 2008, 22.7% compared to 45.6% in 2007, and 27.7% compared to 41.5% in 2006 (SAICA 2010b; 2010c; 2010d; 2010e; 2010f).

In 2008 SAICA developed and approved a competency framework, which outlines the competencies expected of a CA(SA) at the point of entry into the profession (that is, when one is eligible to become a SAICA member) (SAICA 2008). In the following year, 2009, SAICA issued a document that will be applicable to the QE1 from 2013, *Competency framework: detailed guidance for academic programmes, competencies of a CA(SA) at the point of the Part 1 examination (assessment of core technical knowledge)* (SAICA 2010g). South African universities will be allowed some time to implement the requirements of the competency framework. The present study could result in a valuable contribution by exploring student learning issues before the implementation of the requirements of the competency framework. The competency framework focuses on expected competencies for entry-level chartered accountants and deviates from the past practice where SAICA prescribed syllabi to be followed by accredited universities. As the study involves QE1 candidates who were exposed to the SAICA-prescribed syllabi during their university education, insight into their auditing learning approaches could provide guidance on the university education of future chartered accountants in meeting the required competencies. This is especially relevant because the education of present chartered accountants is highly regarded, as demonstrated by the strong demand for members who have undergone the current training (*Finweek* 2010). The valuable experience gained through the current education process of chartered accountants, including the auditing learning

approaches followed, should therefore be considered during the implementation of the requirements of the competency framework.

The remainder of this article is structured as follows. The next section presents an overview of recent learning approaches investigated in the field of accounting. This is followed by an outline of the methodology adopted in this study, and then by a section reporting the findings of the study. In the final section, the results are summarised, conclusions reached and areas for future research identified.

Literature review of learning approaches followed by accounting students

There is a growing body of research on the learning approaches of students, specifically on students' mindsets when confronted with a learning situation (Valadas et al. 2010: 260). The need to move away from procedural learning towards a more conceptual form of learning is widely emphasised, where the focus is on learning experiences that aim to develop student understanding and conception of situations (Sin & Reid 2005: 7). The study of approaches to learning is based on phenomenographic research (the subjective study of human experience, predominantly in education research [Leveson 2004: 531]) of Marton and Săljö (1976), which reveals differences among students in respect of the way they approach a specific task. Two distinct approaches have been identified, namely the deep learning approach, which implies that students learn for understanding, and the surface learning approach, which is directed towards the mere memorising of facts (Hall et al. 2004: 490, 491).

The deep learning approach describes active engagement with the content, leading to extensive elaboration of the learning material while seeking personal understanding, resulting in high-quality learning outcomes (Entwistle 2001: 595, 598; Flood & Wilson 2008: 227). The surface learning approach refers to the use of routine memorisation to reproduce those aspects of the subject matter that the student expects will be assessed, with resultant reduced quality outcomes (Entwistle 2001: 595, 598; Flood & Wilson 2008: 227). Ramsden (1979: 425) identified a third approach to learning, the strategic/achieving learning approach (subsequently referred to as the strategic learning approach) (Entwistle, Hanley & Hounsell 1979: 370), where any task undertaken is characterised by a concern to achieve the highest possible marks, and the specific activities embraced by the student are influenced by this motivation. This approach enables students to achieve a higher level of performance through the use of organised methods of study and time management (Valadas et al. 2010: 262).

Over the years, students' approaches to learning have been related to accounting education by using a framework within which accounting educators can analyse

their students' learning (Donald & Jackling 2007: 101). Duff (2004: 418, 422) examined the predictors of academic performance and progression through two first-year accounting courses and two first-year economics classes at a United Kingdom university and found a positive correlation between deep learners and student age, performance and progression. Jackling (2004: 272) reported the results of interviews with 12 second-year Australian accounting students regarding the context of learning and learning outcomes. She found that favourable perceptions of learning context and adequate outcomes were associated with students who followed a deep or strategic learning approach (Jackling 2004: 286). In their study involving Australian accounting students, De Lange and Mavondo (2004: 443) found that both gender and motivation have an impact on students' approaches to learning. Ramburuth and Mladenovic (2004: 522) reported a significant negative correlation between a surface learning approach and course grades for students in two undergraduate Australian accounting courses, whereas no significant correlation was found between a deep learning approach and course grades. In their study of the learning approaches followed by undergraduate accounting students in Spain, Greece and the United Kingdom, Arquero Montano et al. (2010: 357, 358) found that female Greek respondents achieved higher scores for the deep learning approach, which they attributed to their higher intrinsic motivation, whereas male students in Spain and the United Kingdom achieved higher scores than their female counterparts with the surface learning approach.

