UNIVERSITY OF CAPE TOWN

A CRITICAL EVALUATION OF ORGANISATIONS ATTEMPTING TO INCREASE THE NUMBER OF CHARTERED ACCOUNTANTS FROM THE BLACK COMMUNITY IN SOUTH AFRICA

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NADINE BAILEY

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PREFACE

I certify that except as noted in the acknowledgements, this report is my own work and it has not been submitted as a dissertation for a degree of another university.

ABSTRACT

The research problem addressed in this research is the shortage of qualified chartered accountants from the black community in South Africa.

This research attempts to identify what factors have resulted in this shortage, what efforts are being made to address this imbalance by which organisations and what factors could be considered as critical to the success of organisations, programmes and/or individuals.

The study consists of a literature review and a three stage survey. Qualified black accountants and representatives of educational and other relevant organisations responded to questionnaires or were interviewed. The study is descriptive and exploratory in nature. Results indicate common trends amongst individual accountants and the opinions and experiences of organisations, rather than quantifiable data.

The initial survey highlighted issues which have historically contributed to the shortage of black accountants, including awareness and perception of the profession, institutions, structures, racism, financial, macro and micro societal and educational factors. Educational factors were focused on for the remainder of the research.

The literature review examined research in the areas of academic support programmes, cognition, learning and education and accounting education. Needs assessment, organisational objectives, educational methodology and evaluation were highlighted as potentially important factors in academic support programme design.

The final section of the research drew on the practical experiences of support organisations and qualified accountants. The factors identified in the literature review appeared to be evident in most programmes. The group of qualified accountants participating in the study had not, however, participated in educational interventions by organisations, so the effectiveness of the hypothesized success factors could not be adequately assessed. Other issues which were identified in the study, and which are suggested for further research, were participation in facilitated or informal study groups, issues related to bilingualism and language and the importance of the locus of control over, and location of responsibility for, learning. The results indicate certain trends and commonalities which could guide further study, but the small population and sample size, and low response rates limit the generalisability of the results. Although the results are inconclusive as to the effectiveness of support organisations, a number of implications of the study for the short and long term, as well as suggestions for future research, can be made.

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CHAPTER ONE: INTRODUCTION

1.1 The research problem

It is estimated that there will be a shortage of seven thousand qualified chartered accountants by the turn of the century (Hofmeyr and Spence, 1989). Of the twelve thousand qualified chartered accountants in 1989, only twenty five were black[1] South Africans. There are approximately three hundred coloured and Asian chartered accountants. This suggests that only 2.6% of chartered accountants in South Africa are not white. This is a very low percentage since only about 10% of the South African population is white.

The primary aim of this research is to reach an understanding of how this disproportionately low representation of accountants from the black community arose, and which factors continue to inhibit the number of black persons qualifying as accountants.

The secondary aim of the research is to identify critical success factors of programmes designed to address this imbalance. Most of the organisations running such programmes concentrate their efforts on the development of accounting skills amongst educationally deprived persons[2] in South Africa.

1.1.1 Introduction

To blame the shortage of accountants from the black community on "apartheid", would be an oversimplification. This study rather attempts to establish which specific institutions and structures existing in South African society historically and in the present have led to such an imbalance.

This question will be addressed by interviewing persons and conducting a literature review. Responses from interviewees will be collated and analysed and grouped into seven factors that emerge as being critical in impeding the

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1 The Population Registration Act of South Africa divided the population into the categories of White, Black, Coloured and Asian. The Act was repealed in June 1991. Although the Public Accountants' and Auditors' Board does not keep racially based statistics, information from The Association of Black Accountants indicated that this number had increased to 45 in 1991.

2 Educationally deprived persons for the purposes of this research are black persons who have had a disadvantaged secondary education, under the Department of Education and Training.

successful qualification of persons from the black community as accountants. These are:

- awareness of the accounting profession;
- perceptions of the accounting profession;
- institutions and structures;
- racism in the corporate sector;
- financial factors;
- macro/micro environment, and
- education.

Each of these will be discussed in detail in chapter two. Of all the factors highlighted above, education emerged as a fundamental problem, and this is the issue that is the main focus of this research study.

Great inconsistency exists between the primary, secondary and tertiary education of black and white persons in South Africa. In the De Lange report on South African Education (1981), some of the causes of the disparities between white and black education were highlighted. These included lower per capita spending for black as opposed to white children, lower teacher qualifications in black schools, higher densities in black school classrooms, inferior infrastructural and support systems, geographic isolation of black children, an irrelevant and inferior syllabus, an inadequate learning environment in black homes and inadequate black representation at higher policy levels.

Although there is considerable material deprivation in African education,

> *"the most negative effects of the crisis are found in intangible areas - in a loss of self-respect, tolerance, teachers' morale and students' will to learn. The crisis extends beyond the problems of provision; it is also a crisis of legitimacy and relevance" (Hofmeyr and Spence, 1989, p. 39).*

The pool of black students eligible to study at university is limited by entrance requirements. Of those students suitably qualified in terms of matriculation exemption, many may choose a career in medicine, law or engineering rather than accounting. Reasons for this may be found in greater acceptability, traditionally and culturally, for the aforementioned, as well as more role models and/or financial aid for these career paths. The chance of successful graduation or professional qualification is also considered by students.

The probability of black students achieving the qualification of chartered accountant[3] is further exacerbated by the fact that of the fourteen universities which have been accredited by the Public Accountants' and Auditors' Board to allow graduates to write the professional examination, there are only two[4] that draw their students predominantly from the black and coloured communities.

1.1.2 Accounting-specific problems and needs

The accounting profession has in the past been aligned closely to 'big business', that is, the interests of multinational and large organisations. Predictions for the future of the South African economy, however, include a greater emphasis on small and medium sized businesses, as well as the growth of the informal sector.

If it is argued that education should be relevant to society and should remain valid to students throughout their careers, educationalists will need to prepare students to "adapt, interrelate and be pro-active in a *dynamic* cultural, economic, political and social environment" (Seneque, 1987; own italics). Surtees (1988), Weil and Molteno (1992) and Seneque (1987) concur that to achieve this in the future, the accounting profession will require qualified accountants of all races in South Africa.

Cottrell (South African Institute of Chartered Accountants (SAICA), 1988) explains that the need to increase the number of chartered accountants from disadvantaged groups stems from two basic factors. Firstly, not enough accountants are presently being trained for South Africa's needs. Secondly, the composition of accountants in South Africa does not reflect the population mix in the country as a whole.

The latter situation has its roots in the political, economic and social structure within which disadvantaged accounting students find themselves. This structure

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3 Chartered accountant is the professional title bestowed on a person who has passed the Public Accountants' and Auditors' Board's (PAAB) qualifying examination and has completed a traineeship with an auditing firm.

4 University of the Western Cape and University of Transkei are accredited universities with predominantly non-white students.

manifests itself mainly as a learning problem[5] and it is primarily this aspect that will be addressed in this research.

Existing formal structures for the education and training of South African accountants have proved to be deficient in meeting the needs for more accountants (Seneque, 1987). The Loubser "Commission into Developments in the Accountancy Profession in South Africa" (1980) identified that the needs of the present and future South African economy could not be met by the current structure of the profession. For this reason the Institute of Accounting Technicians of South Africa (IATSA, subsequently renamed the Institute of Commercial and Financial Accountants) was formed. Its main aim was the formation of a 'second tier' to the profession to support the needs of smaller businesses.

The formation of further professional bodies[6] to administer the accounting profession does not, however, solve the problem of ensuring that students who have entered the system will qualify. This has led to the growth of a number of organisations[7], both formal and informal in nature, which are aimed at assisting students. Some of their programmes provide academic support during the course of a student's tertiary education, while others attempt to bridge the gap between secondary and tertiary education through preparatory and orientation courses, at the beginning of the university course. Research that has examined some of the issues identified will now be examined.

1.2 Research addressing the shortage of black accountants

Williams, Tiller, Herring and Scheiner (1987), in drafting a proposed framework within which accounting education issues could be addressed, found a number of short-comings in current and past accounting education research. These shortcomings included literature reviews which were not sufficiently

5 Learning problems as used in this study do not relate to hereditary deficiencies in the intellectual abilities of students. Rather, such learning problems are assumed to be due to a lack of developmental opportunities which, despite indications of intellectual potential by students, result in failure to perform adequately at a tertiary educational level.

6 Professional bodies include statutory and non-statutory organisations which have originated in order to promote the interests of the accounting profession as a whole, or a sub-section thereof. These include: The South African Institute of Chartered Accountants, The Public Accountants' and Auditors' Board, The Institute of Commercial and Financial Accountants, The CAs' Eden Trust, and The Association of Black Accountants of South Africa.

7 Organisations which exist primarily to attempt to develop accounting skills amongst educationally deprived students, as defined previously.

comprehensive, incomplete explanations of the research studies' potential practical and theoretical significance, and limitations that had not been precisely delineated.

While research in accounting is on the increase in South Africa, very little attention has been focused on educational issues. The research that has been done can be categorised into five areas, namely success prediction, vocational factors affecting black articled clerks, cognitive socialisation, the identification of requisite accounting skills and the profile of black trainee accountants. The greatest effort and experience in the education of deprived persons (in all fields, and not only accounting) is to be found in the various universities' Academic Support Programmes (ASP). The research and practical efforts will now be discussed in greater detail.

1.2.1 Research in South Africa

Success prediction

Rowlands (1988) attempted to identify whether the inclusion of accounting as a secondary school subject had any effect on success rates in accounting courses at university. He concluded that, although prior knowledge of accounting affected success in the first accounting course, this effect was largely neutralised in the second year of accounting study.

Vocational factors

Van Greuning (1987) conducted an extensive study into the perceptions relating to the employment of black articled clerks (trainee accountants) in auditing firms. It appears from his study that there are significant differences between the perceptions of partners and those of black clerks about the problems experienced by black trainee accountants. Differences of opinion were found in the areas of:

- cultural differences;
- racism from peers and negative client attitudes;
- lack of honest performance evaluations;
- lack of commitment to black advancement by accounting firms, and
- lack of challenging audit assignments.

Many of these clerks were studying concurrently while serving articles because of financial problems. According to Van Greuning (1987), these differences of

opinion often affected both the academic and professional success of black articled clerks.

Cognitive socialisation

Meyer's (1989) research on the concept of cognitive socialisation was based on her work with students participating in the Anglo American/University of the Witwatersrand (WITS) 'Cadet' scheme for potential black accountants. According to her, an academic support programme student's problems are not solely in the cognitive field. The issue is rather one of cognitive socialisation[8]. She suggests that programmes should concentrate their efforts on enabling students to "think and behave as accountants."

Identification of skills

Weil (1989) attempted to identify and develop requisite accounting skills[9] in first year students at the University of the Western Cape (UWC)[10]. He found that cognitive difficulties encountered by these students included:

- inability to select relevant as opposed to irrelevant data;
- poor ability to define a problem;
- deficiency in visualising a relationship between two sets of data;
- impulsiveness, and
- impaired planning behaviour.

On the basis of this research, he devised a skills development programme to address the problems identified, by means of self-teaching instructional material.

Profile of trainee accountants

A further issue that has been researched in South Africa is the profile of trainee accountants. The SAICA interviewed black trainee accountants (Hawksworth,

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8 The concept of cognitive socialisation suggests a holistic approach towards the development of professional persons. Students are encouraged to "think and behave" as persons in the particular profession would "think and behave", under the assumption that this will promote their cognitive and professional development.

9 Accounting skills, in this study, are those analytical, decision-making and practical cognitive abilities which are necessary for a person to master the study of accounting.

10 These students come primarily from the "coloured" community.

1991) in order to identify a typical profile. The profile which emerged was the following:

- the mean age of the trainee was 29 years;
- the trainee had illiterate or semi-literate parents (62%), in unskilled or semi-skilled jobs;
- the trainee had experienced financial problems in obtaining an education;
- the trainee had been directed to the profession by either a university professor or a friend (80%), since career guidance at schools had been inadequate, and the profession had little visibility in the community due to the low number of black chartered accountants;
- the trainee was a "bright, stable conservative and non-innovative individual who, though low in self-confidence and basically insecure, was assertive in terms of group norms" (Hawksworth, 1991, p.136).

It is obvious from the above that, except for the study conducted by Weil (1989), research has focused on issues in accounting education rather than on attempts to assess and devise the most effective ways of increasing the number of accountants.

1.2.2 Capabilities characteristic of accountants

Williams *et al* (1987) concluded that too little was known about the qualities and qualifications predictive of success in accounting. Such knowledge was necessary to increase the efficiency and effectiveness of accounting programmes, by establishing admission standards and standards for retaining students on programmes.

Research in this regard included:

- "Perspectives on Education: Capabilities of Success in the Accounting Profession" (Arthur Andersen, 1989), identifying the capabilities of accountants required by the profession, and
- "Future Accounting Education: Preparing for the Expanding Profession" (Bedford, 1986), which concludes that the accounting profession is undergoing changes and current accounting education is inadequate to meet the enhanced needs of the profession.

Bedford (1986) criticised the teaching process for focusing on the passing of professional examinations, as this discourages creative thinking, and does not motivate students to develop further knowledge and understanding of subjects on their own. It is felt that the emphasis of a university education should be on "preparing graduates for career-long professional learning" (Bedford, 1988, p.

179). The effectiveness of traditional teaching and learning methods are also questioned by the report. However, the problem in the South African context is that the pass rate for the professional examination is only in the region of 45 - 55% and increasing this pass rate has taken precedence over the issue of "preparation for life-long learning."

1.2.3 Academic support experience

Academic support programmes in certain major universities started in the early 1980's. These efforts were funded by commerce and industry. The first programme specifically for commerce students was the "Cadet Scheme" started jointly by the University of the Witwatersrand and the Anglo-American Corporation, in 1980. The University of Cape Town (UCT) began its programme for commerce students in 1987, and Natal University in 1989. The main function of academic support, as defined by these universities, is to assist educationally deprived students at universities to cope academically and socially. A distinction needs to be made between bridging programmes which "operate between levels by preparing students at one level to study at the next level (and) ... a programme that supports students while they are studying at a particular level" (Agar, Hofmeyr, Moulder, p. 21, 1991)

Because of their relatively short existence and the unique nature of their educational function, it is difficult to measure the success of these programmes.

A quote from Miller (1989) is appropriate in this regard:

> *"In its present form, academic support is a propping operation. The time has arrived for universities to contemplate some other reality or set of structures to support their educative function. We need to look beyond common sense and find, or at least attempt, a solution that requires no apology and casts no shame on either students or teachers who ultimately are answerable to each other in equal measure." (p. 158)*

This research will attempt to identify structures and methodologies that address some of the issues facing academic support programmes.

Having briefly considered the background to the research problem, research in the field in South Africa and the experience of academic support in South Africa, it can be concluded that there is a mismatch between the demand for accountants and the supply thereof on the one hand, and the demand for and supply of successful, appropriate academic support for potential accountants from a

disadvantaged milieu on the other. Despite both research and educational efforts, an ideal, or effective methodology or approach to these issues does not yet appear to have evolved. The following section will indicate how this research study proposes to address these issues.

1.3 Problem statement

The underlying problem to be addressed in this research is the following:

> *"There is a shortage of qualified chartered accountants from the black community in South Africa."*

1.3.1 Problem definition

The above problem is defined by the fact that the composition and mix of qualified chartered accountants in South Africa does not reflect South African society as a whole.

1.3.2 Research aims

The first aim of this research is to ascertain which factors have resulted in the imbalance specified in 1.3.1.

The second aim is to identify ways in which the imbalance is being addressed.

The third aim is to identify critical success factors of programmes aimed at increasing the number of black accountants.

1.3.3 Research questions

In pursuing the research aims, the study will attempt to evaluate the following:

- which factors have resulted in an imbalance in the composition and mix of qualified chartered accountants in South Africa;
- which organisations have been formed in order to address the shortage of black accountants in South Africa, and
- which factors are critical to the success or lack thereof of organisations and programmes identified.

1.4 Hypotheses

Following from the above, the null hypotheses which will be tested in this research study are as follows:

$H0_1$: a significant number of factors have contributed to the shortage of black accountants in South Africa;

$H0_2$: academic support programmes and other similar organisations which have been formed, are addressing the shortage of black accountants comprehensively;

$H0_3$: there are critical factors which determine the success of programmes designed to increase the number of black accountants in South Africa.

1.5 Delimitations of the study

The scope of this study is limited by various constraints. The hypotheses to be tested therefore have to be seen within the following specified parameters:

1.5.1 Accounting skills

Despite the fact that education and the development of skills should ideally be "preparing students for life-long learning" (Bedford, 1988), for the purposes of this research, the development of accounting skills refers to the development of those skills necessary for certification in the form of a diploma from a technikon or a degree from a university. It also includes the attainment of an external professional qualification. The development of the ability to undertake fundamental accounting tasks at a non-certified level is excluded.

1.5.2 Organisations

Relevant organisations encompassed by this study include technikons, universities, academic support programmes, professional bodies, public auditing firms, commerce and industry and financial institutions.

This study will not encompass organisations that run correspondence courses, efforts by community-based organisations and non-certifiable in-house training by companies.

1.5.3 Educationally deprived students

Educationally deprived students are defined as black students and employees who are products of the Department of Education and Training secondary school educational system. This study does not attempt to address the learning problems of white, Asian or coloured students, or of black students who have had a secondary education at a private school.

1.6 Conclusion

Academic support programmes have had problems both in respect of their acceptability amongst those students whom they are designed to assist, as well as in the success rate of participating students (AECI Report, 1988). Commerce and industry, when dissatisfied with conventional accounting education, has attempted to meet its staff training needs in the private sector.

It is these inadequacies in attempts to produce black accountants that have prompted this study.

1.6.1 Thesis organisation

The study will proceed in the following manner:

Chapter two: Factors limiting numbers

The focus of this chapter will be on the first hypothesis, in that the design and results of a survey to identify the factors resulting in the low number of qualified chartered accountants from the black community will be discussed.

Chapter three: Literature review

In chapter three local and international literature on the experiences of academic support efforts and of persons involved in black education is to be reviewed. Relevant learning and cognitive theories and research, including that of Vygotsky (1978), Piaget (1958), Feuerstein (1980; 1985) and Sternberg (1985), *et al* is to be examined. The applicability of this literature to the South African situation and this research will conclude the chapter.

Chapter four: Research methodology

This chapter will describe the methodological approach to addressing hypotheses two and three, by initially reviewing available research methods, in order to identify those applicable to this study. The methodology to be employed will be specified. A research questionnaire will be developed to enquire into, and evaluate efforts to increase the number of black accountants. The questionnaire will be targeted at:

- formal academic support institutions;
- professional organisations;
- efforts by commerce and industry, and
- quasi-educational or social organisations.

The responses of these organisations will subsequently be contrasted with those of qualified black accountants, who will have been administered an amended questionnaire.

Chapter five: Research results

In chapter five the research results will be analysed, with reference to the interviews conducted, the questionnaires completed and the literature review.

Chapter six: Summary and conclusions

In chapter six a summary and conclusion on the research findings will be made, with a discussion of the extent to which the objectives of the study have been met. Implications of the research findings for formal tertiary accounting academic support programmes, informal accounting academic support programmes, commerce, industry and professional accounting organisations will be discussed. Problems encountered in the study will be specified and suggestions for further research will be made.

1.6.2 Significance of the study

This study represents the first documented attempt to categorise factors which result in the shortage of qualified accountants from the black community, and to identify the efforts which are being made to overcome this shortage. Responses have been elicited from established structures and organisations, as well as from qualified black accountants.

The specific issue of accounting educational support for black persons is addressed further, contrasting the perceptions and experiences of support organisations with those of qualified black accountants.

It is hoped that the results of this research will assist in identifying what constitutes successful implementation of academic support and will, furthermore, help companies and accounting firms identify strategies to enhance success rates amongst their employees.

CHAPTER TWO: FACTORS LIMITING NUMBERS

2.1 Introduction

As highlighted in the introductory chapter, negligible research has been performed in the field covered by this research. For this reason, it was decided to first embark on a series of interviews with persons who have an understanding of the shortage of accountants from the black community in South Africa. Persons were chosen as a result of their known involvement in the field, through articles which had been written, or through the recommendations of other persons interviewed.

2.2 Methodology

Since the objective of this chapter is not to discuss causality, but rather to draw descriptive and comparative inferences, the survey method was considered to be an appropriate vehicle to meet this objective. The study conducted attempts to establish the aims, activities and opinions of a sample of organisations identified as being concerned with the education and development of disadvantaged black students at various post-school levels (see Appendix G for a list of the interviewees). Following this, a questionnaire (included in Appendix C) was drawn up. Two black accountants who had successfully qualified as chartered accountants, were interviewed to elicit their personal experiences and opinions concerning the research problem.

2.2.1 Questionnaire design

Organisations

A questionnaire for use during each interview was drawn up. The questionnaire was designed with the intention of focusing on issues deemed to be relevant for this study, but also with sufficient flexibility to allow respondents to add any information that they felt was relevant during the course of the interview. A list by Sudweeks and Diamond (1975) of "Questions that should be considered in designing comprehensive evaluation of a College Course" was used in designing the questionnaire.

The questionnaire (Appendix A) contained the following specific topics relating to programmes conducted by each organisation:

- the type of organisation, its aims and target audience;
- the administration of the programme;
- financial details of the organisation and the students;
- non-financial assistance;
- admission criteria;
- difficulty in attracting students/ student resistance to programme;
- nature of activities;
- language content;
- cultural/social content;
- issues dealt with;
- educational factors;
- values underlying the programme;
- research and design of the programme;
- implementation of the programme;
- evaluation of the programme;
- co-ordination with other organisations;
- major problems encountered;
- any other information considered relevant by the respondent.

Accountants

A questionnaire for the interviews with accountants was prepared after the survey of organisations using Appendix A. This questionnaire, which incorporated the major issues arising from the interviews with representatives of organisations, is included in Appendix C. During the course of the interviews, however, considerable additional detail was obtained by asking the respondents to discuss their background and experiences during their study and training period (see section 2.2.2).

2.2.2 Interview procedure

Organisations

The procedure adopted for the interviews with organisations was as follows:

- representatives of nine organisations were contacted telephonically and asked if they were willing to participate in the study;
- if they agreed (all did), they were each sent a questionnaire in advance of the interview;
- during the interview, the interviewer asked the interviewee each question in the questionnaire;

- the interviewee's responses were tape recorded and the relevant blocks and required written responses in the questionnaire were respectively ticked and entered by the interviewer.

The duration of the interviews ranged from one to two hours.

Accountants

The procedure adopted for the interviews with accountants was as follows:

- accountants were contacted telephonically and asked if they were willing to participate in the study;
- if they agreed (two did), an appointment for an interview was made;
- during the interview, following the questions of Appendix C, the interviewee was asked to discuss his background and experiences, focusing particularly on participation in any academic support programmes and factors deemed to be crucial to his successful qualification as a chartered accountant;
- the interviewee's responses were tape recorded.

The duration of each interview was approximately one and a half hours.

2.2.3 Methods of analysis

For interviews conducted with organisations, the recordings were transcribed and, in conjunction with the data recorded on each questionnaire, the responses were collated according to the questions in the questionnaire. The data was then reorganised with a view to establishing opinions which were common to the various support organisations. This procedure produced seven critical factors (see section 2.3), as well as information on how the organisations attempted to address these factors.

For accountants, the recordings were transcribed and analysed, with a view to either supplementing the information obtained from the interviews with organisations, or to corroborating such information.

The survey was analysed by establishing common opinions held by representatives of the various support organisations and the accountants interviewed. During the course of the pilot study (see chapter five), information relevant to the discussion in this chapter was often provided by the three interviewees. (See Appendix G). For reasons of completeness and logical flow, this data has therefore been included below, rather than in chapter five.

2.3 Survey results

A number of issues which contribute to the shortage of accountants in the black population emerged during the interviews. These were:

- awareness of the profession;
- perception of the profession;
- existing institutions and structures;
- institutionalised racism in the corporate sector;
- financial factors;
- the macro and micro environment in South Africa, and
- educational factors.

These factors, and the ways in which the organisations represented by the interviewees have attempted to address them, will now be discussed.

In addition, the way in which the Programme for Technological and Engineering Careers (PROTEC) approached the shortage of black persons in Engineering and Technological careers will be discussed, as the organisation appears to have implemented a successful programme.

2.3.1 Awareness of the accounting profession

According to Hawksworth (1991), awareness of the accounting profession amongst black persons is hampered by inadequate career guidance, and the low visibility of the profession in black communities, due to the small number of qualified black accountants. This lack of awareness amongst the black population of what the accounting profession entailed, was one of the first issues which the Association of Black Accountants (ABASA) decided to address. This is being achieved by running workshops, seminars and by articles in the media about the profession and careers open to accountants (Ramano, 1990)[1].

The formation of PROTEC, which deals with the development of professionals in technological fields, was based on the premise that such careers were seldom chosen, since they were unknown or unfamiliar to students. Careers chosen by students were those which were familiar to them, or those which were aspired to within the community, such as law and medicine.

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1 Interview with Mr. Ramano of ABASA. 1990.

Research by Louw (1985) of PROTEC indicated that the following were weaknesses in the present system of career guidance:

- inadequate knowledge amongst people with influence, such as teachers, parents, other students and adults;
- lack of role models;
- unrealistic expectations and career choices by scholars;
- difficulty experienced by scholars in dealing with alternatives.

In addition there is the danger of student interest, without the necessary support and opportunities.

Attempts at addressing the problem

In order to address these problems as they impact on students' choices of technological careers, PROTEC concentrates on the development of an awareness of technology, society, the economy, politics and the community, as well as personal awareness (Hughes, 1990)[2]. In doing so, it is hoped that scholars will be able to develop realistic expectations of a career, and make informed choices.

The SAICA's Professional Development Committee (PDC), in its action plan, has agreed *inter alia* that:

- "A selection of black, coloured and Asian school children, their parents and teachers be guided on what is involved in becoming a chartered accountant and
- regular contact be maintained with inspectors, teachers' associations and mathematics, accounting and career guidance teachers at selected schools" (Hawksworth, 1991, p. 138).

2.3.2 Perception of the accounting profession

The black population generally perceives chartered accountants as being pro capitalist, since they are professionals, and therefore against the 'struggle'[3]. This perception works against the aim of increasing the number of black accountants (Ramano, 1990). Pillay (1991), however, feels that given the increasing number of applicants to Commerce faculties, this perception may be changing. Also,

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2 Interview with Ms Karen Hughes of PROTEC. 1990.

3 The 'struggle' is the liberation struggle of black persons against apartheid in South Africa.

there is a growing realisation that accountants will be needed in a post-apartheid South Africa, irrespective of the socio-economic system that is adopted.

Attempts at addressing the problem

To undermine the persisting negative perception, ABASA has conducted workshops and seminars, and placed articles in journals and newspapers on accounting and accountability. Community support organisations were developed with the intention of clearing up bad perceptions about accountants. Black accountants were encouraged to work with grassroots organisations and politicised groups and to help with record keeping systems (Ramano, 1990).

As it was felt that the values underlying academic support programmes have an important impact on the perceptions which participating students and the communities from which they come have about these programmes and the subject matter, interviewees were asked to discuss the values that they felt underlay their programmes or efforts. Perceptions which impacted on these programmes were those concerning ideological values, which assume that the dominant cultural and economic bias in commerce faculties is one of capitalism. There were also perceptions concerning the personal values which programmes were perceived to be instilling in their students, deemed to be mainly those of individualism and personal ambition.

Ideological

Pillay (1990)[4], feels that a cultural ideology is not being forced on students, since the student had already made a particular cultural choice in deciding to study commerce at the University of Cape Town (UCT). Academic Support Programmes (ASP) are, in his opinion, therefore merely catering to the academic needs of students who have already made their personal ideological choices.

King (1990)[5] concurs with this view, believing that accounting in South Africa occurs within a capitalistic ideology. Even if this were not the case, any economic system would need a form of accounting.

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4 Interview with Mr. Pundy Pillay of UCT Commerce Academic Support Programme. 1990.

5 Interview with Professor King, of WITS Commerce Department. 1990.

Curtis (1990)[6] is of the opinion that students enter the university voluntarily and are exposed to the academic environment of their own choice. The commerce faculty has a capitalist bias as a result of the South African industrial urban culture within which it occurs.

Personal

The Pre-University Bursary Scheme (PBS) at the University of the Witwatersrand (WITS) attempts to encourage autonomous, independent learners who are motivated to succeed in the world of business. They are expected to have a commitment to the programme and its objectives. Students develop co-operative and supportive systems with each other, and the group values which develop are regarded as important for success (Curtis, 1990). A major achievement, according to King (1990), has been in getting students to ask questions. Curtis (1990) thinks that one of the functions of a university education is to change the attitudes and abilities of students.

According to Moore (1990)[7] clerks do undergo changes in their attitude as a result of the programme, as they gain in confidence by passing examinations and succeeding in their careers.

It is clear from the previous comments that the characteristics of individualism and ambition are deemed necessary for accounting students.

2.3.3 Institutions and structures

In the past there have been strong feelings that the existing formal institutions for accountants were not concerned with encouraging black persons to become accountants, and some people believe that entry to the profession may in fact have been discouraged (Ramano, 1990).

Attempts at addressing the problem

Discussions between ABASA and the South African Institute of Chartered Accountants (SAICA) led to the profession's code of conduct being amended to outlaw discrimination on the basis of race, colour or creed. In the event of such

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6 Interview with Mr. David Curtis of the WITS, PBS and CACTUS schemes. 1990.

7 Interview with Mr. Terry Moore, partner in charge of in-house education, Deloitte Pim Goldby. 1990. In 1992 the name of this firm was changed to Deloitte & Touche.

discrimination occurring, recourse is provided for. In addition, ABASA wanted a mandatory code of employment to provide for a 10% intake of trainees in total from the black population. This became a voluntary code.

ABASA also approached various decision-making bodies to include black accountants at higher decision levels. As a result, two black accountants are on the Education Committee (EDCO) of the Public Accountants' and Auditors' Board (PAAB); one is on the Training and Requirements Committee; one on the board of the PAAB. There is also one black accountant on the council of the SAICA.

There is an attempt to create a new institutional framework for the profession in South Africa and to separate the dual functions of the professional bodies of serving the members of the profession (for example, by providing technical information) from the registration of accountants. ABASA is lobbying to separate the PAAB's two functions of monitoring auditors and of being an examining body. It is felt this will increase the objectivity of the registration of accountants. It is also believed that the field of education and training should be broadened, so that it is not the exclusive domain of universities, with commerce and industry and professional training also playing a part.

ABASA is a structure created to facilitate increasing the number of black accountants. The organisation does not, however, appear to have enough broad-based support, due to perceptions of it being pro-capitalist. In addition, its small membership inhibits the number and extent of projects it can be involved in, according to Van Greuning (1990)[8]. ABASA agrees that the organisation is still relatively young and small and it is therefore too early to see the results of programmes which are in place at this stage. However, ABASA believes that it has made an impact on the development of accountants from the black population.

According to Putland (1991)[9], in 1986/7 the various regional institutes of chartered accountants became increasingly concerned with whether sufficient numbers of accountants were being produced and whether standards were being maintained. The low number of accountants in South Africa appeared to be due to the high number of chartered accountants emigrating, and the long training

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8 Interview with Dr. H. van Greuning, formerly of Deloitte Pim Goldby. His doctoral thesis covered the perceptions of black articled clerks in white auditing firms. 1990.

9 Interview with Mr. P. Putland, researcher into the viability of the Eden Trust. 1991.

period required to produce accountants. Their research indicated that in order to address the problem, financial resources and equal opportunities were required for persons of all races. Students needed the resources and determination to complete their period of university study and articles - a process which took a minimum of seven years in total. For this reason the CAs' Eden Trust was formed. One of its important features is that it is not part of any of the current established accounting bodies and it strives to continue to be seen as being independent (Putland, 1991).

At that time, there was opposition to creating a "second tier" accountant, as it was felt that anyone was capable of becoming a chartered accountant, and that standards should not be dropped. However, according to Putland (1992), the problem in the present economy of South Africa is that chartered accountants are overqualified, and therefore too expensive for the South African job market.

Two organisations have therefore been created to attempt to supplement chartered accountants and to produce accountants with appropriate skills and experience to meet South Africa's needs. Firstly, the Institute of Commercial and Financial Accountants accepts students with a junior certificate (Standard Eight) as opposed to the senior certificate (matriculation / Standard Ten) required by universities. The qualification can eventually be used as entry to university and / or articles of clerkship. Secondly, the Institute of Chartered Secretaries and Administrators has set up a Trust Fund similar to the CAs' Eden Trust. This institute runs large programmes through companies and the Technikons, producing Chartered Secretaries and Administrators, a recognised qualification. They accept about three times as many students as the CAs' Eden Trust. There is a feeling that these qualifications are more economical, more practical in their orientation, and better suited to South Africa's long-term needs than the qualification of chartered accountant.

2.3.4 Racism in the corporate sector

Problems with racism in the South African corporate structure are found on two levels.

In the first instance, Murray (1990)[10] found that black articled clerks had experienced resistance from clients who would not accept their authority.

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10 Interview with Ms A Murray. Tutor on the Deloitte Pim Goldby Academic Support Programme. 1990

Secondly, problems related to the employment of black articled clerks with auditing firms have been identified. These have been classified into three categories - recruitment, work environment and lack of motivation for change.

Recruitment

Most auditing firms recruit only at a graduate level. Since there is generally a high supply of white students, it is not necessary for firms to look for non-traditional recruits, notwithstanding the 10% voluntary code of employment (Curtis, 1990).

Van Greuning (1990) found that recruiting personnel often did not select students who did not conform to their cultural preferences. His rationale for this bias was that firms experienced less difficulties with recruits who had graduated and were from a similar cultural milieu. Many black recruits had often not yet graduated and therefore had to complete their studies part-time. They also had difficulties adapting to the work environment. For this reason, firms recruiting black students would only take on students who had been educated at "open"[11] universities or private schools (Murray, 1990). Murray (1990) also thought that part of the problem was the difficulty in identifying a potentially successful accountant, since few reliable criteria were available.

ABASA agreed that this type of "institutional" racism occurred in the recruitment of trainee accountants.

Putland (1991) found a shortage of positions for articled clerks in South Africa, due to firms merging and the consequent operation of economies of scale. Nombembe (1991)[12] agrees with him. He stated that it was particularly difficult for a black person to sign articles with one of the larger firms in a city such as Johannesburg, Cape Town or Durban. He also felt that the smaller firms did not give the clerks the necessary client exposure and experience. The alternative of allowing training in a non-auditing environment in order to increase the availability of training, and to create a chartered accountant who was suitably qualified for the South African economy, has not been accepted by the profession on the occasions that the issue has been raised (e.g. recommendations of the Loubser Commission, 1980).

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11 "Open" universities are those which accept students of all races.

12 Interview with Mr. Terrence Nombembe, a qualified chartered accountant from the black community, 1991.

Work environment

It appears that white clerks were often reluctant to work with and share their experience with black clerks. This has led to attitudinal problems for clerks of both races. Black clerks in firms also had a lot of "unoccupied time" [13] (Van Greuning, 1990). Problems arose during performance appraisal and evaluation, with upward mobility not always being encouraged in black clerks (Ramano, 1990). Hawksworth (1991) found that trainees believed their work was not challenging, and was unrelated to their academic needs. Problems with self-confidence arose due to a feeling that they were "tolerated rather than accepted" and that "opportunities for promotion in accounting firms were lacking" (p. 137). Difficulty was also often experienced in dealing with the clerical staff at client companies.

Lack of motivation for change

There are a number of reasons for the apparent lack of motivation for change on the part of auditing firms. The first is the time frame involved. Benefits relating to expenditure on education and academic support of persons from the black community are only likely to accrue in the future. Secondly, firms are in competition with each other. This has, to a large extent, prevented mobilisation of funds for increasing the number of accountants from the black community and the free exchange of experience and expertise in the field (Ramano, 1990). A recent exception to this has been the creation of the CAs' Eden Trust. Firms tend to lose their black recruits to commerce and, in addition, due to the high marketability of South African chartered accountants in international markets, the retention rates, particularly of white recruits, is low. A combination of these factors has lead to the perceived shortage of qualified accountants. However, these problems do not appear to have become drastic enough yet for action to be taken (Van Greuning, 1990).

Attempts at addressing the problem

ABASA is trying to overcome the problems of racism in the corporate sector in the following ways:

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13 "Unoccupied time" is time which is not spent at a client and can therefore not be charged to a client. The implication of this is that the clerk does not gain sufficient auditing experience in the times spent unoccupied.

- the "Building Bridges" programme whereby members discuss issues with the senior partners of accounting firms and
- by setting up a data base of all qualified black accountants, and black Bachelor of Commerce students. This provides a pool of potential black employees for firms to assist them in meeting the 10% goal for recruitment of black trainee accountants.

ABASA gives support to programmes instituted by the firms. In addition, the SAICA has produced a guideline on mentorship. This is felt to be particularly useful for implementation with black trainee accountants (Hawksworth, 1991).

2.3.5 Financial factors

Three issues were found to be prominent:

- the costs of academic support programmes;
- ways in which money has been mobilised in order to overcome those costs, and
- suggestions as to how money could be spent most efficiently.

The costs of academic support programmes

The following figures were quoted by persons interviewed:

PROTEC	The cost per student is between R 900 and R 1 000 per year, inclusive of all costs. The programme reaches about three hundred students annually from Standard 8 to 10.
UCT	The Academic Support Programme allows students to complete their first year in two years. Students pay normal fees for two full years. The programme is not financially self-supporting and runs at a cost of between R 100 000 and R 200 000 per year - including personnel costs.
PBS, WITS	Companies are charged for the services of PBS. The programme is self-supporting and does not receive a government subsidy. It costs approximately R 14 000 p.a. to maintain a PBS student. This amount includes tuition, residence on campus, books, travel, pocket money and an initial clothing allowance.
Cactus	Fees are determined from rates set per subject per module per student. Financial assistance is not given to students attending the programme.

Anglo American	Bursaries and scholarships are given to students, who have their full fees paid, receive a cash allowance of about R 2 000 and have paid vacation work. Students who fail are required to pay the amounts back or to repeat the year at their own expense. Commerce students are required to work for the organisation for two years for every three years of study. Financial support of students alone, however, has been found to be insufficient, and bridging is often necessary, which costs an additional R 4 000 per student. In total it is estimated that R 15 million per year is spent on interviewing, selection, career guidance, recruitment, bursaries and scholarships for accounting and engineering students.
WITS Academic Support Programme	No charge is made for the tutorial services offered. Lecturers assume responsibility for the tutorials along with their normal teaching load. The only additional costs are the salaries of the three graduates who run the accounting clinic.
LEAF College of Commerce and Engineering	The purchase of the college buildings and grounds was sponsored by Anglo American. Costs amount to R14 000 per student per year. Most of the students are residential and are sponsored by companies and private individuals. Students are encouraged to contribute towards the cost of the programme, even if this consists of only a nominal amount per year .

Mobilisation of funds

According to Putland (1991), the long training period of accountants, with its accompanying costs, discourages many potential candidates from the profession. Mobilisation of funds by the profession to support candidates was therefore instituted via the CAs' Eden Trust. In addition to the accounting profession, commerce and industry also donates substantial amounts to the trust. The scheme also enables smaller organisations, which would not normally be able to participate in such schemes, to make a contribution. To date (1991) 155 bursaries have been awarded to persons from the disadvantaged communities. See Appendix M for the latest statistics.

A further source of funds is ABASA, which has set up a "black female" bursary scheme, awarding ten bursaries thus far.

Most of the funding of the university academic support programmes is through grants from foundations and the private sector. The programmes attempt to obtain financial assistance covering at least tuition costs and residence fees for their students. In general, most students obtain financial support from bursaries.

Use of available funds

Van Greuning (1990) feels that the people heading the accounting profession have a lack of real understanding of the reasons for the shortage of black accountants, and that the solution is not just a financial one. In his opinion, inappropriate, costly first world solutions are being attempted in South Africa by spending large amounts of money on individuals, when addressing the problem at a more fundamental level could be achieved at a substantially lower cost.

Nombembe (1991) felt that commerce and industry played an important role in finding traineeship contracts for bursary students, supporting and subsidising them during their traineeship and providing students with a job once they were qualified. However, a result of this was that, as Spence (1990) found, students would often apply for any bursary just to be able to get financial assistance to study, without a clear idea of what they wanted to study, or an understanding of that career.

ABASA directs some of the funding it receives from external sources to bursaries for Municipal Accountants and Commercial and Financial Accountants, who it feels have an important role to play in the future South Africa.

2.3.6 Macro / micro environment in South Africa

These environments refer to the societal and the individual contexts of black accounting students respectively.

Macro environment

The macro environments which impact on the research problem are society, business and the university environment.

Society

Ramano (1990) feels that the macro environment in South Africa needs to become conducive to the development of the profession. Two issues are important in this regard - perceptions of accountants by black political groupings, and black education. Based on its observations of other post colonial African countries, ABASA is attempting to encourage an understanding of the role of accountants in managing the economy. A "Black Business" award was designed to encourage this emerging sector of the economy to use accountants.