Baeten et al. (2010: 244) believe that studies in the learning approaches of students have resulted in a "new research tradition" in which students' learning approaches are quantified by means of self-reporting questionnaires. This move towards quantitative research (De Lange & Mavondo 2004: 432) has resulted in several developments that have found application in the recent past. These include the *Approaches to Studying Inventory (ASI)* (Entwistle & Ramsden 1983) and the *Study Process Questionnaire (SPQ)* (De Lange & Mavondo 2004: 439; Hall et al. 2004: 496; Jackling 2004: 275). These measuring instruments were designed for use in higher education and later adapted to form the *Revised Approaches to Studying Inventory (RASI)* (Duff 2004: 419) and the *Approaches and Study Skills Inventory for Students* (ASSIST 1997; Entwistle, Tait & McCune 2001).

Byrne, Flood and Willis (2004: 456) validated the use of ASSIST for accounting students in the United States of America and Ireland and concluded that ASSIST is a robust instrument that provides a good understanding of the learning approaches of students in accounting. Flood and Wilson (2008: 230) went on to validate ASSIST as an instrument for use with students in the professional accounting domain and found that students preparing for the qualifying examination of a professional accountancy

body in Ireland preferred the strategic learning approach. Valadas et al. (2010: 262) examined the validity of ASSIST for investigating the learning approaches of first- and final-year undergraduate students (from different disciplines) at a Portuguese public university and concluded that ASSIST seems to be an instrument that yields valid and reliable scores for assessing the learning approaches of students in various courses and years of study.

The learning approach adopted by a student in a specific situation represents one of several components (such as a student's personality, motivation, study methods, conceptions of learning, previous learning experiences and the teaching/learning context) that influence the student's overall learning orientation (Arquero Montano et al. 2010: 471; Beattie et al. 1997: 2, 10; Donald & Jackling 2007: 101; Entwistle 2001; 596; Flood & Wilson 2008: 227, 228). The nature and form of the assessment have been found to be a particularly significant variable in influencing students' learning approaches, as students adapt their learning approach on the basis of their perceptions of the demands of assessment (Baeten et al. 2010: 249; Hassall & Joyce 2001: 147). In their investigation of the learning approaches of students preparing for the qualifying examination of a professional accountancy body in Ireland, Flood and Wilson (2008: 228) found that strategic learning approaches, such as where students concentrated on previous examination papers and budgeted their time and effort accordingly, were regarded by students as most likely to lead to success in the examination.

Over the years, age and gender have become two important demographic variables in the research field of approaches to learning (Baeten et al. 2010: 250). Studies that have taken age as a variable into account have mainly shown that age was positively related to a deep learning approach and negatively to a surface learning approach (Burton, Taylor, Dowling & Lawrence 2009: 75, 76), while the gender variable resulted in mixed findings. Some studies found that males scored higher on the surface learning approach than females (Hassall & Joyce 2001: 149), while others found the opposite (Arquero Montano et al. 2010: 358; Flood & Wilson 2008: 236).

Research in student study behaviour has found that differences in approaches to learning are culture based (Arquero Montano et al. 2010: 358; Donald & Jackling 2007: 101; Hassall & Joyce 2001: 148). In their study of the relationship between the cultural background of students and their learning approaches in a first-year undergraduate accounting programme at an Australian university, however, Donald and Jackling (2007: 116) found no significant differences in the use of surface or deep learning approaches by Chinese and Australian students. They state that this contradicts prior claims that Asian students rely principally on the memorisation and reproduction of factual information to achieve academic success.

Research method

Research instrument

This study measures the learning approaches candidates followed when preparing for the auditing question in the 2010 SAICA QE1 (hereafter referred to as 'the question') by adapting the *Approaches and Study Skills Inventory for Students* (ASSIST 1997) instrument, which as illustrated above has been widely accepted. Certain sections of the study can be seen as a replication study, which follows Duff's suggestion (2004: 420) that approaches to learning should be investigated in relation to ordinal background variables (such as age and gender) to "compare the results ... with any future replication studies". Race and language preference for the 2010 QE1 are further untested demographic variables considered in the study.