Business

As long as the commitment to black advancement is only a social/moral commitment, there will be no progress, is the opinion of Van Greuning (1990). He feels that black advancement will only succeed when it occurs as a result of rational business decisions. In his experience, in accounting practices where decisions have been made in this way (for example in Umtata), there is a superior utilisation of black staff. He feels that academic support should not be 'sold' in a patronising way as a 'hand-out' to blacks. Employment contracts should be equal towards all staff with provisions for dismissal on failure. Moore (1990) agrees with this view.

Curtis (1990) found that black students engaged in vacation employment programmes, who were working in a politically conservative environment, initially encountered some problems with superiors and colleagues. Most of these could, however, be satisfactorily overcome, and the experience was usually beneficial to all parties involved.

University

Pillay (1990) found resistance to commerce academic support programmes from the extreme 'left' on campus, who wanted a complete restructuring of the university.

Curtis (1990) noted the difference in orientation between the Pre-University Bursary Scheme and the Academic Support Programme at the University of the Witwatersrand. The Academic Support Programme is financed by the Anglo Chairman's Fund, as a charitable organisation, and is thought to have a more socialist orientation, its aim being to assist students without resources who are registered at the University of the Witwatersrand. By contrast, Pre-University Bursary Scheme students have been selected for their potential for succeeding and have entered into a commercial contract with their bursars and the Pre-University Bursary Scheme unit. There are therefore perceptions that the Pre-University Bursary Scheme is elitist.

While there is not necessarily direct contact with the Black Students' Society by students participating in academic support programmes at WITS, students in residence were found to be strongly influenced by the opinions of members of this society, which has an anti-establishment tradition.

Micro environment

Pillay (1990) found that some students had problems adjusting to what is often a hostile environment (that is, differing in terms of culture and economic principles) to them. In addition, the home environment of black students was often not conducive to studying (Van Greuning, 1990). Students often came from an impoverished background, both materially (for example, where homes do not have electricity) and culturally (many have illiterate parents). At university, and later in the work place, they are expected to be able to deal with modern technology and to have business awareness, but a lack of background understanding of business existed, as well as inappropriate social skills, due to limited experience in the commercial world.

Spence (1990) agreed that black students experienced major culture shock when entering university, especially since a lot of the better students come from the homelands and not from townships. He found that students' value systems and priorities were often different, for example, traditional status symbols such as clothing and hi-fi systems were purchased, rather than books and there were problems with alcohol abuse. A percentage of students was found to have medical and psychological problems. He also commented that since students are fairly young, all students are often in a state of turmoil regardless of race or background. However, amongst black students these problems are compounded by uncertainty as to their status within the university environment, the future commercial environment and their home background. Students are also under pressure from all of these communities to achieve. There are therefore considerable identity problems, resulting in a lack of social security, which he saw as an impediment to the success of students. Isolated students have difficulty succeeding, especially since their cultural background is different to that of the "mainstream" university students.

Van Greuning (1990) believed that persons in control of programmes had to be frank with students and address a variety of potentially sensitive issues, including cultural ones. Spence (1990) said that students who had the potential to succeed academically often lacked the personality and social skills necessary to survive once they had qualified and were required to work in predominantly 'conservative' white areas. Problems often arose when students who were not achieving academically were asked to leave their firms. This underlies the serious need to be able to assess the potential of students in terms of logical

reasoning ability and work aggression, since such students may have the potential to succeed.

Two additional psychological issues were raised by interviewees. Murray (1990) found that clerks studying part-time while working had believed that they would not succeed; this became a self-fulfilling prophecy. On the other hand, it was the experience of Curtis (1990) that there appeared to be a perception in black communities that a non-white student entering university was 'perfect'. In addition, there is substantial pressure on these students to succeed academically by the university, the bursar companies and the home community. Consequently, any academic problems encountered by a student while at university create significant psychological problems with the student's self-perception. Students often become disillusioned and fail. Students do not want to admit to difficulties with coping and do not make use of the support structures which are available, since they are often not aware of their own needs (King, 1990).

Attempts at addressing the problem

PROTEC attempted to establish what made the difference between successful and unsuccessful students. The following factors were identified as being important:

- home environment;
- contact with the work environment;
- education;
- community and resources ;
- attitude.

In order to reduce problems encountered by disadvantaged students in these areas, the following features were integrated into PROTEC's programmes:

Home environment	Programmes aimed at educating the parents of participating students were started, to help with factors such as support, finance and health, *inter alia*.
Work	The programme provides students with relevant work experience for two weeks a year, as well as role models with whom they can talk about their work experience. Facilitators of the programme all have full-time jobs, as opposed to being only teachers. Site visits to various commercial entities are organised on a regular basis.

Education	PROTEC provides a seventy day programme, divided into Saturday schools, Vacation schools and a camp. As PROTEC aims to cover scientific and technological careers, the emphasis is on mathematics and science. However, broad enrichment of the student is attempted to enable students to fit into the career of their choice.
Community	PROTEC found this to be the weakest link in its endeavours. Community projects are instituted, the programme liaises with the community and undertakes to get broad representation from the community, in order to assist with matters such as fund raising.
Attitude	PROTEC attempts to facilitate "the development of adaptive, appropriate and effective attitudes within interactions and situations important to students' progress", in order to encourage students to become more motivated, enterprising and resourceful. Improving students' self-esteem and self-confidence and enabling students to assess the implications of their actions on their own lives and the lives of others is another aim of the programme (Louw 1985).

2.3.7 Educational factors

These factors can be sub-divided into two broad categories:

- educational structures;
- deficits in learning.

Educational structures refer to the broad institutional and organisational factors in the macro environment in South Africa which impinge on the research problem. Deficits in learning, on the other hand, refer to the learning problems of individuals or groups of individuals, which have been identified.

Educational structures

This review will not examine the Department of Education and Training structures created during the apartheid era in South Africa, as introduced in chapter one, but will focus specifically on education structures relating to the training and accreditation of accountants. The findings of a research study commissioned by ABASA on accounting educational and institutional structures will be referred to.

Accreditation

The first issue which is relevant to the current education structure is the question of accreditation; that is, the right to prepare students for the Qualifying Examination of the Public Accountants' and Auditors' Board. The history of accreditation is as follows.

When the Public Accountants' and Auditors' Act came into being in 1951, all "white" universities in existence at that stage were accredited. The University of Fort Hare, a "black" university was not accredited. Only one "black" and one "coloured" university have been accredited since. It is felt that adequate resources are not allocated to all universities and that "non-white universities" are penalised thereby (Ramano, 1990). Van Greuning (1990) agrees with this view. Black respondents to his research had indicated that "ethnic" universities often had Afrikaans speaking lecturers, with an inadequate grasp of English, lecturing in English. This led to the assumption by lecturers that the students' problems lay with their understanding, rather than with inadequate lecturing. On the other hand, a further issue impacting unfavourably on potential accountants from races other than white is that lecturers and tutors at white institutions appear to be reluctant to handle the changing profile of students from predominantly white to racially mixed (van Greuning, 1990).

Nombembe (1991) agrees that the resources at ethnic universities are currently not sufficient for accreditation, but feels there is tremendous potential at these universities. However, substantial financial aid in the form of lecturer remuneration and support would be needed before the universities would be granted accreditation.

Transfer of credits

The relationships between universities with regard to the transfer of credits from one university to another, or from Technikons to universities is not good. Often credits obtained at Technikons are not recognised at universities at all. This often results in a duplication of efforts on the part of both institutions and the students. In addition, there is little recognition in South Africa of foreign qualifications, and no reciprocal arrangements exist for the transfer of credits or for conversion between courses.

Knowledge emphasis

The nature of the training of accountants in South Africa is such that there is an emphasis on knowledge acquisition of a very specialised nature in the design of curricula at an undergraduate level. ABASA believes that the question of the training of accountants should be the responsibility of the South African Institute of Chartered Accountants, rather than of the universities (Ramano, 1990). This would result in training similar to that received by accountants in other countries, where professional status is acquired after the practical training and examination of post-graduate students from various other disciplines.

Admission criteria

The number of students entering university is limited by university entrance criteria. PROTEC found that many black students were inherently limited in their career choice by the subjects which they had chosen for matric (Hughes, 1990). Furthermore, statistics have indicated that only five hundred students produced by the Department of Education and Training (DET) per annum have the necessary matriculation exemption for university entrance (Spence, 1990). Nombembe (1991) stated that many black scholars avoid subjects which are perceived as difficult to pass, such as mathematics, although he considered the difficulty of such subjects to be over-emphasised. Students without the necessary exemptions frequently attempt to complete their first year at an ethnic university, before requesting admission to a white university. Such students then have to either write an admissions examination, complete a conversion course or take extra courses due to differences in syllabi and standards of teaching.

Van Greuning (1990) argues that greater potential exists amongst school leavers from the black community, but that ways need to be found to assess this potential. Anglo American, in its Cadet Scheme, attempted to use predictive tests in selecting students for its programmes and bursaries. The criteria used were: an upper limit of twenty three years of age, academic potential, leadership qualities and maturity. The tests were found to be ineffective for success prediction (Spence, 1990).

Pillay (1989) felt that due to the differences in matriculation standards between various racially defined educational bodies, the matriculation marks of students coming from DET schools were an unreliable predictor of university performance. This has wide-reaching implications for a university, which go beyond just providing academic support.

Part-time studying

Both Nombembe (1991) and Jita (1991)[14] completed a portion of their training on a part-time basis. According to them, this is common amongst black trainee accountants who, due to financial constraints, need to support their families and earn money while studying. The majority of such students study by correspondence through the University of South Africa (UNISA). Problems experienced with part-time studies included coping with the additional work-load, time management and lack of contact and interaction with lecturers.

Deficits in learning

Murray (1990), in her experience of tutoring black accounting students, found a considerable difference between the matriculation standards of white and black students. She compared this with Zimbabwe, where she had also taught, where all students had a common standard, namely A Levels. She felt that many local students lacked basic arithmetic and mathematics skills, as well as vocabulary. This made more advanced concepts more difficult to grasp. Pillay (1990) found that students on academic support programmes had similar problems to white students, but that these are compounded due to deficits in earlier education.

A particular problem which was experienced by students was in attempting to apply concepts to other situations. The teaching of thinking and learning skills to overcome these problems was felt to be a specialised area for which there was not sufficient time during normal teaching (Murray, 1990).

Curtis (1990) found that different students had different levels of problems and had to be handled separately, to prevent boredom in some students, while others struggled to cope. Some students could overcome problems on their own, while others needed to be helped. He felt it was therefore important to assess students individually, with the use of diagnostic testing and to respond accordingly. King (1990) agrees with this view.

Van Greuning (1990) felt that support programmes could not be successful unless skills deficits were acknowledged by both the student and the programme.

14 Interview with Mr. Cornelius Jita, a qualified chartered accountant from the black community, 1991.

Language problems

Curtis (1990) found many students who were unable to interpret written English at the required level. Students also had problems expressing themselves in oral and written form - especially in formal rather than colloquial English. Murray (1990) and Van Greuning (1990) agreed that language was a major barrier, with non-fluency slowing the learning process. Pillay (1990) found that language and communication difficulties manifested themselves in a lack of confidence in speaking and in asking questions. Nombembe (1991) agrees that language is a problem for many black students for whom English is not their home language. Difficulties were experienced mainly with interpreting instructions in tests and examinations, and in answering essay-type questions. By contrast, Jita (1991) initially thought that having English as a his second language was not a problem until the simulated examinations of a Board course made him aware of the fact that he was misinterpreting the requirements of questions. King (1990) agreed with Murray (1990) that university faculties were often not qualified to deal with these problems.

Numeracy

Curtis, Pillay and Van Greuning (1990) agreed that deficiencies in numerical, arithmetic, mathematical, analytical and logical skills arise from problems in the black secondary schooling system. King (1990), however, found that similar problems were manifested in students of all races, but that they were merely aggravated in black students.

Rote learning

Curtis (1990) found that students relied on rote-learning methods previously employed. However, the volume of academic work renders these learning methods ineffective and inappropriate.

Attempts at addressing the problem

The problem of the low number of black accountants in South Africa has not, despite its efforts, been addressed successfully by ABASA. Its Centre for Accounting and Management Studies was closed down in 1989 due to lack of resources. In 1987, ABASA in conjunction with the University of the Witwatersrand, attempted to set up a programme for high school students to create mathematics and commercial awareness. This was not successful due to a

lack of support and interest from commerce and industry (Ramano, 1990). Jita (1991) feels it is very important that academic support starts with high school pupils.

A project named The Future of Accountancy Education in South Africa (FAESA) has been initiated, inter alia by ABASA. One of the aims of the project is to conduct research into commerce faculty curricula; another aim is to sensitise accountants to broader socio-economic issues and ethics in the training of accountants.

King (1990) views the nature of learning accounting as being primarily a function of practice. Support systems therefore, need to give not only extra explanation, but also more opportunity for practice, with extra tutorials, and simulated examinations.

Van Greuning (1990) feels that students should be given the opportunity to write the Qualifying Examination in their home language. He also argues that money is being wasted at a tertiary educational level, when more work has to be done at a primary and secondary school level. PROTEC appears to agree with him, and has adopted a successful approach to the problem of a shortage of engineers by concentrating on two areas, namely, the development of an awareness of engineering and the development of the skills of participating students. In respect of the development of skills the following is emphasised:

- teaching new or more effective strategies and techniques for problem solving and decision making;
- exposing students to more appropriate study methods;
- encouraging students to become more organised, active and independent in the management of personal, educational and career goals;
- promoting more effective and adaptive communication;
- encouraging critical thinking, that is questioning open-mindedly and objectively the reasoning and value judgements of opinions, statements and situations.

As discussed in chapter one, university commerce academic support programmes were designed specifically to address the problems created by the poor primary and secondary schooling of black students. The experiences and research resulting from the work of these programmes is discussed in detail in chapter three.

2.4 Conclusion

This chapter describes the results of interviews conducted to identify reasons for the shortage of accountants from the black population in South Africa.

Of seven major factors identified, it is the realm of education which is of interest in this research. In order for the accounting profession to achieve its aim of "20000 chartered accountants by the year 2000", creating awareness of the profession and improving its reputation in the black community will merely create aspirations in potential black accountants. It is how the profession addresses and helps candidates to realise those aspirations which is important. This would appear to require more than the current endeavours of the profession and the CAs' Eden Trust, irrespective of how laudable these may be.

In the words of Nombembe (1991):

> *"The university syllabi are so great - assistance is needed to focus on important areas, even if background and any other problems students face are ignored ... out of class-room assistance is important - especially for part-time students who cannot afford full-time studies ...*
>
> *"There is a great need for academic support programmes ... to help prepare students for the Board exam - without these, success would be impossible ... people do not really pass or fail due to the amount of knowledge they have ... they need guidance from people more experienced."*

The research shall now proceed with a literature review in order to identify research relating to academic support programmes, education and, in particular, accounting education.

Academic support organisations will then be surveyed to establish the forms their endeavours have taken in attempting to overcome the shortage of black graduates in accounting. This will be contrasted with the theoretical constructs and hypotheses derived from the literature review and the survey results of this chapter, as well as with the perceptions of qualified accountants from the black community. These accountants will be questioned as to what their personal experiences were, what they perceive the current reality to be, what they feel is necessary for the future and which factors they considered to be critical to their success.

Conclusions as to the way in which the profession should proceed in its task in attempting to increase the number of accountants from the black community, so

as to better reflect the composition of South African society as a whole, will be highlighted in chapter six.

CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

The objective of this chapter is to review and integrate the literature relevant to the field of study.

In examining reasons for the limited success in increasing the number of black accountants in South Africa, three research areas appear to have relevance. These are:

- academic support programmes;
- cognition, learning and education, and
- accounting education.

The chapter will commence with an examination of academic support programmes. The background to such programmes, research about the nature of programmes and issues facing administrators of such programmes will be addressed. Research in cognition and learning will then be explored, in order to acquire an understanding of learning theories essential to academic support programmes. This chapter will attempt to establish an understanding - at least on a theoretical level - of the issues involved in the implementation of academic support programmes, thereby identifying factors to be considered in programme design. In reviewing the literature, particular emphasis will be placed on accounting education. The section will conclude with a summary of characteristics of successful programmes.

Research exploring the characteristics of students from disadvantaged backgrounds constitutes the next section. The literature will be examined using Bransford's taxonomy of learning research (1979), within the categories of:

- "Characteristics of the learner (for example skills, attitude, knowledge)
- Critical tasks (for example recognition, recall, transfer, problem solving)
- Learning activities (for example attention, rehearsal, elaboration)" (p. 121),

followed by a discussion of cognitive theory relating to students, psychological theories of motivation and achievement and sociological theories about the impact of environmental factors on such students.

The chapter will conclude by identifying perceived gaps in the literature and the need for and relevance of this study.

3.2 Academic Support Programmes

Academic support programmes will be discussed under the headings of background and motivation, academic support programme assumptions, academic support issues and characteristics of successful academic support programmes.

3.2.1 Background and motivation

Deprivation in black education in South Africa has been documented extensively (for example, the De Lange report, 1981). The existing socio-economic and political system in South Africa, political intervention in secondary and tertiary education and high entrance requirements to universities and technikons have served to limit the number of black students entering universities and technikons. For example, in 1988 only 7% of the student population at the University of Cape Town consisted of black students (Weil and Molteno, 1992). In 1989 only about five hundred black students obtained matriculation certificates with exemptions in science and mathematics (Hofmeyr and Spence, 1989), both prerequisites for university study in several courses. Until recently, black students were not permitted to study at 'white' institutions without ministerial approval.

Recent shifts in admissions policy by several universities have assisted in overcoming the above-mentioned limitations, but have, however, created the problem of how to assist entering students to succeed at university. While it can be argued that necessary skills need to be addressed and developed at secondary school level, it would achieve nothing to neglect or ignore students currently in the system, while waiting for change at school level. Certain issues, therefore, have of necessity to be addressed at a tertiary educational level. In response to these needs, academic support programmes have been initiated at both individual faculty and university-wide levels at most 'white' universities in South Africa.

The central question facing existing and new academic support programmes is whether the programmes are successful or not. The answer to this question is aggravated by disagreement on what constitutes a successful academic support programme, as programmes are often based on fundamentally different assumptions in respect of the underlying problems facing students.

Success could imply varying degrees of academic success by the students. Another measure of success could be the more subtle results of teaching and learning, whereby the importance of a student's social gains are deemed to be as important as cognitive and academic progress and achievement. Opposing assumptions, and alternative definitions of success have resulted in conflicting opinions as to the success of programmes (Williams *et al*, 1987).

The various assumptions underlying academic support programmes will now be discussed, followed by an examination of a number of important issues which have emerged from research in the area. The characteristics found to be common to successful programmes in practise will conclude the section on academic support programmes.

3.2.2 Academic support programme assumptions

Agar, Hofmeyr and Moulder (1991) categorise academic support programmes according to the following paradigms:

- deficits in learners;
- learner growth;
- societal change, and
- problem solving.

These categories will be used to discuss the assumptions underlying academic support programmes.

Deficit paradigm

According to Moll and Slonimsky (1989), the need for academic support appears to stem from three basic assumptions (with corresponding theoretical frameworks) concerning the nature of the problems facing educationally deprived students. These assumptions are:

- that students have not developed the requisite abstract cognitive structures necessary to make data accessible for abstract processing of data;
- that students lack academic and cognitive skills, and
- that students lack linguistic competence.

These assumptions all lie within the deficit paradigm, in which emphasis is placed on the deficiencies, inefficiencies and problems of the student. Since this is the

most powerful paradigm operating within the field of compensatory and enrichment education (Agar *et al*, 1991) it will be discussed in detail.

The first assumption implies that students function at a primarily concrete level in their thinking. Moll and Slonimsky (1989) feel this is true of only a small minority of academic support students.

Shute's 1979 report to the American Accounting Association (AAA) entitled "Accounting Students and Abstract Reasoning: An Exploratory Study", refutes this contention. Using the Piagetian theory of cognitive development, he concluded that most students only have the ability to handle observable data, which does not require abstract reasoning.

Miller (1989) disagrees that students may not understand a principle due to a lack of the requisite cognitive structure - that is "mental operations or rules" (p. 154) - necessary for understanding. An alternative hypothesis proposed by him is that academic support programme students have an understanding which is qualitatively different to others in that the learner perceives the task he or she is engaged in differently to other (successful) learners, or to the teacher or person setting the task.

The second basic assumption, namely that students lack certain academic and cognitive skills, suggests that students need to be made aware of the different skills necessary for different academic tasks, and to learn how to mobilise these specific skills. This is the most popular view of the learning problems facing students (Moll and Slonimsky, 1989). Miller (1989) feels that students are capable of learning to do academic tasks, but have not had either the necessary guidance or the opportunities to do so. This possibility was demonstrated by Weil (1990), who developed a skills acquisition programme for accounting students.

The implication of the last deficit assumption is that because of a lack of linguistic competence - due to subject matter being presented in a second or third language - students have difficulty in translating abstract concepts into their first language and are accordingly forced into a concrete operational mode. Duran (1985) feels that in order for cognitive training to benefit non-English background persons, an understanding of how bilingualism affects cognition is required.

The different deficit assumptions made by programmes lead to different approaches to teaching and learning in academic support programmes.

Developmental theories of learning

Having reviewed the deficit paradigm of academic support programmes, developmental theories of learning will now be examined. The discussion includes, inter alia, the controversial distinction between cognitive structure and cognitive skills. For discussion purposes it is assumed that the learning of cognitive skills necessary for problem solving is not possible until the requisite stage in cognitive development has been reached.

Cognitive structure

The phrase "cognitive structure" is most frequently used within the Piagetian context in which cognitive development is thought to occur as a series of discrete steps, namely:

- sensory-motor;
- pre-operational;
- concrete-operational, and
- formal-operational.

Certain developmental theorists in the Piagetian tradition have added a fifth stage in cognitive development, namely, metacognition to this model (Kitchener, 1987).

Craig (1989), in assessing the teaching tasks facing academic support programmes, uses Strohm Kitchener's (1987, cited in Craig, 1989) division of the "cognitive act" into the following three levels of cognition: "first level cognition, where cognitive performance is exercised, metacognition, which is the knowledge, awareness and control of cognitive processes by an individual and epistemic cognition, which is the conscious interpretation of the nature and limits of knowing and knowledge" (p. 169).

Shute's (1979) work on accounting students, which concluded that students were not operating effectively at the formal-operational stage, and research by the AAA (1988) indicate that individuals need to progress from the concrete-operational to the formal-operational (or abstract reasoning) and metacognitive stage in order to function effectively as accountants. Shute (1979) found indications that the area of professional judgement involved formal-operational

processes and believed it necessary to foster and develop such processes. The issue, therefore, is how best to assist students in this progression.

The factors which Piaget felt affected cognitive development were:

- maturation;
- social transmission or education;
- physical and logico-mathematical experience, and
- equilibrium or self-regulation (Shute, 1979).

Maturation, which Piaget saw as the physiological development of the central nervous system, is uncontrollable, and not of relevance in this study, since the subjects are all adults.

Of the three other factors, Shute views two, namely education and physical and logico-mathematical experience, as being within the control of an educational programme. In addition, Shute thought equilibrium and self-regulation could be influenced by an educational programme. Shute proceeded from the premise that educational programmes can and should help students in the developmental task of progressing from a concrete-operational to a formal-operational stage. It is important to note that Piaget believed that education is ineffective until cognitive structures have developed to the point where the ideas being presented can be understood.

The social transmission factor has also been highlighted by Vygotsky (1978) in "Mind and Society" (discussed in section 3.6) and in Feuerstein's (1985) theory of mediated learning.

Feuerstein (1985) divides the 'mental act' into three phases, namely input, elaboration and output, and suggests that each phase could be potentially deficient in cognitive functioning. According to Feuerstein (1985), the cognitive development of a child depends on the role of human agents in influencing the interaction between the child and external stimuli. Feuerstein refers to this intervention as "mediated learning experience" (MLE). He postulates that a lack of effective mediation can lead to deficiencies in the various phases of the mental act. A lack of MLE can be a result of either a lack of mediation from the parent or 'significant others', or a result of barriers from the child. The consequence is a diminished level of cognitive functioning. Since Feuerstein's research was aimed primarily at disadvantaged persons, it is of particular relevance to this study, which has disadvantaged black students as its subject. Support for this view of deficient cognitive functioning is found in research which has indicated *inter alia*

that parental guidance affects the way in which young children's problem-solving occurs (Richards and Siegler, 1981, cited in Chipman and Segal, 1985), that parents' ways of directing children differ between social classes and ethnic groups (Wertsch, 1978, cited in Chipman and Segal, 1985) and that parents cannot transmit skills they have not developed and practised themselves (Ogbu, 1978, cited in Chipman and Segal, 1985).

An important factor in this regard is that various "protocols" (customs or unspoken rules) exist within the work or academic situation. Managers or tutors are often either unaware of or unable to explain the assumptions behind processes, procedures, meanings and contexts underlying these conventions (AECI, 1988). This impacts particularly on high-risk students, since these protocols are never made explicit to them and their understanding ability is impaired due to deficits in their MLE or socialisation.

In contrast to Feuerstein's model, which focuses on cognitive deficiencies, Sternberg's (1985) research postulates which cognitive components should be present in a successful learner; his model includes metacomponents as the "higher order control processes that are used for executive planning and decision making in problem solving" (p. 226). A fundamental task facing educators, not only of academic support programmes, but of all students, therefore appears to be to encourage a progression by students toward the acquisition of abstract reasoning and metacognitive skills.

Merton (1976, cited in Williams *et al*, 1988) asserts that students make a conscious choice to learn either in a deep-level or surface processing manner, depending on the way in which instructional tasks are interpreted. Milton, Pollio and Eison (1986) noted in their research that if students are aware that material is not included in an examination, learning often ceases. Furthermore, "students abandon higher-order learning techniques in favour of rote memory techniques if an examination is to have 'objective' rather than 'essay type' questions" (p.105).

In a research study conducted by Baker and Simon (1987), it was found that the majority of the questions in the American CPA examination assess the ability of students to use concrete-operational level cognitive skills, rather than abstract reasoning and higher-level cognitive skills. Recommendations to improve examinations included the testing of higher level knowledge, and more emphasis on quality feedback to students.

According to Pask (1976), students approach deep-level processing using either a holistic strategy, which attempts to develop a broad view of the topic and how the subject relates to other topics, or a serialist strategy which attempts to develop understanding in a linear sequence. Ability to utilise both strategies is important, since each is suited to particular learning objectives.

Brown (1980, cited in Brown, 1985) contends that metacognition as the final stage in cognitive development, only emerges as knowledge and skills in a domain become well developed. The acquisition of cognitive skills will now be discussed.

Cognitive skills

Bransford, Arbitman-Smith, Stein and Vye (1985) in their analysis of Whimbey and Lochhead's (1979) cognitive skills course, identified four assumptions made in the programme which link physical skills to cognitive skills. These are the following:

- thinking is a learnable skill rather than an innate ability;
- the phases of demonstration and practice and feedback are important in the development of thinking skills;
- in contrast to the observable nature of physical skills, the process of thinking has to be made explicit, and finally that
- the skills take time to develop.

Many researchers believe that students are capable of formal-operational or abstract thinking, and merely need to be taught appropriate cognitive skills to perform successfully. Of particular note is the work of Sternberg on cognitive components (1985), Chipman and Segal (1985) on problem-solving skills and processes, Dansereau (1985) on factors leading to problem-solving failure and Weil (1989) on the characteristics of successful and unsuccessful learners based on an analysis of novice and expert problem-solvers in accounting.

Knowledge acquisition, storage and retrieval

Sternberg (1985) suggested that acquisition components were used in learning new information, retention components in the storing of information and retrieval components to retrieve previously acquired information.

Brown (1980, cited in Brown, 1985) saw the key skills involved in knowledge acquisition as knowing "when" and "what" one knows, as well as what one needs

to know and the benefit of taking active steps in changing one's current state of knowledge. Other research in this area has examined, *inter alia*, identifying and understanding skills of comprehension (Brown, Collins and Harris, 1978, and Olson, Duffy and Mack, 1980), aids to comprehension and memory (Mayer, 1979, Reder, 1980), and traditional study techniques (Anderson, 1980, and Brown, 1980) (all cited in Chipman and Segal, 1985).

Glaser (1985) highlights the problem of "passive knowledge", whereby knowledge acquisition occurs in students, but they are unable to put the knowledge to effective use in thinking and learning.

Relevant to this study are efforts to characterise states of knowledge, which involve the description and contrasting of the knowledge of experts and novices within a particular field - in this case - accounting (Weil, 1989). It was found that novices and poor learners had conceptual difficulties as a result of inadequate prior knowledge (Weil, 1989) and that students resorted to the first learned technique when placed in a stressful situation whilst solving accounting problems (Belkaoui, 1975). In contrast to novices, experts demonstrated sound knowledge of concepts and definitions, as a result of memorisation and prior experience (Weil, 1989).

The final deficit paradigm-related assumption of academic support programmes identified by Moll and Slonimsky (1989) is that of language. The cognitive aspects of this will now be examined.

Language

There are a number of potential linguistic problems facing black students, particularly within the context of South African English-speaking universities, as English may often be a second or third language to these students.

Duran (1985) has made an extensive study of how academic achievement is affected by bilingualism, ranging from noticeable practical difficulties to its effects on cognition. Only the most pertinent factors will be highlighted here.

Some examples of the effect of language on problem-solving ability include:

- difficulties with problem input, because reading is slower and less accurate in a second language;
- comprehension of the linguistic descriptions and instructions of a problem may be deficient;
- processing of the problem may be slower in an unfamiliar language;
- short-term memory capacity may be used for translation rather than for problem information and valid conceptualisation may therefore not occur;
- there may be significant time wastage due to translating information to and from the mother tongue;
- meanings may be altered during the translation process, and
- the quality of the language used in communicating a solution may be affected by awkward or incorrect syntax and word usage.

The consequences may be that because of language barriers, these students who may have similar abilities, do not translate these into academic success. Duran (1985) concluded that assessment and assistance should not only occur with respect to general language proficiency, but also with respect to preparing students with the language required to cope with specific problem-solving tasks.

A fundamental problem associated with using the deficit paradigm to underpin academic support work is that this may affect the relationship of the programme with the students. In order for such programmes to be successful, it is necessary for the students involved to acknowledge their "deficiencies" - a process which academic support personnel and researchers have discovered is highly traumatic for students who consider themselves to be "heroes" or "survivors". The process leads to resentment and aggression, with students disinclined to cooperate in voluntary programmes (Agar, *et al*, 1991).

Alternative academic support programme paradigms will now be discussed.

Learner growth paradigm

Proponents of this paradigm attribute problems with learner growth to the system of education. The emphasis is on the learning process and the individual's growth towards self-actualisation, rather than on the student's deficits (Agar *et al*, 1991).

Societal change paradigm

In this paradigm the support programme is seen as a mechanism for social change; the paradigm concentrates on the relationship between the programme and the wider society, to facilitate the changes considered necessary.

Problem-solving paradigm

According to this paradigm, learners are seen as problem-solvers. Concepts considered important in this paradigm are those of self-evaluation and critical reflection (Agar, *et al*, 1991). Sternberg's (1985) research is of particular interest in this regard. He identified performance components, which are processes used to execute and implement decisions and plans established by metacomponents, and transfer components, which are used to transfer retained information between situational contexts, as important to problem solving.

Chipman and Segal (1985) and Weil (1989) identified the following skills and steps as being important in problem solving:

- recognising, defining and identifying the problem by exploring elements and relationships;
- searching for related knowledge;
- organising and structuring the information gathered;
- formulating a plan for the problem-solving approach;
- solving the problem using the necessary data and arithmetic manipulations;
- monitoring progress and referring back to the available information;
- ensuring arithmetic and logic are accurate and made explicit where necessary, and
- checking results in terms of immediate and overall goals.

Dansereau (1985) and Weil (1989) also identified a number of factors which lead to failure in problem solving. These included:

- inability to define problems and poor perception of relationships, resulting from an inability to visualise a problem in its entirety and to establish the relationships between its component parts;
- language difficulties;
- a non-systematic approach to information gathering and lack of rigour in analysing questions;
- inability to operationalize knowledge;
- inability to generate questions in a situation of uncertainty, and
- inaccuracy in arithmetical and other mental manipulations.

The assumption which underlies this paradigm is that students can either be taught specific cognitive skills or be assisted to recognise and change deficits in cognitive functioning. Weil (1989), for example, has developed "Self-teaching units". These guide students through accounting problems by making the problem-solving process and underlying cognitive operations explicit, attempting

to encourage students to employ processes observed in "expert" problem solvers.

3.2.3 Academic support programme issues

Having discussed the different paradigms which underly academic support programmes, four major issues concerning academic support will now be considered. They are voluntary versus mandatory programmes, general versus course-specific programmes, developmental versus remedial support and methods and materials used.

Voluntary versus mandatory programmes

Whether attendance by students of academic support programmes should be mandatory or voluntary has created a dilemma amongst researchers and academic support practitioners. On the one hand, there is an awareness of the conflict between the freedom of choice of students and the fact that many students cannot succeed without the aid of such programmes. On the other hand, however, there is a problem with disinterested and unmotivated students who are forced to participate in such programmes and who jeopardise the programme for motivated students through their negative attitudes. Agar, Hofmeyr and Moulder (1991) strongly support compulsory attendance, with the proviso that students are "less resistant to support if it is coupled with reward and especially credits".

General versus course-specific programmes

Academic support can either be general or course-specific. The effectiveness of general skills courses has been questioned. Reasons include that students become unmotivated, since they perceive such courses to constitute an extra work load (Sanders, 1986), the transferability of skills between one context and another is increasingly thought to be limited (Perkins and Salomon, 1988), and progress in subject-specific courses is easier to monitor and evaluate (McDermott *et al* (1980c), Schochet (1983), Moulder (1983), cited in Sanders (1986)).

Schochet (1983, cited in Sanders, 1986), however, cites the advantages of subject-free material as limiting reliance on rote learning and allowing students to perform tasks which do not require subject-specific knowledge.

Developmental versus remedial support

Meyer (1989) has some interesting observations in this regard. She suggests that most programmes are based on a deficit model, which assumes that black students have inadequacies in language, communication and other cognitive attributes. Programmes which are geared towards overcoming these 'deficits' will allow students to compete equally with fellow white students. Such programmes, unfortunately, have not had significant success. In her opinion, this is because the underlying assumptions ignore the concept referred to by Human and Hofmeyr (1985, p.2, cited by Meyer, 1989) as "marginality". This refers to the situation in which black students often find themselves in predominantly white institutions, namely, that they "are on the margin of the mainstream, receiving a vast number of conflicting and ambiguous messages" (Meyer, 1989, p.5) from peers, sponsors, family, the community and the university fraternity. Meyer draws a distinction between black advancement, which is the development of black people's potential, initiated and put into operation by white dominated organisations, and africanisation, which comprises developmental programmes planned and administered by black people.

Meyer (1989) furthermore suggests that programmes should encourage quality learning, "in which knowledge is construed by learners as a result of active effort to abstract meaning and to relate this meaning to reality outside the immediate lecture or text " (p. 17).

Cherry and Reckers (1983) appear to be in agreement with this view. They found that the two factors mitigating against the success of accounting students were a failure to master the specialised vocabulary of accounting and a failure to understand and master the "systematic basis of accounting", which according to them was indicative of the deeper problem of "the lack of any challenge to the student to "think accounting" (cited in Weil, 1990, p. 23). Students need to be socialised into the new context in which they are expected to function with the necessary skills and attitudes, in this case, that of an accountant in a modern capitalist economy.

Methods and materials used

In studies concerned with the teaching methods of personalised systems of instruction (PSI), computer-assisted instruction (CAI), homework and the lecture method, it was concluded that there is little evidence that teaching

method or media employed influence learning, and that course content is the most important constituent of learning (Williams *et al*, 1987).

Superiority in innovative teaching methods has largely been attributed to their 'newness', which diminishes with time. The main advantages of personalised systems of instruction and computer-assisted instruction appear to be the ability to reach a large number of students in a cost effective manner (Williams *et al*, 1987). Research by Swartz, Davison and Bonello (1980) indicated that ability and personality type of target audience are important factors in the success of such methods. In a study of CAI for intermediate accounting students, Fetters, McKenzie and Callaghan (1986) found that the performance of weaker students tended to improve more than that of the average student (Williams *et al*, 1987). Personalised systems of instruction courses in accounting appear to have experienced high withdrawal rates and no consistent record of increasing student achievement (*ibid.*). As far as homework is concerned, the most important factor appeared to be the quantity and quality of feedback received, rather than the collection of homework (Austin, 1980). Milligan and Reid (1973) found that students who were required to put a solution on the board attempted significantly more problems prior to a class.

The lecture method appears to be most effective in respect of:

- disseminating the most recent information about a subject;
- summarising widely dispersed information;
- adapting information to a specific audience;
- providing a structure to help the student to read, and
- as motivational stimuli to the students (McKeachie, 1980).

To achieve these goals, the structure of a lecture should include objectives and a challenge to the students in respect of what they need to know, an amount of review and repetition to allow for recapitulation, and a conclusion of the major points covered.

Much research has been undertaken in relation to the association between aptitude and teaching methods. Findings have indicated that high ability students tend to be more effective in unstructured environments, with the converse being true for low ability students (Snow and Peterson, 1980). Students with field independence (strong abstract reasoning ability) appear to require less guidance in problem-solving courses than field dependent students.

Given the difficulties outlined above in respect of instructional materials, Chipman and Segal (1985) conclude, "It does make sense ... to invest in the alternative strategy of improving learners, rather than simply improving instructional materials" (p. 3).

Weil (1989) believes that this can be achieved by developing instructional methods and materials using a pedagogical style that attempts to infuse thinking skills into an accounting curriculum. Based on his research, which incorporated Sternberg's (1985) "cognitive components" and Feuerstein's (1980) model of deficient cognitive operations in students, he developed "self-teaching units" which attempted to set out concepts in an easily understandable manner and to alert students to and guide them in the usage of cognitive operations required to facilitate problem-solving in accounting.

Firstly, he highlighted the importance and necessity of connections or linkages between prior and future learning. Current learning was outlined and prior learning revised, so that new concepts could be integrated with prior knowledge. Tasks in the units were presented in a highly structured form, and students were taken through the steps of knowledge organisation, revision and the planning of appropriate problem-solving action (based on criteria set by Umapathy, 1984). To overcome the language difficulties and low levels of prior knowledge of students, problems were stated as simply as possible, and levels of complexity were gradually increased.

In order to address conceptual difficulties identified in students, understanding, rather than memorisation of concepts and definitions was encouraged. Important cognitive operations were highlighted by drawing students' attention to the need for systematic data exploration, guiding the student through the following stages of problem and concept definition:

- assessment of the relevance of items;
- highlighting alternative treatments of the same problem and encouraging elaboration and development of the information given.

In respect of the usage of data, students were encouraged to attempt better visualisation of relationships between items and to pay attention to underlying inferential-hypothetical reasoning. In focusing on these skills it was hoped that the quality of numerical manipulations - found to be a consequence primarily of visualisation of relationships and data analysis - would improve.

Based on the issues identified above and the findings of academic support programmes, certain features emerge which appear to be characteristic of successful programmes. These will now be discussed.

3.2.4 Characteristics of success

To assess what characterises a successful academic support programme, four sources have been used and their input combined. These are Agar, Hofmeyr and Moulder (1991), researching for the Education Foundation, Hofmeyr and Spence (1989), working with the Anglo American Cadet scheme, Sass (1988), working with disadvantaged engineering students at UCT and Sanders (1986), working with the Zoology Academic Support Programme at the University of the Witwatersrand (WITS).

For purposes of this section, characteristics have been grouped into fundamental and developmental factors. Fundamental factors refer to the initiation, implementation and continuation of programmes on an institutional level. Developmental factors pertain to the cognitive and personal development of students.

Fundamental factors

A factor considered to be fundamental to the success of an academic support programme is its credibility and legitimacy. According to Hofmeyr and Spence (1989), credibility needs to be present on a number of different levels - the user, the faculty, the donor and the community. Credibility, according to Hofmeyr and Spence (1989), leads to what they refer to as 'ownership' of the programme, in that representatives of the various constituencies are involved in, and have responsibility for all stages of the programme's development. It is felt that programmes should have full institutional and administrative backing (Sanders, 1986) and access to power and influence (Agar *et al*, 1991) within the institution. In addition, an articulated academic support policy and continuing reliable allocation of funds, including financial support for students, contribute towards programmes gaining legitimacy.

Direct faculty involvement was considered to be important, given the limitations of campus-wide programmes, where responsibility for the student's progress was diffused, and problems with co-ordination were encountered (Sanders, 1986).

The difficulty in attracting the right calibre of staff to mainstream university courses, is compounded in academic support programmes, where the work is demanding and recognition and promotion may be less forthcoming than would otherwise be the case (White, 1983, cited in Sanders, 1986). The quality of academic support staff, in terms of their attitudes and abilities, is a factor which is seen to be important. In addition to possessing the necessary skills, staff should also be committed and have positive attitudes and appropriate experience (Cooper, 1980, in Sanders, 1986). This is crucial, since role models have been seen to play a particularly important role in the success of high-risk students. In addition to the academic support staff, other staff members need to be sensitive to the needs of high-risk students in their classes (Tabberer, 1984, in Sanders, 1986).