The questionnaire consists of 52 items reflecting approaches to learning, which could be categorised as deep learning, surface learning or strategic learning approaches. As was the case in the Flood and Wilson (2008: 230) study, the questionnaire was adapted for the purposes of the present study by changing certain items to make them more relevant and applicable to the focus of this study, namely the 75-mark case-based question on auditing topics included as question 2 in paper 1 of the 2010 SAICA QE1 (SAICA 2010a).

Candidates were asked to respond to the items on a five-point Likert-type response format, ranging from '1 = disagree' to '5 = agree'. Although the factor structure of the approaches and the internal reliability of the items were found to be primarily very stable and satisfactory in a previous study (Entwistle et al. 2001: 44, 45) and validated by the Byrne et al. study (2004: 452), Flood and Wilson (2008: 230) validated the structure again for the purposes of their study, which was directed at students in a professional education domain, a professional accountancy body in Ireland. A similar approach was followed for this study.

Factor analysis was conducted, using principal component extraction and varimax rotation, and it is clear from Table 1 that when the data were compressed to three factors, the three learning approaches emerged that were conceptually envisaged.

Factor loadings of the subscales associated with each of the learning approaches have loaded strongly within each of the three factors, thereby confirming that factor one represents the deep approach, factor two represents the surface approach and factor three represents the strategic approach. This result is in agreement with the findings of Flood and Wilson (2008) and Entwistle et al. (2001). Using Cronbach's alpha, the internal reliability for the three factors (representing the three learning approaches) was found to be 0.883, 0.857 and 0.827, which are all above 0.7 and are therefore considered satisfactory (Santos 1999). Thus, based on the satisfactory

Table 1: Factor analysis: 13 subscales of ASSIST compressed to three factors

Pattern matrix	Factor 1 Deep approach	Factor 2 Surface approach	Factor 3 Strategic approach
Relating ideas	0.827		
Seeking meaning	0.764		
Use of evidence	0.790		
Interest in ideas	0.656		
Monitoring effectiveness			0.634
Alertness to assessment demands			0.703
Unrelated memorising		0.779	
Fear of failure		0.732	
Syllabus-boundness		0.572	
Lack of purpose		0.703	
Time management			0.784
Organised studying			0.805
Achieving			0.660

statistical results outlined, it can be concluded that the use of ASSIST yields valid and reliable measures for evaluating the learning approaches of the 2010 QE1 candidates in the given context.

Population and data collection

The population of the study consisted of the candidates who sat for the SAICA QE1 in 2010. In January 2010 a total of 2921 candidates sat for the SAICA QE1, of whom 629 (21.5%) passed the question and 2292 (78.5%) failed the question. A database, consisting of the email addresses of these candidates, was used as the population for the study. These candidates were emailed on 23 and 24 November 2010 with a request to participate in the study and a link to a web-based questionnaire. A second request (again providing the link to the web-based questionnaire) was sent on 1 and 2 December 2010.

Because a SAICA database was used that had originally been established to communicate with candidates on administrative matters regarding the QE1 at the beginning of 2010, some email addresses were undeliverable when the study was performed at the end of 2010. Some provided an automatic reply indicating their unavailability to respond to the request, because of work commitments outside the country, sick leave, vacation leave and other reasons. These undelivered emails or

automatic responses claiming unavailability amounted to 255, leaving 2666 as the total number of possible respondents.

Response rate

A total of 453 students completed the questionnaire, resulting in a 17% response rate. Although the response rate is lower than the response rates of 26% achieved during the Valades et al. study (2010: 261, 263) and 34% in the Flood and Wilson study (2008: 230, 231), it should be remembered that this was a web-based study, which generally (Bradley 2007: 135; Morrel-Samuels 2003: 16) results in lower response rates than for studies performed in classroom settings, as was the case with the studies referred to.

Of the 2666 possible respondents, 593 (22.2%) passed the question. Of the candidates who passed, 118 (19.9%) responded, while 335 (16.2%) of the 2073 candidates who failed the question responded (77.8%). Possible non-response bias was investigated by determining how representative the respondents were of the total population. Table 2 shows that the respondents in the study can be considered to be representative of the total population with regard to gender and population group.

Table 2: Population representation

Variables	Number	Gender (%)		Population group (%)			
		Female	Male	African	Asian	Coloured	White
Population	2921	50.3	49.7	23.9	20.2	6.2	49.7
Respondents	453	54.7	45.3	22.1	20.5	7.3	50.1

In addition, the percentage of respondents who passed compared to those who failed was 26% vs 74%, which is representative of the 22.2% vs 77.8% percentage of the study population.