Enthoven (1985, p. 29), in assessing accounting needs of third world countries, many of whose students face similar problems to black students in South Africa, suggests that the following questions need to be answered by accounting educators:

- "What is available qua skills and data?
- What sort and how many accountants do we have to educate for short, medium and long terms?
- Where and how shall we educate them?
- What should we teach and what material should we use?" (cited in Weil, 1990, p. 20).

Two areas of concern identified by Enthoven (1985) and the AAA (1978) were the lack of suitable teaching aids and the determining of relevant teaching approaches for a particular country.

The implication of fundamental factors as a necessary component for the success of academic support programmes is succinctly stated by Williams *et al* (1987), who concluded that:

> *"long-run achievement by minority students is not limited by factors inherent in race or sex, but by societal institutions and the people who control them" (p. 59).*

Developmental factors

Programmes need to provide developmental in addition to remedial support. For example, most studies agree on the importance of academic advice and counselling together with coursework and tutoring. Hampton (1979a, cited by Sanders, 1986) feels academic support programmes should involve social and

personal aspects in addition to content and skills. Sass (1988) sees accommodation close to the university, preferably in a university residence, as important in getting students to feel part of the university community. A "home-base" in the faculty where students could meet, would facilitate the formation of a supportive academic community amongst such students. Efforts should be made to develop a non-racial culture.

Orientation courses teaching study and note-taking skills, including small group studying and the importance of acquiring the attitude of an independent learner, were also highlighted by Sass (1988). Faculty involvement should include good tutoring and counselling schemes, with faculty contact helping students to develop strong motivation for engineering careers (Sass, 1988). An objective of the programme should be to encourage changes in the learning styles and attitudes of students (Hofmeyr and Spence, 1989). Agar *et al* (1991) also emphasised the need for adequate "time-on-task", courses providing subject-based knowledge, non-academic support, the use of new technologies and teaching/learning strategies, lengthened degrees and a research/evaluation capacity.

3.3 Students

In discussing tertiary education in general, and accounting education in particular, there appear to be two distinct issues pertaining to students.

The first, which Shute (1979) researched, manifests itself amongst most students. That is that many students' cognitive functioning appears to be deficient at the formal-operational stage and that students consequently have difficulty with the abstract reasoning necessary for the successful completion of advanced academic tasks. This section will thus initially address this issue. Thereafter, other factors influencing achievement and the prediction thereof will be addressed.

The second issue, which is more common to students from a non-traditional milieu, is that of socialisation. For purposes of this study, this refers to the ability to adapt to and eventually accept formerly unfamiliar social and work environments.

Environmental factors, including those of a socio-political and cultural nature, will also be discussed insofar as they pertain to the study.

3.3.1 Cognition and learning

Students experience a number of cognitive and educational difficulties in adapting to and succeeding in a university environment.

According to the AECI Report (1988), many of the tertiary educational difficulties of South African students are rooted in poor secondary education. The main issue identified was that inadequate study skills had been acquired due to a concentration on rote learning abilities, with insufficient attention paid to strategies which encouraged concept building.

Based on their experiences in secondary education, students perceive educational needs to be content- rather than thinking and learning skill-centred. They therefore tend to concentrate on 'knowing' work by rote learning, instead of on interpreting subject matter.

Rote learning contributes to poor problem-solving ability. Students with an inadequate grasp of the subject matter due to rote learning techniques are often unable to see the linkages between academic subjects and to bring appropriate data and concepts together and to present these within appropriate conventions. They therefore have difficulty in applying knowledge to different contexts and in analysing and synthesising problems. This led to the conclusion (AECI, 1988) that students were doing the wrong 'quality' rather than 'quantity' of work.

Additional problems of weak arithmetical and abstraction abilities and poor analytical and classification skills were found by these (AECI, 1988) and other (Weil 1990, Hofmeyr and Spence, 1989) researchers.

The effect of the above is that a student's apparent success in secondary education (because of lower or different standards) often appeared to lead to an unrealistic assessment by the student of his/her ability. Motivational problems frequently resulted when anticipated success was not achieved (AECI, 1988).

3.3.2 Learner characteristics

Bereiter and Scardamilia (1985) hypothesised that students with poor problem-solving abilities had developed "cognitive coping strategies" early in their school careers. These strategies were "powerful enough to override subsequent educational efforts to change encoding and operational strategies" (p. 66). Belkaoui (1975) concurs with this. He found that students resorted to the first learned techniques when placed in a stressful situation, such as examinations. A

prime example of "cognitive coping strategies " is the rote learning style found in many educationally deprived students.

3.3.3 Critical tasks

Siegler (1985) believes that encoding is a crucial part of problem solving and of cognition in general. Studies (Weil, 1989, Bouwman, 1985) comparing expert and novice problem solving have shown that experts use extremely sophisticated encoding. By contrast, novices' difficulties in solving problems are often due to inadequate encoding.

Siegler (1985) argues that new problem-solving approaches can be taught and that there are many reasons why problems are not perceived accurately from the beginning. One such reason is that encoding has to be fitted to the demands of a particular task. There are a number of ways in which an individual's encoding may not match the demands of a task:

- a relevant dimension may not be encoded;
- stimuli may be encoded on a qualitative level, when quantitative encodings are necessary;
- unnecessary dimensions or dimensions that interfere with performance may be encoded;
- a focus on one dimension to the exclusion of other relevant dimensions, or too little focus on the relevant dimensions;
- encoding could be at a lower level than is optimal;
- inadequate cognitive resources can be devoted to encoding, or
- an encoding could be wrong.

3.3.4 Learning activities

Duran (1985) separated formal problem-solving situations, such as those encountered in academic settings, into three sets of interactive activities. These are:

- problem input;
- problem representation and conceptual solution, and
- physical execution of solution.

Problem input refers to a person's initial perception and interpretation of information in the physical environment. Problem representation and conceptual solution refers to the predominantly mental acts that a person undertakes in solving problems. Physical execution of solution refers to acts performed by a

person in implementing the problem information in the external physical environment.

Bhaskar, Dillard and Stephens (1983) identified a learning activity which they named strategy transformation, whereby a novice develops the skills of an expert, but were unable in their research to explain why some students did not progress from the novice to the expert level. Umapathy (1984) explored the effectiveness of the use of algorithms in accounting education. He found that the limitation of algorithms was that certain algorithmic approaches did not help students develop abstract reasoning skills (cited in Weil, 1990).

3.3.5 Achievement

The prediction of student achievement has been widely researched. Many studies in education are concerned with related issues, such as admission criteria, characteristics necessary for success within a field and motivational and psychological factors (Gough and Hall, 1975, Lehr, 1983, Lenning, 1974, Astin, 1977, Merante, 1983, Baird, 1985, quoted in Williams *et al*, 1987).

The issue of student admission criteria is traditionally a problem at universities. As a result, in the United States of America, accounting education research into achievement has focused primarily on entrance tests (Williams *et al*, 1987). Achievement studies attempt to establish which intellectual correlates, such as grades and tests, and which other characteristics, such as personality, anxiety, attitude, habits, interest and others can be associated with, or can predict high levels of achievement.

Gough and Hall's research (1975) focused on the importance of non-intellectual variables in admissions' criteria, since intellectual or academic ability does not necessarily translate into professional performance (cited in Williams *et al*, 1987).

The relevance of predictive ability to academic support programmes in South Africa lies primarily in the identification of 'high-risk' students who have been admitted to university, who would benefit from such a programme. Prediction usually relies on a range of academic and/or non-academic criteria, which will be discussed briefly.

The most common academic criteria are school marks, standardised test scores, special entry tests and 'falter-first' methods (where the student is selected for

academic support programmes after poor performance at university) (Sanders, 1986). Of these criteria, school marks and 'falter first' are common to academic support programmes in South Africa. Test scores and entry tests are widely used in the USA, despite dissatisfaction with their use.

While these criteria are apparently objective and have validity and legitimacy in the eyes of students, their reliability within the South African context is often questioned. Research by O'Halloran and Russell (1980, cited in Sanders, 1986) concurs with the Human Sciences Research Council's (HSRC) warning that there is a low correlation between matric marks and success. In concluding that poor marks may be a predictor of failure, the converse was not a found to be a predictor of success.

The subjectivity of non-academic criteria such as interviews, questionnaires and personal references often raises legitimacy problems with the students concerned. Hunter (1983, cited in Sanders, 1986) supports the use of interviews for students who do not meet normal entrance criteria.

Often, however, the problem of selection is solved by the fact that many students are studying as a result of a prior selection by commerce and industry, with specific companies providing financial aid. Attendance at an academic support programme is often a condition of accepting such aid. This selection procedure, however, is also no guarantee of student success.

Communication skills are seen as an important element of student achievement within accounting education. In a study done by Estes (1979), oral and written communication skills were consistently ranked as very important for present and future success in accounting by junior and senior level accountants in public accounting firms, corporations and governmental organisations and accountants in education. However, in a survey of accounting department chairpersons and managing partners of large USA accounting firms, Andrews and Sigband (1984) concluded that new accountants were not sufficiently skilled to handle job requirements in the areas of written, oral and interpersonal communications, and attributed this to inadequate preparation and too little instructional time allocated to these skills by universities (cited in Williams *et al*, 1987).

Motivational and attitudinal factors also affect student achievement. High-risk students have been found to have a low self-concept and self-expectancy, and to be poorly motivated (Sanders, 1986). Failure often leads to loss of motivation, with students setting lower standards for themselves. Students may jeopardise

their chances of success by failing to make use of available formal and informal support structures. Belkaoui (1986) found a strong association between the need for achievement and career aspirations.

Students also appear to have unrealistic ideas about their own abilities and the type of work needed to succeed at university. Perceptions of academic support programmes as not meeting their personal needs result in a reluctance to participate in the programmes (Sanders, 1986). Student responsibility for the learning process also appears to be very important. A study by Lehr (1983) showed a significant rank correlation between students' achievement and their acceptance of responsibility for the learning process, as measured in a questionnaire (Williams *et al*, 1987).

Research by Duran (1985) cites evidence that lack of English language familiarity adversely affects college admission and success for adults from non-English backgrounds. Studies pertaining to the achievement of minority groups rather than student populations as a whole, have focused mainly on black students, and have recommended that the quality of their secondary education be improved (Thompson *et al* 1984, Keith and Page, 1985). Various attempts are being made in this area in South Africa, for example, Leadership Education and Advancement Foundation (LEAF), Programme for Technological and Engineering Careers (PROTEC) and the South African Council for Higher Education (SACHED). This does not, however, reduce or remove the need for the problem to be addressed at a tertiary level as well in order to prevent a skills gap in the existing generation of students.

3.3.6 Environmental

Black university students are confronted with, and have to adapt to, a different socio-cultural environment, with different group norms, than that which they are used to.

Factors which are seen as important in attracting and encouraging black students to pursue non-traditional careers are the presence of minority faculty, adequate funding, meaningful career counselling and role models and mentors (Williams *et al*, 1987). Fleming (1981) suggested that although predominantly black institutions may not always have the best resources, they may better meet the needs of black students because of overt racism and hostility facing such students at predominantly white institutions (Williams *et al*, 1987).

Students are poorly equipped in cognitive and social coping strategies necessary at university level, and have limited understanding of the 'hidden curriculum' - knowledge and understanding which is thought to be implicit in the educational process (AECI, 1988).

According to Morphet (1989), if one applies the work of Vygotsky (1978) to the problem of tertiary and adult education, a conflict exists between the "learning tasks generated by the modern formal economy ... and the learning histories of the majority of the population" (p. 54). Proceeding from the assumption that cognitive and problem-solving skills are socially learnt and internalised, it is hypothesised that if a society is stable, or change occurs at a steady pace, learning continues. However, if a society is unstable, or in a process of rapid change, a learning crisis occurs in which the traditional pattern of skills is no longer applicable. It is this situation in which black students find themselves in South Africa. Agar, Hofmeyr and Moulder (1991) found that students' problems at university were not only a product of inferior secondary schooling, but also of the informal education taking place in the home and community.

Duran (1985) felt that in addition to limited competence in English inhibiting the educational attainment of persons from non-English speaking backgrounds, associated socio-economic disadvantage also played a role.

Additional problems in the present South African socio-cultural climate include political pressures not to integrate with white students, combined with a reluctance to work and thereby be identified with the status quo by peers. This leads to isolation from the wider student support network (Hofmeyr and Spence, 1989).

Louw (1985) has conducted research into the role played by vocational guidance in advising black students. According to her, vocational guidance is a future-oriented process which is essential to both the individual and society. The process influences an individual's success or failure in his or her career or working life and affects the availability of persons to fulfil modern technological societal demands for specialised occupations. The conditions which Louw (1985) found to be necessary for the process of vocational guidance to be effective were:

- "self-knowledge / awareness (values, needs, interests, abilities, personality);
- knowledge of the outside world and opportunities;
- ability to gather and understand information;
- problem-solving and decision-making skills and practise;
- practise and ability to deal with risk and many alternatives;
- successful role models."

Louw (1985) also identified internal and external factors which were found to influence career choice either positively or negatively. These were:

Internal factors	**External factors**
Abilities	Family expectations
Interests	Cultural traditions
Needs and values	Social customs
Personality	Laws of the country
	Economic opportunities

Many aspects of the current South African situation mitigate against effective vocational guidance for the black community. For example, laws concerning educational and training facilities, living and accommodation possibilities and job reservation have been in existence. The needs and values of black students are strongly linked to family expectations and cultural traditions, which have historically excluded capitalist economic ideals. Attitudes and perceptions of employers, students, parents, authorities, educationalists and the community may be biased towards or against certain careers. The position of the disadvantaged community in particular, plays an important role. The general level of education is usually low, with a lack of successful role models. There is little experience of gathering, integrating and utilising information and in making decisions. The community may also have different values and concepts of work and needs. This is a particular problem in attracting prospective accountants, as accountancy is seen to be an integral part of the white dominated capitalist economy (Louw, 1985).

Louw (1985) does not believe that providing more careers' information is a solution to the problem, since careers' input in South Africa is too information-based and often does not take "students' existing positions, knowledge or alternative concepts into account" (p. 7). She calls for a more holistic approach, combining the schools career curriculum with life skills and encouraging employers to take an active role in the development not only of their employees, but of their children too.

3.4 Gaps in the literature

The major gap in the literature appears to be the testing and adopting of innovative teaching methods, especially in respect of disadvantaged students. "Very little research in accounting has examined the pedagogical needs of disadvantaged students" (Weil, 1989, p. 208), nor has a pedagogy evolved to address the development of thinking skills in accounting students. In similar vein, a lack of experiments dealing with the cognitive processes inherent in solving accounting problems is evident (Williams *et al* 1987).

With regard to academic support programmes, the literature does not provide evidence of the relative success rates of different academic support paradigms, nor of their relevance to accounting education.

3.5 Conclusion

A number of issues which are relevant to the research problem emerge from the literature review.

Many students of all races and in all academic disciplines experience cognitive and learning difficulties. However, social, economic and political factors which are particular to South Africa have combined to exacerbate these learning difficulties in the black population.

There are a host of learning and cognitive theories available which attempt to explain both the learning process, and reasons for problems experienced in the learning process. None of these, however, appear to have a proven track record in educational settings over a period of time. Academic support programmes have the most practical experience in the field, due to efforts in attempting to assist persons to overcome cognitive and learning difficulties experienced in tertiary education.

Agar *et al* (1991), surveying all educational support programmes, conclude that the following elements are critical to the success of such programmes:

- legitimacy;
- access to power and influence;
- experienced staff;
- proficiency in language and numeracy;
- adequate time on tasks;
- subject-based knowledge and skills;
- non-academic support;
- new technology / learning strategies;
- progressive selection procedures;
- lengthened degrees;
- compulsory attendance;
- credit-bearing courses;
- faculty integration;
- research / evaluation capacity.

Agar *et al* (1991) underline the distinction between finding an ideal and a replicable model of effective support programmes. Their criteria for replicability are transferability, affordability, and scale of needs, and they conclude that effective programmes in their present form are expensive, cannot be reproduced on a larger scale and have limited transferability.

Weil (1989, p. 215) concluded his research by stating that:

> *"the challenge facing South Africa, is to produce accountants from a non-traditional accounting milieu ... teaching students from disadvantaged backgrounds to be autonomous independent thinkers ... this is particularly necessary in the present South African situation, one where increasing numbers of students from disadvantaged backgrounds aspire to join the industrial sector of the economy, and in particular the accounting profession."*

This research will attempt to address the question of what is being done institutionally and pedagogically to meet the challenge expressed above, by conducting a survey of institutions and programmes undertaking this task. The questionnaires to be used in the survey will be based on certain factors, which appear to be crucial to the success of institutions and programmes, which have emerged from the initial survey and the literature review. These factors are needs assessment, objectives, educational methodology and evaluation. Their relevance to the study is discussed briefly.

Needs assessment

One of the problems of skills enhancement programmes (with the exception of Weil, 1989), appears to be inadequate assessment of the needs of students. Moll and Slonimsky (1989) found that most academic support stems from

assumptions that students lack either the necessary cognitive structures and cognitive and academic skills, or sufficient linguistic competence to succeed. As a result, many programmes appear to have been designed to address these broad assumptions, rather than the specific needs of particular students.

Objectives

Organisations which do not clearly define their objectives would be operating on an *ad hoc* basis. This could lead to difficulty in assessing the success or failure of programmes in meeting students' needs.

Educational methodology [1]

It is important that organisations have a sound educational basis for their efforts, so that students are not experimented upon without an identifiable pedagogy or suitable learning theory underlying such attempts. This is an important element in attempting to change academic support from a "propping up operation" (Miller, 1989) to a more developmental function.

Evaluation

Large sums of money are spent on the development of skills of educationally-deprived students. For example, the University of the Witwatersrand Pre-Bursary Scheme (PBS) programme costs approximately R14 000 per year per student, in addition to setup and running costs which have amounted to about R5 million over the last 10 years. According to Agar, Hofmeyr and Moulder (1991), effective educational support programmes need to monitor success and failure and respond to feedback. They noted a lack of strategic thinking and research in the setup and continuing development of support programmes. It is considered important that organisations and students are held accountable for their progress.

Although the four preceding factors will be concentrated on in this study, they are by no means exhaustive, nor do they purport to provide the "recipe" for a successful programme. During the course of the study, an attempt will therefore be made to identify additional factors which may be important for successful support programmes.

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1 An educational methodology is a way of teaching which is based on learning or cognitive theory, or which has theoretical justification.

The following chapter will discuss the methodology chosen to assess the endeavours of support organisations. This will be followed, in chapter five, by a discussion of the survey results.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

This chapter will commence with a discussion of the educational research methodology available to a researcher in this field. Reasons for choosing the survey method, as well as its advantages and disadvantages, will be highlighted. This will be followed by a discussion of the research design, focussing in particular on the construction of the questionnaires used to survey academic support organisations and qualified accountants from the black community in the pilot study and main survey. Finally, the way in which the questionnaires will be analysed and compared will be clarified.

4.2 Educational research methodology

According to Williams *et al* (1987), educational research presents a unique set of problems and opportunities. To make use of the opportunities and to overcome the problems, it is important to understand the methodological issues involved in research of this nature.

Educational research which focuses on learning encompasses research based in cognitive, social and developmental psychology, and, therefore, the methodologies associated with these fields. There are problems in applying theories and constructs which have developed in these disciplines, to a research problem in a specific field such as accounting education. For example, in the adaptation of theories or methodologies to fit the research, reliability and validity may be compromised. In addition, there are problems associated with making meaningful measurements and interpretations of cognitive, affective and behavioural phenomena, often because such research is done on subjects within an institutional setting such as a school or university (Williams *et al*, 1987).

4.2.1 Research techniques

The most widely used techniques in the field of education are true experiments, field experiments and surveys (Williams *et al*, 1987).

True experiments and field experiments are forms of empirical research whereby a theory or theories are tested on a selected group, with a control group used to validate the experiment. Although true experiments facilitate experimental control - which enhances internal validity - they are often expensive and difficult

to perform. Field experiments are similar to true experiments, but the subjects are not randomly chosen. Instead, use is made of existing groups. Because of this, there are often problems with the internal validity of the research results of field experiments. Neither of these methods is suitable for this research, which is exploratory and descriptive in nature.

The survey technique incorporates exploratory and descriptive research and will therefore be explored further.

Surveys

Surveys do not usually purport to examine causal relationships, but rather to describe and/or compare populations. A survey generally has a descriptive purpose in that it describes the attributes of a population (Williams *et al*, 1987). As a result, the survey method has increasingly found support in social science research.