Results and discussion

Respondents' profiles

Respondents were asked to provide information to determine their profiles regarding gender, population group, age and language in which the examination was attempted. The following provides an overview of the information obtained and provides background against which the results of the study should be evaluated:

- A higher percentage of females (54.7%) than males (45.3%) responded, which is in line with the results of the Sax, Gilmartin and Bryant (2003: 424) study, which assessed response rates and non-response bias in web and paper surveys.

- Half of the respondents were Whites (50.1%), followed by Africans and Asians (22.1% and 20.5% respectively) and 7.3% were Coloureds (in line with the population demographics as illustrated in Table 2).
- The majority of respondents (50.3%) were younger than 25 years; 38.6% were aged between 25 and 30 years; 6.2% were between 30 and 35 years, and 4.9% were older than 35 years.
- The majority of respondents (68.7%) attempted the 2010 SAICA QE1 in their first language; 30% attempted it in their second language, and the remaining 1.3% attempted the examination in a language other than their first or second language.

Learning approach mean scores per outcome group

The mean scores for the learning approaches per outcome group are shown in Table 3. It is evident that the mean score on the strategic approach for respondents who passed the question (14.04) is higher than that for either the deep approach (12.56) or the surface approach (12.34). This score (14.04) is also much higher than the corresponding score (12.90) for students who failed the question. The same tendency is found in relation to the score for the deep approach, where the students who passed scored higher than their failing counterparts (12.56 in relation to 12.40). The scores for the surface approach reflect the opposite, being higher for respondents who failed the question (12.91 in relation to 12.34).

Table 3: Mean score on learning approaches by outcome group

Learning approach	Students who passed	Students who failed	Differences in mean score
Strategic	14.04	12.90	1.14
Deep	12.56	12.40	0.16
Surface	12.34	12.91	-0.57

Independent sample t-tests were used to determine whether differences in the mean scores of each type of learning approach between candidates who passed and those who failed are statistically significant. The mean score was statistically significant at the 1% level of significance for the strategic approach (t-value $= 3.764$, $p < 0.01$). This finding, as reflected by the significance of the high mean score for the strategic approach, supports the view that candidates' perceptions of the examination requirements, and their use of organised methods of study and time management, rather than intrinsic interest in the subject matter, drove their performance.

Demographic impact analysis

Gender

The mean score on the strategic approach for female respondents was 13.24 (std deviation = 2.96); for the male respondents it was 13.14 (std deviation = 2.74). For the deep approach and the surface approach, these values for female respondents were 12.23 (std deviation = 2.86) and 12.84 (std deviation = 2.84) and for male respondents they were 12.69 (std deviation = 2.77) and 12.66 (std deviation = 2.97). The t-tests for independent samples, as shown in Table 4, indicate that there is a statistically significant difference in the mean scores for the deep approach between male and female respondents at the 10% significance level (p = .083). Although the literature suggests that the gender variable resulted in mixed findings (Arquero Montano et al. 2010: 358; Flood & Wilson 2008: 236; Hassall & Joyce 2001: 149), the present study found that male respondents using the deep learning approach scored higher.

Table 4: Independent sample test: the impact of gender on the mean scores of learning approaches

Approach	t-test for equality means		
	T	Df	Sig.(2-tailed)
STRATAVG	-.369	451	.712
DEEPAVG	1.737	451	.083
SURFAVG	-.657	451	.512

Note: STRATAVG, DEEPAVG and SURFAVG represent the strategic, deep and surface learning approaches

Population groups

The mean scores and standard deviations for the population variable categories are shown in Table 5.

The one-way analysis of variance test (ANOVA) was used to determine whether the mean differences in the scores of the learning approaches between the population groups are statistically significant. Table 6 reveals that the mean scores of the strategic approach differ statistically significantly at the 5% level (p = .013) between the population groups. The mean scores indicate that African, White and Asian respondents favoured the strategic approach, whereas Coloured respondents favoured the surface approach.