The method is particularly useful where an overall perspective of an issue or topic is required, rather than a microscopic view from a more intensive experiment, or individual case study. In addition, a soundly conducted survey - where standardised techniques for data collection, sampling and analysis are used - is easily replicable. The survey method is suitable for obtaining data on a wide range of phenomena as well as on the values, expectations and behavioural relationships of an individual (Smith, 1983). As this research is exploratory, focusing primarily on the description of populations and experiences within the field of accounting academic support, survey methodology will be employed in the study.

Data collection using a survey methodology is usually achieved by questioning respondents. This is achieved either by questionnaires, or by interviews. Questionnaires can range from structured to semi-structured or unstructured, and can be administered by an interviewer, or be self-administered.

The primary advantages of self-administered questionnaires are that it is possible to cover a large number of geographically spread respondents, lack of person bias between researcher and respondent is assured and analysis is facilitated due to the highly structured nature of the questionnaire. The disadvantages of a self-administered questionnaire include:

- a simple and possibly ambiguous format, due to lack of simultaneous explanation;
- lack of follow-up of interesting viewpoints;
- a low response rate, and
- the risk of unanswered questions (Smith, 1983)

A self-administered questionnaire must, of necessity, be highly structured.

The advantages of interviews include the use of less structured questionnaires with more open-ended questions, the ability to follow up on interesting responses made by interviewees and the ability to ensure that all questions are responded to. These factors are of particular importance in a pilot study.

Interviews can, however, yield biased data. Results may, for example, be influenced by the subjective perception of the respondent by the researcher, as well as by the impressions which the respondent may have of the researcher, with resultant problems of person bias (Smith, 1983). Inferences are often drawn from studies which cannot be supported by research findings (Williams *et al*, 1987), since an interviewee's verbal responses are the only measurable form in which they occur. These can be unreliable as persons often report what they perceive to be socially acceptable attitudes or questions are answered in terms of the interviewee's perceptions of what the researcher is attempting to achieve, and do not reflect the actual attitudes and impressions of the interviewee.

Following an analysis of the different types of questionnaires and the advantages and disadvantages of interviews, it was decided to use a semi-structured questionnaire and interviews for the initial survey and pilot study. A structured self-administered questionnaire would be used for the main survey.

In order to minimise problems with measurement, interpretation of results and generalisation from a study such as this, research design needs to be carefully considered.

4.3 Research design

Appropriate literature, including Leedy (1989), Howard and Sharp (1983) and Sudweeks and Diamond (1975) was consulted to assist with the design of the research methodology. The issues examined were:

- the empirical research objectives;
- definitions of the population;
- sampling procedures, and
- methods of analysis.

The research commenced with an initial survey, comprising interviews conducted to attempt to establish the opinions, aims and activities of organisations identified as being concerned with the education and development of disadvantaged black students at various post-school levels, as well as of some qualified black accountants, to elicit their opinions concerning the research problem. A literature review, focusing on research in academic support, cognition and learning and accounting education followed. The combined results of the initial survey and the literature review directed an emphasis towards academic support and skills enhancement for the remainder of the study.

4.3.1 The research population

The population of organisations identified as being relevant to this study has been itemised in Appendix G. The entire population was requested to take part in the research. Their participation in the various phases of this research is stated therein. A list of the existing population of qualified chartered accountants from the black community at the time of the research (45) was obtained from ABASA. The entire population was approached to participate in the study. Their involvement is detailed in Appendix H. Names have been withheld to respect confidentiality.

4.3.2 The pilot study

The research questions which were introduced in chapter one were the following:

- which factors have resulted in an imbalance in the composition and mix of qualified chartered accountants in South Africa;
- which organisations have been formed in order to address the shortage of black accountants in South Africa;
- which factors are critical to the success or lack thereof of organisations and programmes identified.

The first two questions were addressed in the discussion of the initial survey (chapter two) and the literature review (chapter three). The issues which were identified in the initial survey and the literature review as being important for programmes for educationally-deprived students, that is, critical success factors,

were: needs assessment, objectives, educational methodology and evaluation. These critical factors form the focus of the pilot study.

Organisations

The pilot study was administered to Ms. K. Hughes of PROTEC, Mr. P. Putland of the CAs' Eden Trust and Mr. M Mulcahy of LEAF College. The questionnaire (Appendix B) had the same format as that used for the accountants in the initial survey (see below).

Accountants

During the initial survey, two accountants, Mr. T. Nombembe and Mr. C. Jita, were interviewed using the questionnaire in Appendix C. No accountants were surveyed in the pilot study.

4.3.3 The main survey

Having conducted the pilot study using the categories of needs assessment, objectives, educational methodology and evaluation, certain success factors critical for academic support programmes, requiring further investigation, emerged. These factors, namely, motivation, academic support details, use of study groups, and needs formed the basis for constructing the main survey questionnaires. Due to the practical difficulties of reaching all academic support organisations and all qualified accountants from the black community, the survey was conducted primarily by using a self-administered questionnaire. It was felt that the disadvantages of using a self-administered questionnaire were overcome to a large extent by the fact that the questions were derived from information gained in the survey interviews and the literature review, as well as by allowing space for further comment. In addition, pre-questionnaire letters were sent to all potential respondents to ensure their willingness to participate in the study.

Organisations

The questionnaires were administered only to representatives of those organisations identified specifically as being concerned with increasing the number of black accountants in South Africa through educational means, as opposed to the more general population encompassed by the initial survey and pilot study. Letters were sent to representatives of organisations involved in non-university commerce academic support. Since persons representing

university academic support programmes were present at the Commerce Academic Support Conference in 1991 at the University of Cape Town, Mr. P. Pillay handed out questionnaires to these respondents at the conference.

No responses were forthcoming from Mr. Hattingh and from Mr. Mitchell. Ms Flockemann and Ms Steynbank stated that their programmes were still at a trial stage and therefore did not think their responses would be valid. Since Messrs. Pillay and Curtis had participated in the initial survey and their extensive discussion and comments could successfully be incorporated in the framework of the pilot study, they did not respond to the questionnaire.

The questionnaire (Appendix D) was designed to obtain limited background information with an emphasis on academic support details. It was divided into five sections:

A: Demographic information
B: Academic support details
C: Use of study groups
D: Needs of students
E: Lickert style tick-list

Demographic information was included in order to establish the background of the organisation and the type of students it was teaching. Details of the type of academic or other support provided, how teaching occurs and the evaluation of programmes were then established.

Study groups were included in the questionnaire since both Messrs. Jita and Nombembe had mentioned participation in study groups as a factor contributing to their success. Organisations were therefore asked about their knowledge of the prevalence and use of study groups.

In the final section of the questionnaire, questions were phrased in a Lickert style in order to assess the internal consistency of the questionnaire, and to be able to match these responses to the responses of successful black accountants to establish the extent of agreement between successful accountants and support organisations. The tick-list addressed the issues of motivation, academic support details, study groups and needs specifically, with statements relating to these issues being created, placed randomly and stated alternately negatively and positively. The original groupings were subsequently reconstructed for data analysis purposes (Appendix K3).

The questionnaire was responded to by Mr. N. Demaine, Ms S. Herbst and Mr. D. Sieberhagen.

Accountants

In order to compare the information provided by support organisations, a list of qualified chartered accountants from the black community was obtained from the Association of Black Accountants (ABASA). Addresses for all the accountants were not available from ABASA, and where possible were sought elsewhere or requested from persons who were interviewed. All of the accountants were sent a letter explaining the nature and purpose of the research study, requesting permission to interview them, or if that was not possible, permission to send a written questionnaire. An information sheet, and a self-addressed reply paid envelope was included (see Appendix E). The accountants' responses are included in Appendices H, J, and L.

The questionnaire (Appendix F) had a similar format to the questionnaire used for the organisations, in order to establish the extent of agreement in perceptions between the two groups of respondents. It was divided into six sections:

A: Demographic information
B: Motivation
C: Academic support details
D: Use of study groups
E: Needs of students
F: Lickert style tick-list

Demographic information was obtained to establish the educational and social background of the student. "Push" factors motivating persons to chose accounting as a career, and "stay" factors providing motivation for persons to persevere in the chosen field of study were then questioned. Details of the type of academic or other support provided, how teaching occurred and the evaluation of programmes were then established. Use of study groups, needs of students and the Lickert style tick-list were similar to the questionnaire administered to the organisations.

The questionnaire was sent to the respondents of the letter (Appendix E) for their completion. Details of responses are found in Appendix H.

4.3.4 Validity and reliability

According to Howard and Sharp (1983), two major considerations in research design evaluation are validity and reliability. These are defined as follows:

> *Validity refers to the extent to which a test measures what we actually wish it to measure. Reliability has to do with the accuracy and precision of a measurement procedure. (Cook and Campbell, 1976, cited in Howard and Sharp, 1983, p. 94)*

Both populations of this research, namely organisations involved in the increase in the number of black accountants in South Africa and qualified black chartered accountants, are very small. This may limit the extent to which statistical analysis and manipulation of the results may be possible. The issues of validity and reliability were considered in the creation of the questionnaires. A brief review of these issues follows.

Validity

There are two major types of validity: external and internal. Internal validity can further be divided into content, criterion-related and construct validity.

External validity is the extent to which the research findings can be generalised to different persons, settings and times (Howard and Sharp, 1983). Although the ability to generalise the findings of this study to other accountants and academic support programmes is important, the small population does not permit the results to be generalised.

Content validity refers to the extent to which the questionnaires provide adequate coverage of the topic. An attempt was made to maximise content validity by the extensive survey (the results of which are discussed in chapter two) which was conducted prior to the construction of the pilot and main questionnaires.

Criterion-related validity reflects the predictive ability of a research questionnaire. As this study does not aim to predict what types of academic support programmes or black students will be successful, criterion-related validity is not considered to be fundamental to the study.

Construct validity is the extent to which research responses are systematically related to other external indicators of the attribute being examined (Williams *et al*, 1987, p. 33). The only way in which the validity of the responses of organisations can be tested is in relation to external data. There are three

sources of external data available in the study. Firstly, the subjective opinions of persons who had either participated in the programmes of these organisations or who had successfully qualified in spite of not participating in the programmes. Secondly, other measures of success, such as the passing of university or external examinations by students. Finally, other objective statistics available from programmes, detailing the number of participants, pass-rates and number of successful graduates. The first validation will be attempted by sending questionnaires to and interviewing black accountants who have successfully passed the Qualifying Examination of the Public Accountants' and Auditors' Board, regardless of whether they have participated in an academic support programme or not. The remaining data bases will be established by asking organisations to include any statistics on their programmes or the success of their students which are available. However, at the time of the research most organisations had been in operation for a short time only and it was not anticipated that statistics would be readily available. It is therefore doubtful that the aim of construct validity can be met adequately in this study.

Reliability

The reliability of a study refers to its ability to provide consistent results. This includes securing similar results when administering the questionnaire to the same person on different occasions, or to different persons concerning the same subject matter or events.

An attempt was made to enhance the reliability of the study by standardising the conditions under which the questionnaire was administered, using the same interviewer and the same questionnaire. The use of the Lickert style tick list attempts to corroborate the internal consistency of the respondents' answers, by rephrasing questions encountered earlier in the questionnaire and the phrasing of questions alternatively in the negative or positive form, to ensure that responses throughout the questionnaire are consistent. Comparisons and associations between responses of accountants and academic support programmes will further indicate the level of external consistency of responses, by assessing the extent of agreement between the representatives from organisations and the successful black accountants. The sample size of the study, however, precludes the statistical assessment of reliability.

As a result of the preceding discussion, there are unlikely to be statistical tests of significance to examine the issues of validity and reliability further.

4.4 Methods of analysis

Responses to the initial survey, pilot study and main survey were transcribed when tape-recording had been used. The responses were then grouped to facilitate analysis, and to incorporate the results of the extensive discussions which followed the structured administering of the questionnaires. These responses have been included where relevant, both in chapter two, which provides a general background, and in chapter five, in which specific issues are elaborated on.

Discussion of the results was done within the framework of the questionnaire, mainly demographic information, academic support details, the use of study groups and the needs of students.

The rankings of needs in section D were analysed to determine any trends emerging in the responses of organisations. These were also contrasted with the responses from black accountants, to see if their perceptions of the needs of educationally deprived students were similar to the perceptions of the organisations.

In order to analyse the results from the tick lists, the questions were regrouped back into the categories which had been used in formulating the statements when the questionnaire was drawn up. These were:

- motivation;
- needs;
- locus of control over learning / learning and study habits, and
- views on ASP / secondary schooling.

The groupings are shown in Appendices K3 and L3. Where questions were stated in the negative, the responses were converted to enable the generation of a "positive locus of control", "highly motivated student" score (Appendices K2 and L2), so that comparable conclusions could be made, irrespective of whether questions had been stated positively or negatively in the questionnaire. The adjustments were made in such a way that a low score for a question, a section or in total would indicate a problem area. For example, when considering the question, "Students needed help in accounting" / "I needed help in accounting", a response of "1" from either the organisations or the accountants indicates that the students or accountant never needed help in this area. This implies that accounting is not a problem area. The response of "1" was therefore converted to a "5". Similarly, a response of "2" was converted to a "4", and a response of

"5" to a "1". This was done to facilitate the identification of common problem areas identified by organisations, as well as to compare these to problem areas identified by the black accountants. The analysis of the responses to this section is included under the discussion relevant to each section.

Relating accountants to organisations

In all sections, the responses of the organisations were contrasted with the responses of the qualified accountants. The similarity of design of the two questionnaires - for the support organisations and the successful accountants - facilitated comparison of responses between the two groups. In particular, a comparison can be made between the sets of responses to the Lickert scale sections of the questionnaires.

4.5 Conclusion

This research project is exploratory in nature, investigating areas not previously researched, and can therefore not rely on a previously validated research methodology. While every effort has been made to incorporate rigour into the study, the small sample size places major limitations on the extent to which statistical manipulations are possible. The major contribution of this study will thus be found primarily in its descriptive and exploratory findings.

CHAPTER FIVE: RESEARCH RESULTS

5.1 Introduction

In this chapter the results of the interviews with, and self-administered questionnaires responded to by, representatives of organisations and qualified black accountants will be discussed.

Details of the research methodology are found in chapter four. The discussion of the research results will proceed as follows: the questionnaires will first be reintroduced briefly. This will be followed by a discussion of the results in the order of the self-administered questionnaire, that is, demographic details, motivation, academic support details, study groups, needs, control over learning and other issues. Each section is introduced with reference to the initial survey and literature review, followed by the organisations' and accountants' responses. An assessment of the research results precedes the chapter's conclusion.

5.2 Questionnaires

The following issues were addressed by the pilot study:

- whether the specific educational needs of participating students are assessed by organisations, how this is achieved, and whether needs assessment occurs prior to programme design or not;
- whether organisations define goals and objectives clearly;
- whether efforts by organisations to develop accounting skills in participating students are random or whether a recognisable educational methodology is evident;
- whether organisations evaluate the success of participating students, how this is achieved, and whether organisations themselves are evaluated, either internally or externally, and
- whether there are other factors or criteria, not considered above, which have an important effect on the research problem.

The pilot study questionnaire is included in Appendix B.

The main survey questionnaires attempted to obtain as much information as possible from organisations and accountants, in order to assess the amount of congruency in perceptions about academic support issues between each group of respondents. The questionnaires (Appendices D and F), which were self administered, were divided into the following sections:

	ORGANISATIONS	ACCOUNTANTS
A	Demographic information	Demographic information
B	Academic support details	Motivation
C	Study groups	Academic support details
D	Needs	Study groups
E	Tick list	Needs
F		Tick list

In section A, organisations' representatives were asked to give demographic information about the student population they supported. Accountants were asked to provide information of their secondary schooling, home languages, parents' occupations, auditing firm articled at, university attended, whether any part of his/her education was done part-time, the number of times the Qualifying Examination had been written and the year in which this was passed. This was done in order to ensure that the respondents to the questionnaire were representative of the population of black chartered accountants, and did not come from a privileged background or have a private education.

Only the accountant participants were asked what motivated them to chose accounting as a profession, where they obtained information about the profession, and what sustained their motivation during the long training period.

The following section asked for details of all academic and other support provided during the period of study. This was rendered to both groups.

The questionnaires then investigated the respondents' participation in study groups, the initiation of the study groups, and what type of activity occurred in the groups.

The needs section of the questionnaires listed areas of potential difficulty to commerce students, asking participants to rank subjects, the use of English and numeracy issues in order of perceived difficulty.

The final section of the questionnaires comprised 32 Lickert-type questions.

5.3 Research results

The pilot study and main survey results will now be considered. The following table places the pilot study and main survey within the overall context of the study:

	Organisations	Accountants
Interviews conducted (initial survey)	9	2
Interviews conducted (pilot study)	3	-
Information sheet only, but no questionnaire returned	-	9
Questionnaires returned (main survey)	3	12*
Refused to answer questionnaire on the grounds that it was racist	-	1
Responded to say he was not a black accountant	-	1
No address or telephone number was available or address was incorrect and person was unknown to other people interviewed	-	5
No response received	4	15
	19	45

*One questionnaire was returned partially completed and one without any responses.

The discussion of the research results will follow the sequence of the main survey questionnaires (Appendices D and F), that is, demographic details, motivation, academic support details, study groups, needs, control over learning and other issues. The issues raised in the initial survey and the literature review will introduce each section, and will be related to the relevant findings of the research. The findings of the pilot study have been included under the headings of the main survey questionnaire, with further elaboration where necessary.

Due to a high attrition rate during the research period, the sample responding to the survey was small. This has important repercussions on the generalisablity of the results. For analysis purposes, a mean of responses was calculated, but results which were obtained should be interpreted with extreme caution due to the high degree of variability of responses and the small sample size.

5.3.1 Demographic details

According to Feuerstein (1985), a lack of mediated learning experience during the cognitive development of a child results in deficiencies in and a diminished level of cognitive functioning. This is supported by a number of other researchers (see chapter three, section 3.2.2). There is virtual unanimity amongst researchers and support organisations that most students from the black community experienced deprivation during their cognitive development. An example is found in the research of Agar, Hofmeyr and Moulder (1991) who found student problems to be a product of both inferior secondary schooling and informal education in the home and community. These problems are closely aligned with the language issues discussed by Duran (1985), who found that

limited facility in English, inhibiting the educational attainment of persons from non-English speaking backgrounds, was usually associated with socio-economic disadvantage.

The discussion of the responses under this section will be presented in the following order:

- teaching language used by the support organisation;
- secondary school background of students;
- whether the programme catered for full-time or part-time students.

In the accountants' responses, the accounting firm articled at, the university background and the number of attempts at the Qualifying Examination are also indicated.

Organisations' responses

All six respondents' programmes were taught in English. Four programmes catered for students mainly from government schools, as they felt that such students had a disadvantaged secondary education. These students were studying on a full-time basis. The other two programmes, which were in-house programmes of accounting firms, catered for all employees who were studying on a part-time basis. Their students therefore, were neither necessarily all from the black community, nor had they all had a disadvantaged secondary education.

Accountants' responses

English was the medium of tertiary instruction for all participants, but the home language of none. All except one respondent had received secondary education at a government school, and only two respondents felt that their secondary education had not been disadvantaged. With the exception of two respondents, whose parents were both teachers, the parents of all of the others were blue collar workers. Six respondents, one of whom moved to Aiken and Peat (KPMG) during the period of articles, had completed their articles with Deloitte Pim Goldby. One respondent completed articles with Coopers and Lybrand, one with Arthur Young and two with Aiken and Peat.

Most students completed their undergraduate and postgraduate degrees at different universities, often doing the undergraduate degree at an "ethnic"[1] university (7), followed by the postgraduate course at a "white" university (5), or part-time through UNISA[2] (5). One student completed all of his studies at UNISA, one at the University of Cape Town, and one at the University of the Witwatersrand. Seven participants had studied part-time for a period, whilst completing their articles. Six participants attempted the Qualifying Examination twice before passing, two passed at their first attempt, and two at their fourth attempt.

5.3.2 Motivation

The research of Louw (1985) appears to be the most relevant to the issue of motivation in becoming a chartered accountant. Most of the conditions enumerated by her as necessary for effective vocational guidance (see section 3.3.6 of chapter three) appear to be absent in the black community in respect of the career choice to become an accountant. In addition, the internal and external factors which were found to influence career choice either positively or negatively, including the internal factors of abilities, interests, needs and values and personality and the external factors of family expectations, cultural traditions, social customs, laws of the country and economic opportunities, all appear to conspire against the successful completion of accounting studies. Successful black accountants have succeeded despite the many internal and external factors working against their chances of success.

The AECI Report (1988) indicated that, due to successes in secondary school, students had high expectations of success and an unrealistic assessment of their own abilities. Motivational problems resulted when the anticipated success was not achieved (AECI, 1988). This was confirmed by the research of Sanders (1986), who found that failure during the course of training led to a loss of motivation and the lowering of personal standards.

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1 An "ethnic" university is one which caters for students from one specific ethnic group, with entrance defined on a racial basis.

2 UNISA is the University of South Africa, a correspondence university.

Accountants' responses

Most of the accountants had been motivated to become accountants through teachers or lecturers (five), or had been recruited by either a company or a firm of chartered accountants. Information about the profession had similarly been obtained through teachers, lecturers and recruiting brochures. Few successful accountants appear to have become accountants as the result of using information to consider career alternatives and to make a conscious career choice.

Only three respondents indicated that they had been demotivated during the course of their training. The results of the Lickert test seem to corroborate this view, as the responses to questions 1 and 13, which addressed the issue of motivation, indicate that all the respondents had been highly motivated in their studies.

Three respondents felt that Charles Hattingh[3] had been an important source of inspiration for them to continue. Others cited friends, family and persons who saw them (the students) as role models, who should therefore persevere. One person continued in order to prove his ability to a bursar with whom he had had a disagreement.

Five participants did not have anyone with whom they discussed their progress, three had mentors within an accounting firm, or the academic support programme they were involved with, one had a university lecturer, and one a friend. Five participants felt discriminated against during the course of their studies.

It is evident from the above that the participants of this research can to a large extent be regarded as operating in isolation, with few role models and considerable self-motivation. All, however, appear to have realised the importance of having emotional and educational support systems.

5.3.3 Academic support details

From discussions and interviews, it would appear that the objectives of educators active in academic support programmes can be stated as being twofold: concretely, in an increase in numbers of graduates from the black

3 An accountant who runs a preparatory course for the Qualifying Examination, as well as supplementary courses for students studying accounting part-time.

community, and abstractly, in encouraging a progression towards abstract reasoning and metacognitive skills in such students.

The methods and materials used by academic support programmes, as well as the emphasis of programmes, emerged as critical issues in the initial survey and literature review. In addition, questions were asked about the research and evaluation of programmes, and the evaluation of students. The results of the study in respect of academic support programmes will thus proceed in the following order:

- methods and materials;
- emphasis of programmes;
- research and evaluation of programmes;
- evaluation of students.

Methods and materials

Evidence in the literature review suggests that the teaching method or medium employed has less influence on learning than course content (Williams *et al*, 1987). The widespread use of the lecture and tutorial method of teaching in academic support programmes therefore appears to have theoretical validity. The advantages of using personalised systems of instruction and computer-assisted instruction as a means of reaching a large number of students in a cost effective manner (Williams *et al*, 1987), however, appears to have been neglected by these organisations. Considering the expense involved in the current small group teaching employed in academic support and the lack of attention to the development of appropriate material which can be used in "mass programmes", the work of Weil (1989) is of relevance. In formulating his skills programme, Weil (1989) began with the premise that it was necessary to establish the processing skills employed by novice accounting students and to compare these with those of expert accountants. By doing this, it would be possible to identify a profile of deficient cognitive skills in commencing students from disadvantaged backgrounds. He then made the acquisition of the skills lacking in novice accounting students the primary objective to be met in the learning process. A methodology whereby the skills could be acquired was then formulated. His "self-teaching units" attempt to set out concepts in an easily understandable manner and to alert students to and guide them in the usage of cognitive operations required to facilitate problem-solving in accounting.

Findings indicating that low ability students tend to be more effective in structured environments (Snow and Peterson, 1980) have applicability to the

structuring of teaching contact-time in an academic support programme. A number of respondents indicated that they moved from a highly structured learning environment in the initial phases of the support programme to a less structured environment later, encouraging independence and autonomy in learning in students.

Emphasis of programmes

The concepts of self-evaluation and critical reflection (as envisaged by Agar, *et al*, 1991) were evident in the responses of successful accountants, when relating their personal progress in training. This suggests that a programme's emphasis should be on the learning process and the individual's growth towards self-actualisation, rather than on the student's deficits (Agar *et al*, 1991).

Successful support programmes in the fields of science and technology, such as PROTEC, concentrate on the relationship between the programme and the wider society. This appears necessary in a dynamic society such as South Africa, and appears to be lacking in commerce programmes.

Organisations' responses

General

All of the respondents provided a form of undergraduate academic support. The University of Cape Town (UCT) also had an "alternative admissions research project", whereas Rhodes University had an experimental "alternative admissions" programme. The University of Cape Town also had a Qualifying Examination course which was run privately by lecturers. Only the accounting firms provided postgraduate academic support and a Qualifying Examination course in addition to undergraduate academic support.

The objectives of the support organisations were often stated in abstract rather than concrete terms, using words such as "helping, developing, assisting and providing", for example:

> *"To give students direction in where they should be concentrating their study efforts" (Aiken & Peat).*
>
> *"To develop a level of critical thinking which enables the student to approach different accounting concepts in different ways" (Rhodes University).*

Objectives and goals were not stated either in terms of the number of students to be reached, the desired number of successfully completed credits or the desired number of graduates.

The costs of these courses were in all cases borne by the support organisation or its sponsors, without any contributions requested from the participants.

The University of Cape Town and one accounting firm provided students with lectures, while all six programmes organised tutorial groups. Simulated examinations were written by participants of the accounting firm and Rhodes University. Attendance was compulsory in the case of one accounting firm and for bursary holders at the universities.

Teaching in all cases was done by persons regarded as experienced teachers by the organisers of the programme. In all cases, audio-visual aids and extra notes were the only teaching aids employed.

Students involved in the academic support programmes of UCT, Rhodes and WITS were allowed to spread their degrees over four years instead of the traditional three years, with the first year of study spread over two years. Students involved with the Deloitte Pim Goldby academic support programme were asked to leave the firm if an academic year was failed more than once.

Course-specific subjects or topics were taught by three of the programmes, while study skills and examination techniques where taught by all six. Other support provided included general skills, such as communication and time management, and a course in English for Academic Purposes.

The programmes did not subscribe to a formally constructed educational methodology, but rather employed traditional lecturing and tutorials based on students' needs. A description of the ideology and methodology employed by the major support programmes, as explained by the representatives of each, follows.

The Pre-Bursary Scheme

The Pre-Bursary Scheme (PBS) is a one year bridging programme, during which language and mathematical skills are consolidated and extended within the commercial context. This is followed by a normal three year commerce degree, augmented by the "Continuing Academic Support System" (Cactus). Support is faculty-based, but attempts to address wider educational issues. Responsibility

for the success of the PBS programme is shared by the student, the sponsoring company and the programme co-ordinators. Sponsoring companies undertake mentoring, vacation employment, job placement and career advice.

The overall approach of the Pre-University Bursary Scheme is one of diagnostic assessment, with individualised instruction where possible. A skills-based approach is used, whereby an attempt is made to integrate social with academic skills. Most subjects are taught in an interactive way and participative learning is encouraged. During the programme the orientation changes from concrete communal socially oriented learning to more abstract individual academic learning, with students being required to assume responsibility for the learning process. The number of formal contact hours therefore decreases as the year progresses.

Instructional mode is by way of tutorials, lectures, small group discussions, self instruction, experiential and computer learning. Students are shown films, sent on site visits and field trials and given simulation exercises. A language tutor is provided for students. Research on the programme has been ongoing and has resulted in a rechannelling and refocusing of activities. Projects are periodically undertaken to develop appropriate materials and use is made of simulated documents from accounting firms.

The University of Cape Town

Tutors and lecturers of the University of Cape Town Academic Support Programme attempt to encourage participative learning - in the form of questioning by students - especially with a view to overcoming the authoritarian educational background from which the students come. The main constraint facing academic support programmes is the large syllabus which has to be covered, resulting in much of the teaching consisting of formal lecturing. However, because the programme is completed over two years, the contact time is doubled, and there is therefore more time for discussion, group work and questions by students.

Rhodes University

The programme at Rhodes University recruits students and groups them into areas of common need. The skills and problems relating to the various groups are then addressed and specific workshops are held when needed, for issues such as examination skills.

LEAF College

At the time of the interviews, the programme at the LEAF College had not yet commenced. The programme, however, was particularly interesting, since the envisaged methodology was skills-based. This was chosen as a result of distilling knowledge gained from other academic support programmes, Feuerstein's research, the VISTA Centre for Cognitive Development, Natal's Teach, Test Teach methodology and the University of the Witwatersrand.

Initially the contact hours will concentrate on tutorials, with few lectures, gradually shifting towards more lecturing in order to acclimatise students to what they can expect at university. Computers would be used as a tool, but not as an instructional method. Since the targeted students come from a traditional "talk and chalk" (interview with Mulcahy, 1991) background, the programme intends to start with this approach and then to move towards a skills-based approach. The course content would be related to that required by the University of Cape Town, the Cape Technikon or the Peninsula Technikon. The pedagogical model which LEAF wishes to implement incorporates the concept of "repetitive loops / cycles of experience and learning - to involve students in learning within the context of the career and to add the necessary technical learning ... contextualizing content knowledge within a career framework ... focusing on the skills necessary for the student to cope with the content of subjects" (interview with Mulcahy, 1991).

Auditing firms

At Deloitte Pim Goldby academic support courses are run parallel to UNISA correspondence courses. In addition, an intensive preparation course for the Qualifying Examination of the PAAB is held. Lectures and simulated examinations are the main modes of instruction. Employees are also often given a motivation course, since it is felt that self-image is very important. No additional language programmes are provided, since it is felt that the correct usage of language develops quickly through working in an English-speaking environment.

Aiken and Peat considers the use of study groups to be its major means of teaching.

Research and evaluation of programmes

All programmes were evaluated by students, as well as by the administrators of each programme. Follow-up research on the efficacy of the programmes was limited. This was due to a number of factors:

- the short time period that most programmes had been in operation made meaningful research difficult;
- adequate data had not always been kept;
- student numbers were too small for statistically meaningful conclusions to be drawn, and
- difficulty in setting objective criteria for evaluation.

The Pre-univeristy bursary scheme

The examination results of students are the only way in which the programme is evaluated. At the time of the interview, however, attempts were also being made to compare performances in a business economics course between DET students, Academic Support Programme students and Pre-univeristy bursary scheme students. A comparison will also be made between the Pre-univeristy bursary scheme Bachelor of Commerce students and the rest of the Bachelor of Commerce students. Evidence of the success of the Pre-univeristy bursary scheme is provided by the fact that ten out of thirteen non-white University of the Witwatersrand commerce graduates participated in the scheme, as well as three quarters of the non-white post-graduates. Retention rate on employment for these graduates has been 100%. For these reasons, the representatives feel that the programme has attained its objectives, although it has proved to be more expensive than was initially hoped.

University of Cape Town

At the University of Cape Town, the progress of students who have participated in the Academic Support Programme has been followed. Examination results, student satisfaction and feedback and course evaluations are the main criteria used to judge the effectiveness of their programmes. The programme reports to the Academic Support Programme Committee at the University of Cape Town, and draws up an annual report. In addition, there is an annual Academic Support Programme Conference which attracts representatives from all universities.

Rhodes University

The evaluation of the Rhodes University programme is done by students and administrators of the programme. Research is presently being done into the development of a "Commerce Language Development Programme".

LEAF College

LEAF expects the initial evaluation of its programme from the tertiary institutions to which it will be sending its students. The college also plans to have an external body, which will monitor the progress of the college, since external evaluation is preferable to internal evaluation. The results will be made available to the main sponsors, which are the Anglo American Chairman's Fund and the LEAF Board of Trustees.

Auditing firms

Students and administrators of the Deloitte Pim Goldby and Aiken and Peat programmes evaluate the programmes regularly. At Deloitte Pim Goldby, students complete evaluation forms on their lecturers after every session, so that ineffective lecturers can be removed timely.

Accountants' responses

Six accountants did not respond to section C, either because they had not received academic support, or because they did not complete the questionnaires fully.

The accountants who did respond to this section indicated that some programmes were evaluated in more than one way; by students (3), by administrators (2), by the bursar of students (2) and by the organisations where the students worked (2).

Two accountants indicated that, whereas the Qualifying Examination courses they had attended were not formally evaluated, the reputation of the courses depended on the number of successful candidates they produced - that is, market forces were at work.

Evaluation of students

Pre-univeristy bursary scheme

Pre-univeristy bursary scheme students sit university exams. In addition, diagnostic assessment of students prior to and during the programmes is done. Mentors evaluate students during their site work, in order to identify their potential to fit into the organisation.

University of Cape Town

University of Cape Town Academic Support Programme students write the mainstream university exams and tests. In addition, they write tests in the Academic Support Programme, on average every two weeks, which is more frequent than students following the normal university courses - this is to ensure that they are up-to-date in their learning. Whether the results of these tests and examinations are distributed to parties outside the university depends on the requirements of the sponsoring companies, some of which request more frequent reports than others.

LEAF College

The LEAF programme evaluates the academic results of students internally, with moderation from institutions such as the University of Cape Town during the initial phase of the programme. Examinations during the year will be set in-house, but final examinations will be set in conjunction with the University of Cape Town.

Auditing firms

At Deloitte Pim Goldby, employees are evaluated on their tutorial attendance, on their UNISA tutorials' grades and by the normal personal appraisal that all clerks undergo.

5.3.4 Study groups

The potential and use of formal or informal study groups has not received much attention in the literature pertaining to learning, cognition and academic support. A perception appears to exist amongst the organisations interviewed in the initial survey that students from the black community appear to be more socially than

individually oriented. In addition, according to the two black accountants interviewed in the initial survey, there is a scarcity of tutors and lecturers, especially in more remote areas - such as the Transkei. Discussions indicated that the use of and availability of informal academic support, such as assistance from acquaintances in senior years, should not be underestimated. This section should be read in conjunction with section 5.3.6, where scores of statements in the Lickert tick-list concerning studying in a group are analysed.

Organisations' responses

Only one of the respondents of support organisations indicated that students participated in study groups during their academic careers. This could be due to the fact that study groups were not formally constructed by the administrators of the programmes, or that the facilitators were not aware of the involvement of students in private study groups. It is important to note, however, that most respondents from the group of successful accountants had created and participated in study groups (see below). The importance of study groups as a motivational factor and a means of sharing knowledge should therefore not be underestimated.

The programme which did organise study groups, split the students into groups of six students each, with the co-ordinator or a subject specialist facilitating the functioning of the group. The groups met once a week, and during the meetings tutors ensured that all assignment work (for the UNISA correspondence courses) was covered, that attempts at assignments were marked and that any problems were discussed. An emphasis was placed on assisting students to distinguish between problems of a "knowledge" and a "technique" nature.

Accountants' responses

Five of the respondents had participated in study groups during their training. Two groups had been initiated by the firms that the students were articled to, whereas the others were self-initiated. Study group size varied. It is significant that self-initiated study groups consisted of two or three members, whereas study groups formed externally were larger (six and twelve members). Self-initiated groups had no-one facilitating the groups, while other groups had tutors. Self-initiated groups met more frequently (three times a week) than other groups (once a week). Time spent with the study groups was employed either

on discussion of pre-selected topics, the completion of tutorials, or on attempting and marking past examination papers.

5.3.5 Needs

Three major needs of academic support students were identified as important in the initial survey and literature review:

- social and cognitive development;
- language, and
- numeracy.

These needs will be reintroduced briefly, followed by a discussion of the perceptions of the organisations and the accountants. Within the discussion of the organisations' responses, needs assessment and responses to needs will be reviewed.

The literature (Agar, *et al*, 1991, Sanders, 1986), and initial survey (Van Greuning) indicated that it was important for a student to undergo the often traumatic experience of acknowledging his/her needs and deficiencies. Furthermore, student responsibility for the learning process appears to be very important (Lehr, 1983). Academic support programmes, however, also have a task in accurately portraying their role in these processes, since Sanders (1986) found that students had perceived academic support programmes as not meeting their personal needs.

Social and cognitive development

The importance of academic advice, social and personal counselling, tutoring and cognitive skills development all being included in a holistic approach to student development is stated in a number of studies (Hampton, 1979a, cited by Sanders, 1986; Sass, 1988).

In respect of cognitive development, the main issue identified by studies such as the AECI report (1988) and work by Hofmeyr and Spence (1989), was that inadequate study skills had been acquired during secondary school due to a concentration on rote learning and content-based abilities, with insufficient attention paid to strategies which encouraged thinking and concept building.

Language

For most black students, English is a second language. This has been recognised by all organisations in their programme design, with time being allocated to both general language courses as well as for assisting students to acquire the necessary technical or subject-specific language.

A further reason for emphasising the importance of communication skills is the conclusion of Estes (1979), who found that oral and written communication skills were consistently ranked as very important for present and future success in accounting by junior and senior level accountants in public accounting firms, corporations and governmental organisations, as well as by accountants in education.

Numeracy

AECI (1988), Weil (1990) and Hofmeyr and Spence (1989) found problems of weak arithmetical and abstraction abilities and poor analytical and classification skills amongst learning-disadvantaged students. Curtis, Pillay and Van Greuning agreed with these findings during the initial survey.

Organisations' responses

Scores for the needs section are analysed in Appendix I. Accounting was considered to be the most problematical subject for students in all support programmes (1.33). No patterns emerged for other subjects. Respondents agreed that the difficulty with accounting was due to deficits in numeracy, which is needed in accounting. Under numeracy, understanding and interpreting numerical data, such as graphs and formulae (score of 1.33), were considered to be most problematical by respondents, while other numerical tasks did not yield a consistent pattern as to perceived difficulty. It was felt by two of these respondents that most students needed help in examination and study techniques in order to facilitate the analysis and synthesis of data.

Respondents were unanimous that students had more problems with written English (score of 1) (writing examinations, essays and assignments), than with the reading of textbooks, notes and examination questions (score of 2). Understanding lectures was ranked least problematical by all respondents. However, the work of two researchers is important here. McKeachie (1980) highlighted the importance of lecturing as a means of disseminating and

summarising current and important subject information, in providing a structure for further self-study by students and as a motivational stimulus. If the pace of the lecture is too fast for non-English students, much of the usefulness of this mode of instruction is lost. Secondly, Duran (1985) gave a number of examples of the effect of language difficulties. Of relevance to orally received information, is the use of short-term memory capacity for translation rather than for conceptualisation, time wastage due to translating information to and from the mother tongue and the alteration of meaning during the translation process.

According to Pillay of the UCT Academic Support Programme, in addition to students not having an adequate understanding of English, they have to learn the new language of various subjects, such as economics and accounting. Academic support programmes therefore have to address directly the problem of language by teaching students the necessary technical vocabulary. Mulcahy of LEAF College suggested that although most students had relatively good verbal competence, this often did not translate into the written communication skills needed for report and examination writing.

It was suggested by Mulcahy that as students could be assumed to have a high level of political awareness and developed political analytical skill, this could be harnessed to develop academic analytical skills.

The respondents considered social skills to be less problematical, since these can be acquired through living in student residences during the course of university studies.

Lickert-test analysis

Part of the Lickert-test (statements 4, 5, 6, 7, 8, 12, 21, 23, 25 and 26) related to the needs of academic support students. The Lickert-test analysis has been done by identifying and listing statements which received an average score of less than 3, suggesting that respondents perceived these areas to be problematic for their students during the course of their study[4]. These responses were compared to the accountants' responses and coded in terms of whether an issue was perceived

4 Key to the Lickert-test analysis tables:

Acc	=	accountants' average response
Org	=	organisations' average response
A	=	problem according to accountants
O	=	problem according to organisations
C	=	commonly identified problem

by the organisations (O) or accountants (A) as a problem, or as a commonly identified problem (C). The following statements relating to the needs of academic support students received an average score of less than 3.

Question	Statement	Org	Acc	Code
5	"They need help in study skills"	1.33	3.70	O
6	"They need help in exam techniques"	1.33	3.30	O
7	"They need help in accounting"	2.00	4.10	O
8	"They have no difficulty in using a financial calculator"	2.67	3.25	O
12	"They have difficulties in managing their time"	2.67	3.20	O

Details of the scores of these and other statements are included in Appendices K3 and L3. It is interesting to note that the organisations' scores were lower on average for these questions than the accountants' scores. This could be due to the fact that the organisations' respondents were referring to the entire student body, which included successful and unsuccessful students, whereas the accountants were representative of a successful body of students. A further reason for the difference might be a bias on the part of the students to understate their problems and an organisation's tendency to exaggerate students' problems. On balance, however, the perceptions of the two groups appear to be similar in kind, if not in quantity. The response to question 6 should be read in conjunction with the response to Section D (needs) question 4, where all organisations agreed that students needed help with examination techniques.