Table 5: Learning approaches: population groups

Population Group	STRATAVG	DEEPAVG	SURFAVG
African: Mean	13.6640	12.9400	12.5325
N	100	100	100
Std deviation	2.92283	2.91247	2.93590
Asian: Mean	13.2237	12.6371	12.6667
N	93	93	93
Std deviation	3.10495	2.86862	3.12475
Whites: Mean	13.1833	12.2280	12.7764
N	227	227	227
Std deviation	2.68161	2.70100	2.84118
Coloureds: Mean	11.7879	11.8409	13.5909
N	33	33	33
Std deviation	2.78610	3.11612	2.43254
Total: Mean	13.1960	12.4409	12.7594
N	453	453	453
Std deviation	2.85866	2.82490	2.89726

Table 6: The impact of population group on the mean scores of learning approaches: ANOVA results

	Population groups	F	Sig.
STRATAVG	Between groups (combined)	3.629	.013
DEEPAVG	Between groups (combined)	2.132	.095
SURFAVG	Between groups (combined)	1.146	.330

Using the Tukey HSD multiple comparison test (generally used in conjunction with an ANOVA) to find the specific mean scores that differ statistically significantly from one another, the only statistically significant difference detected by both tests was between Africans and Coloureds for the strategic approach (Tukey HSD with a mean difference of 1.87612; $p = .006$), which indicated that African respondents were more inclined to follow a strategic approach than their Coloured counterparts.

Age

The mean scores and standard deviations for the age variable categories are shown in Table 7.

Table 7: Learning approaches: age groups

Population group	STRATAVG	DEEPAVG	SURFAVG
Less than 25: Mean	13.3123	12.2675	12.8893
N	228	228	228
Std deviation	2.80987	2.86032	2.78202
Between 25 and 30: Mean	12.9177	12.3686	12.6829
N	175	175	175
Std deviation	2.88907	2.80174	3.02767
Between 30 and 35: Mean	13.4357	13.1429	13.1071
N	28	28	28
Std. deviation	3.11653	2.81072	3.05234
Older than 35: Mean	13.9000	13.9205	11.5795
N	22	22	22
Std deviation	2.74070	2.19223	2.68859
Total: Mean	13.1960	12.4409	12.7594
N	453	453	453
Std deviation	2.85866	2.82490	2.89726

The results shown in Table 8, based on an ANOVA test, indicate that the mean scores of the deep approach differ statistically significantly at the 5% level ($p = .032$) between the age groups, which is in agreement with the findings of prior studies (Burton et al. 2009: 75, 76), which showed that age was positively related to a deep learning approach.

Table 8: The impact of age on the mean scores for learning approaches: ANOVA results

	Population groups	F	Sig.
STRATAVG	Between groups (combined)	1.190	.313
DEEPAVG	Between groups (combined)	2.950	.032
SURFAVG	Between groups (combined)	1.550	.201

Using the Tukey HSD multiple comparison test to find the mean scores that are significantly different from one another, the only statistically significant difference

detected was between the below-25 and over-35 groups for the deep approach (Tukey HSD with a mean difference of -1.65291; $p = .043$), indicating that the more mature respondents favour the deep learning approach.

Language

The mean scores and standard deviations for the language variable categories (distinguishing whether the question was attempted in a respondent's first, second, third or fourth language) are provided in Table 9.

Table 9: Learning approaches: language groups

Population group	STRATAVG	DEEPAVG	SURFAVG
First language: Mean	13.0418	12.2966	12.8778
N	311	311	311
Std deviation	2.84316	2.76729	2.85827
Second language: Mean	13.5044	12.7794	12.4651
N	136	136	136
Std deviation	2.88762	2.95382	2.96853
Third language: Mean	13.3333	10.9167	14.2500
N	3	3	3
Std deviation	3.68963	1.52753	3.03109
Fourth language: Mean	15.0667	13.5833	12.3333
N	3	3	3
Std deviation	1.41892	2.96156	3.88373
Total: Mean	13.1960	12.4409	12.7594
N	453	453	453
Std deviation	2.85866	2.82490	2.89726

Although the further statistical analysis (ANOVA) on the language variable is not reported here, it indicated that the mean scores for the three approaches did not differ statistically significantly at the 5% or 10% levels between the language groups. It therefore appears that the language in which the respondents attempted the question in the 2010 QE1 bears no statistically significant relationship to the learning approaches they followed.

Conclusions, limitations and areas for future research

The study aimed to contribute towards the understanding of an unexplored area by investigating the learning approaches to auditing of prospective chartered accountants in South Africa using the widely recognised questionnaire, ASSIST. Age, gender, population group and language preference for examination purposes constituted the variables of the study against which the learning approaches were measured. Other variables (such as traineeship progression, the number of times QE1 had been attempted, the specific university where undergraduate and postgraduate qualifications were obtained, and employment status) are not discussed, and the results should be evaluated in the light of these limitations.

The results of the study indicated a statistically significant preference for the strategic approach by respondents who had passed the auditing question under investigation. The findings support the view that candidates' perceptions of the examination requirements, their use of organised methods of study and time management, rather than intrinsic interest in the subject matter, contributed significantly to their performance. This finding is not surprising, as the QE1 examination syllabus is extensive, and the consequences of failing QE1 are perceived to be severe. It may, however, serve as an indication that students are taught at universities to approach auditing questions strategically, rather than to undertake extensive elaboration of the learning material while seeking personal understanding in accordance with a deep learning approach. The findings also raise the question of whether assessment practices at university level and professional examination level are conducive to deep learning. This is an area for future research. In their study involving candidates for the qualifying examination of a professional accounting body in Ireland, Flood and Wilson (2008: 233) also found the strategic learning approach to be favoured and argued that it should concern the accounting profession, as participation in lifelong learning, as required by International Education Standard (IES) 7 (IFAC 2004), does demand a personal interest in the subject matter. This argument is equally relevant for SAICA, as a member of the International Federation of Accountants (IFAC).

The analysis of the learning approaches by gender groups indicated that both groups favour the strategic learning approach. Further statistical analysis revealed that male respondents showed a greater preference for the deep learning approach than did their female counterparts. The literature (Arquero Montano et al. 2010: 358; Flood & Wilson 2008: 236; Hassall & Joyce 2001: 149) does not support a gender-preferred learning approach, and this finding therefore appears to be questionable. The results indicated that African, Asian and White respondents all favoured the strategic learning approach, but Coloured respondents all showed a preference for

the surface learning approach. A statistically significant difference was detected between African and Coloured respondents, indicating that African respondents were more inclined to follow a strategic approach than their Coloured counterparts. This finding should be considered against the background that although Africans make up 79.4% and Coloureds 8.8% of the South African population (RSA 2010), only 6.1% and 0.3% of the members of SAICA (2011) are from these two population groups respectively. Further research is therefore required to determine the learning approaches followed by accounting students from all the population groups in South Africa with regard to all the core disciplines (thus including financial accounting, management accounting, financial management and taxation). It could then be established whether different learning approaches are followed by South African accounting students and whether these relate to their success or failure in qualifying as CA(SA)s.

All respondents, except those over the age of 35, favoured the strategic approach. A statistically significant difference was detected between respondents younger than 25 years and those older than 35 years for the deep approach, indicating that the more mature respondents favour a deep learning approach, a finding supported by the literature (Burton et al. 2009: 75, 76). The study found that the language in which the respondents attempted the question bears no statistically significant relationship to the learning approaches they followed.

The study has further limitations. The participants in the study were all candidates who had attempted a qualifying examination for a single professional accounting body in South Africa, namely SAICA (similar to the Flood and Wilson [2008: 236] research in relation to the Institute of Chartered Accountants in Ireland [ICAI]), and the study focused on only one of the four core disciplines, auditing, as tested in the SAICA 2010 QE1. The learning approaches followed by 2010 QE1 candidates in respect of the other core disciplines were not investigated and represent areas for future research. Furthermore, learning approaches are dependent on content and context (Tickle 2001: 963), and the findings of this study can thus not be generalised.

The study looked at relationships between certain single demographic factors (age, gender, population groups and language preference for examination purposes) and approaches to learning. Other interrelated contextual factors (such as personality, motivation, intellectual ability and level of cognitive development, previous work/academic experience, academic skills, non-academic activities, learning habits and preferences), as identified by Baeten et al. (2010: 254), were ignored and form an area for future research. The simple relationships investigated in this study could, however, serve as a starting point in exploring the factors that influence students' approaches to learning. Future research could use qualitative methods to gather rich

descriptions of students' experiences of learning for the QE1 and their perceptions of the learning outcomes. There is also scope for future research to explore linkages between qualification-focused learning and learning in the workplace as part of traineeships. Despite these limitations, this study on learning approaches in the professional accounting context provides a South African perspective that contributes to the body of knowledge of accounting education and professional education. It could serve as a foundation for further studies of the learning approaches of South African accounting students.

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