Needs assessment and response to needs

The Pre-univeristy bursary scheme used diagnostic testing as the basis of its needs assessment. By contrast, at the University of Cape Town no specific pre-programme research was undertaken in the commerce faculty, although the Commerce Academic Support Programme was assisted in its planning by the University of Cape Town Adult Education and Academic Support Programme units. National academic support seminars attended by organisers of academic support programmes indicated that similar cognitive, language and numeracy problems were encountered by students attending all programmes (interview with Pillay, 1991).

The University of Cape Town Academic Support Programme has been following the progress of students for two years after they have left an academic support programme. Since a number of problems are encountered by students in the

second (non-ASP) academic year, it is felt that academic support programmes need to be extended beyond the two years, with a less intensive focus, in order to reduce dependency by students. This extension of academic support beyond the bridging years appears to have been accomplished successfully by the CACTUS programme, which follows the Pre-univeristy bursary scheme at the University of the Witwatersrand.

All students receiving academic support at UCT do the same programme, irrespective of their needs. Streamlining, however, occurs in tutorials, often once the first tests have been written, two or three months into the academic year. Experience has indicated that although all of the students come from a disadvantaged background, there is usually a large diversity within the group, so that more than one tutorial group is created, in order to group students with similar needs together. Needs assessment is therefore an ongoing process throughout the period of the programme. Furthermore, individualised tutorials are given to students requiring additional help. The programme has changed from year to year, depending on the needs of the current group of students and the effectiveness of what has been done in the past.

Accountants' responses

The section on needs was generally not well answered (see Appendix J). Most participants (six) did not rank the questions as requested, but rather gave a number of topics equal ranking, or did not rank the topics at all. In addition, there was a high degree of variability between respondents, with a large range of ranks within options, at times ranging between one and eight for the same option.

Specific subjects with which difficulties had been experienced were (in order of difficulty) management accounting (4), cost accounting (4.25), financial management (4.5) and accounting (5.25). Under "other" two respondents indicated that auditing had been the most difficult subject. Subjects such as taxation (7.5) and law (6.13) were perceived as being the least difficult. A possible explanation for this is that these are "learning" subjects, with which students could rely on memorization and rote learning. In contrast to the responses to the question on "numerical needs" (see below), statistics (6.38) was not seen as a problem.

Problems with English were, in order of perceived difficulty, writing examinations, essays and assignments (1.63), followed by reading textbooks, notes and examination questions (2.22).

Most numerical problems were encountered in understanding and interpreting numerical data, such as graphs and formulae (2.22), followed by statistics (2.38). Use of calculators and computers (3) and arithmetic (3.75) seemed to be less of a problem. Examination technique was considered a problem, but most people who participated in a support programme indicated that this had been addressed by the programme.

Lickert-test analysis

The questions in the Lickert-test which related to the needs of academic support students were numbered 4, 5, 6, 7, 8, 12, 21, 23, 25 and 26. None of the statements were scored lower than 3, which was taken to be the cut-off point at which an area was considered to be problematical. However, if items receiving an average score of less than 3,3 are also considered, the following pattern is found:

Question	Statements	Acc	Org	Code
6	"I needed help in exam techniques"	3.30	1.33	O
8	"I had no difficulty in using a financial calculator"	3.25	2.67	O
12	"I had difficulties in managing my time"	3.20	2.67	O

Question 5 "I needed help in study skills" also received a relatively low score (3.70). This should be read in conjunction with the score for question 6, indicating a perception amongst the respondents that their study and examination techniques require modification.

Similarly, time management was seen as a problem; this is not surprising, however, since the majority of students (ten) had studied part-time at some point. Difficulties in using a financial calculator should be seen against the background of difficulties with numerical manipulations (see the scores indicated above), and also as a symptom of the background of the accountants, where such tools were not freely available - in the words of one respondent "I never used a financial calculator at university".

5.3.6 Control over learning / learning and study habits

An important issue which emerged during the literature review and the initial survey interviews with accountants was that of the 'locus of control over learning' - in other words, was the control over learning located within the student, or elsewhere, such as with the support programme or other persons. Other important factors which emerged were the learning and study habits employed by the accountants while studying. These factors were assessed in questions 2, 3, 9, 10, 11, 14 to 20, 22, 24, 27, and 31 of the tick-list. As discussed in section 4.4, certain questions were re-scored to obtain consistency in responses to all questions, whether phrased negatively or positively.

Organisations' responses

The following questions received an average score of lower than 3, suggesting a problem area:

Question	Statements	Org	Acc	Code
14	"They tend to "cram" just before exams"	1.67	3.73	O
19	"They get very nervous during exams"	2.00	3.73	O
10	"They tend to rely on memorizing in the learning of their subjects"	2.67	3.50	O
17	"They have difficulties in completing assignments"	2.67	3.82	O
27	"They prefer to work on their own"	2.67	3.73	O

Problem areas seem to revolve around inappropriate study and learning skills and poor time management. This confirms the findings of the initial survey, and the discussions in the literature review.

Accountants' responses

The following questions received an average score of below 3, suggesting a problem area:

Question	Statements	Acc	Org	Code
31	"I work best in a group"	2.82	3.67	A
24	"I was interested in my subjects and read up for further information"	3.00	3.33	A

As the organisations and accountants appear to have conflicting responses to question 31, a number of similar items, with relatively low scores, were compared:

10	"I tended to rely on memorizing in the learning of my subjects"	3.50	2.67	O
22	"I found tutorial groups a good way of learning"	3.55	4.33	A
14	"I tended to "cram" just before exams"	3.73	1.67	O
19	"I got very nervous during exams"	3.73	2.00	O
27	"I preferred to work on my own"	3.73	2.67	O
2	"I studied consistently during the year"	3.80	3.33	O

The only additional item which has received a lower score by the accountants than the organisations, is question 22. This appears to correspond with the response to question 31. The responses to these questions, plus question 27, which deal with working alone or in a group are interesting. A clear preference was shown for working alone (3.73), rather than in a group (2.82), although the score for students finding tutorial groups a good way of learning was much higher (3.55) than for those preferring to work in a group. In contrast with the accountants, the perception amongst the organisations was that the students preferred not to work on their own. What could probably be surmised from what appears to be contradictory evidence, in conjunction with the findings of the section on study groups, is that students would rather study alone than in any group situation, but if groups were used, students would prefer them to be under the guidance of a facilitator.

Although the remaining tabulated scores tend towards "occasionally" or "mostly" once adjusted for the negative/positive element, the scores are relatively lower than those for other (non-tabulated) questions in this area. The responses suggest that students are relying on inappropriate forms of learning, such as memorisation or rote learning and "cramming" before examinations, rather than studying consistently throughout the year. The accountants also did not indicate that they had been interested in their subjects to the extent that they had done extra reading. This could indicate a lack of motivation in the chosen study area (which does not appear true given the results of section 5.3.2), a lack of time (which does appear to be an issue), or inappropriate ways of studying. Pressure to succeed in examinations combined with inappropriate study habits, could account for the fact that most students experienced anxiety during examinations.

5.3.7 Other issues

Three other issues concerning academic support namely, voluntary versus mandatory programmes, general versus course-specific programmes and

developmental versus remedial support were also addressed briefly in the questionnaire and the tick-list.

Voluntary versus mandatory programmes

The literature is divided on the issue of whether attendance by students of academic support programmes should be mandatory or voluntary. There does, however, appear to be support for compulsory attendance under certain circumstances, for example, requirements of bursars and continued failure of university examinations and tests. The responses of the organisations indicated that students "occasionally" to "mostly" (score of 3.33) felt that academic support should be compulsory and that they realised the need for academic support. The score shifted closer to "mostly" (3.67) in respect of students later realising the need for academic support.

The responses of the accountants indicated that they felt that academic support was "occasionally" to "mostly" (score of 3.67) needed at the time that they were studying, but with hindsight this changed to "seldom" to "occasionally" (score of 2.10). This latter reversal could be due to the fact that respondents did not remember how difficult the study period had been once they had completed their studies. On average, respondents felt that academic support should only "occasionally" be compulsory. The difference in perceptions of the two groups could be due to the fact that the group of accountants consisted of successful students.

General versus course-specific programmes

The literature and the persons interviewed were generally strongly in favour of course-specific academic support. However, the responses of accountants indicated,by virtue of their awareness of deficits in secondary school learning approaches (score of 2.82), that "general" or non-subject specific help was also needed, particularly in examination and study techniques. Literature, such as Sanders (1986) suggest that this need can and should be addressed within the context of the subject-specific syllabi.

Developmental versus remedial programmes

The most pressing need of most students appeared to be for remedial help, but there is strong support for allowing this to occur within a developmental context, so that students are not only academically helped but are also able to understand

and master the "systematic basis of accounting" (Cherry and Reckers, 1983, cited in Weil, 1990, p. 23). Programmes such as the Pre-univeristy bursary scheme address this issue of "contextual development". The in-house programmes of accounting firms cater indirectly to this need, since students are compelled to function as accountants, with the necessary skills and attitudes, immediately - provided appropriate work experience and exposure is permitted - whilst the remedial and teaching function occurs concurrently in the evenings and over weekends.

5.4 Assessing the results

The number of academic support programmes addressing the research problem is small. Representatives of all known, relevant programmes were approached to participate in the study. A number declined (see Appendix G), but it is considered that the dominant programmes were included. In respect of the group of successfully qualified accountants, numerous problems were encountered in contacting persons, obtaining agreement for participation in the study and collecting completed questionnaires. The sample size was 100%, but the response rate for completed questionnaires (11) and interviews (2) was only 29%. An additional 20% (9) returned the information sheet, but not a questionnaire. The information obtained from the information sheets (Appendix H) was included, where relevant, in the preceding discussion.

Despite the low response rates, consistent patterns appear to have emerged in the answers of the organisations and accountants. One pattern which emerged strongly was that whereby the scoring of accountants in the Lickert-test was consistently higher than that of the organisations. This could be due to the successful profile of the accountants participating in the study, or, alternatively, it could be due to the fact that the accountants were understating the difficulties they had experienced, due to their memory of the study period having faded. By contrast, the organisations' respondents were continually faced with the issues, and may have been biased towards overstatement of the problem areas.

An attempt was made to corroborate the responses to the questionnaires by using a Lickert-type tick-list. In addition, the responses of the accountants were compared to those of the organisations and vice versa. In general, it appeared that there were neither important differences between the responses to the main survey questionnaire and the tick-list, nor between the perceptions of the organisations and the accountants, although there were differences in emphasis in responses to questions.

Although it would have been desirable to apply more advanced statistical techniques to the research, in particular, factor analysis to the data produced by the Lickert-test, this was inappropriate due to the limited data.

The limitations imposed by the small population and small sample size as well as the low response rate mean that the results should be treated with extreme caution. This necessity is increased by the high degree of variability in the responses. What the results provide are certain trends and commonalities, serving as a guide to a further study.

5.5 Conclusion

The organisations, except for the in-house programmes of the accounting firms, all catered for non-English speaking students from a non-traditional accounting background. All of their efforts were geared towards small groups of select audiences. The trend in academic support programmes appears to be towards:

- faculty-based support and skills-based methodology;
- use of context-based materials;
- encouraging participative learning;
- encouraging students to assume responsibility for the learning process, and
- encouraging a movement from concrete to abstract thinking skills.

The evaluation of programmes is done by students, sponsors and administrators. The evaluation of students usually occurred by way of mainstream university examinations and tests. It is interesting to note that the accountants often chose to participate in programmes such as "Board courses" based on the perceived success of the programmes, as reflected by the number of successful passes in the Qualifying Examination.

The accountants questioned also came from the above-mentioned background. English was the medium of instruction of the programmes in all cases. The accountants formed a group of highly motivated people, with highly developed control over their learning, and constant self-evaluation and critical reflection skills. These elements, as envisaged by Agar *et al* (1991) appeared to be critical to their success. It is interesting to note that most accountants who had qualified at the time of the study, had not received any academic support other than the Board courses run by university lecturers or individuals, or the in-house courses run by accounting firms. These courses were run for all accounting students, regardless of race or background.

The use of facilitated and informal study groups appears to be a neglected area in the literature. A number of factors appear to be important in this regard. The initiation of study groups by students indicates an assumption of responsibility on the part of the students. The risk, however, exists that students are not receiving correct or appropriate input and feedback in informal study groups. Student responses in the Lickert test indicated that studying alone was preferred to studying in a group, although facilitated study groups were preferred to non-facilitated study groups. Students still appear to have been relying on inappropriate learning and study techniques, although what probably distinguishes the researched group of accountants from other groups is that the former group had sufficient insight to realise that its methods were inappropriate, resulting in efforts being made to rectify the situation during the study period. It is critical that these problems be addressed within accounting education, as has been consistently cited in other research (Sanders, 1986, Perkins and Salomon, 1988).

An area which has been ignored largely in the literature is the concept of locus of control over learning. A number of researchers and organisations (Spence, 1988, Agar *et al*, 1991) have mentioned it as a prerequisite for successful programmes and it is suggested that more attention needs to be paid to this concept. Most accountants appeared to have a greater degree of control over and responsibility for their learning than appears to be assumed by the academic support organisations. This could be due to the fact that historically little was available to these students by way of academic support, so that these students had to rely on themselves, their peers and support traditionally available to all students.

In conclusion, it appears that the efforts of academic support organisations are not yet evident in the group of black accountants who have successfully completed their training. The small sample size could naturally have had an impact on this finding. In order to see the effect of the support currently being provided, the research would have to be repeated in a number of years. Based on the literature review and initial survey, the academic support organisations do, however, seem to be directing their efforts in a theoretically sound method, partially as a result of many years of trial and error, at considerable cost. These efforts have not yet managed to increase materially the number of accountants from the black community.

CHAPTER SIX: CONCLUSION

6.1 Introduction

The stated research problem of this thesis is that there is a shortage of qualified chartered accountants from the black community in South Africa.

The first aim of the research is therefore to establish how the under-representation of chartered accountants from the black community has arisen, and which factors continue to inhibit the number of these accountants. The second aim of the research is to identify organisations which have attempted to address the shortage of accountants from the black population. The third aim is to identify the critical success factors of programmes aimed at increasing the number of black accountants.

The first and second aims were addressed in chapter two, by means of an initial survey of nine organisations and two black accountants. Seven issues were identified as being significant:

- awareness of the accounting profession;
- perceptions of the accounting profession;
- institutions and structures;
- racism in the corporate sector;
- financial factors;
- macro-micro environment;
- educational factors.

Due to the limitations of the small sample size and possible respondent bias, these factors should be seen as being the opinions of the persons interviewed, and not as being definitive. Furthermore, as South African society is changing and developing at a rapid pace, issues identified may have changed since the time of the research. The discussion of these issues included a review of attempts at addressing the underlying problems.

Of these issues, educational factors were considered to be within the influence or control of the various support organisations in existence. To establish which cognitive and educational factors were relevant to the group of persons included in this research, an extensive literature review was conducted; the results of this have been summarised in chapter three. The literature review involved relevant literature in the fields of academic support, cognition, learning and education, and accounting education. Literature pertaining to the individual's cognition is

important as it explores learning and educational problems from the perspective of the subjects of academic support programmes' efforts. Cognition and learning, learner characteristics, critical tasks, learning activities, achievement and environmental factors were thus also examined in the literature review.

Literature concerning academic support programmes stems from four basic paradigms:

- deficits or defects in learners;
- learner growth;
- societal change, and
- problem solving.

These paradigms were discussed in chapter three. It was argued that the problem solving paradigm was theoretically the one most likely to result in success, since it allowed for the cognitive and social development of the individual without the risk of loss of self-esteem and motivation, which had been indicated as a problem in programmes stemming from the other paradigms.

The third aim of the research was achieved by surveying organisations, as well as the body of existing qualified accountants from the black community. As a result of the literature review and the information gained in the initial survey, certain expectations were formed as to the constituent parts of a theoretically successful programme. Although not an aim of the research, the characteristics of a successful student were also considered.

The survey method was chosen as the most appropriate method to conduct this research, due to its flexibility in testing non-quantitative data. This methodology is discussed in chapter four.

The assessment of a hypothesised "successful" programme was based on the following items:

- motivation;
- awareness of needs;
- locus of control over learning, and
- cognitive and learning issues.

The survey was conducted by questioning representatives from support organisations, as well as a sample of respondents from the population of black chartered accountants. The results of these two surveys were collated and analysed, and discussed in chapter five.

The balance of this chapter will consider the research as a whole, will suggest possible ways of addressing the problem in the future and will propose avenues for further research.

6.2 Results

Given the limited quantitative analysis appropriate to the data produced by the study, the following statements in the Lickert test, which received relatively low average scores from both organisations and accountants, suggest problem areas which need attention in academic support programmes:

Question	Statement	Org	Acc
5	"They need help in study skills"	1.33	3.70
6	"They need help in exam techniques"	1.33	3.30
7	"They need help in accounting"	2.00	4.10
8	"They have no difficulty in using a financial calculator"	2.67	3.25
12	"They have difficulties in managing their time"	2.67	3.20

With regard to the needs section of the questionnaire, organisations and accountants agreed that problems with English were, in order of perceived difficulty, writing examinations, essays and assignments, followed by reading textbooks, notes and examination questions. Most numerical problems were encountered in understanding and interpreting numerical data, such as graphs and formulae followed by statistics. Examination technique was also considered to be a problem by both groups of respondents.

Questions related to the learning and study habits employed by the accountants did not yield similar responses. The perception amongst organisations appears to be that students are relying on inappropriate forms of learning, such as memorisation or rote learning and "cramming" before examinations, rather than studying consistently throughout the year. This perception does not appear to be shared by the accountants.

The section which follows, summarises the most significant results of all aspects of the research, namely the initial survey, the literature review, the pilot study and the main survey.

A conclusion to the literature review was that two broad divisions could be made when considering the characteristics of successful programmes, namely

fundamental and developmental factors. These divisions will be employed in the discussion which follows.

6.2.1 Fundamental factors

Fundamental factors are those structural, institutional or macro factors which are critical to the initiation, implementation and continuation of efforts and programmes to address the shortage of black accountants. These factors are considered to be out of the control of individual students. The factors are listed here from the broadest, least controllable factors to factors controllable by academic support programmes:

- societal or macro factors;
- macro educational institutional factors;
- professional institutions and structures, such as the SAICA and the PAAB;
- awareness and perception of the accounting profession;
- financial support;
- credibility and legitimacy of programmes;
- calibre of staff and role models;
- relevant teaching approaches.

The South African macro environment and macro educational factors are presently the subject of debate and negotiation as part of the current transitional period in South Africa, as an attempt is made to move towards a non-racial democratic society. It is important that pressure and lobby groups are involved in this process to ensure that the interests of the profession are served, and that the changes are appropriate for the needs of the economy. Due to the rapidly changing political and social climate, factors addressed in this study may become less important, while other factors, not itemised at this stage, may increase in importance. The results of this study reflect attitudes and opinions at a point in time, which may no longer be relevant in the future.

Professional institutions and structures are having their bases and assumptions questioned, not only by groups such as ABASA, but also by commerce and industry, which is experiencing the shortage of accountants from the black community most acutely, as well as by the accounting firms which are the only parties permitted to do the professional training of accountants. The appropriateness of the present structures needs to be considered.

The lack of awareness of the accounting profession amongst the black population, as evidenced by the results of the survey of accountants, still appears

to be a major factor. Most accountants had made their choice of a career and a profession at a fairly late stage, that is, at university. This was done on the advice of lecturers or recruiting personnel. The work of Louw (1985) is important in this regard. The way in which PROTEC has tackled the shortage of science and engineering students could be used as a model for the accounting profession.

Financial aid for students appears not only to be one of the most common forms of support, but also one of the most critical, given the financial backgrounds of the student population under consideration. However, one of the problems with financial support is that all academic support programmes in their present form are expensive (Agar, 1991, van Greuning, 1990). Considering the amounts of money which have been made available by the accounting profession and commerce and industry to endeavours such as the CAs' Eden Trust, university academic support programmes and by way of individual bursaries, and the number of potential beneficiaries, secondary alternatives to the present financial support pattern should be sought in order to reach more persons at a less mature educational stage, so that the base of potential accountants can be increased.

The factor of the credibility and legitimacy of the programmes was succinctly summarised by a common view of the accountants interviewed, namely, that market forces must be in operation. Programmes with proven success, as seen by the number of candidates who pass as a result of their participation in the programme, are favoured by students in successive years. The previously mentioned financial factors have an important implication with regard to the credibility and legitimacy of programmes. The credibility of standard, university faculty-based academic support programmes is being questioned by both radical organisations, as well as mainstream bodies and commerce and industry, due to their perceived elitism and the high cost for a relatively small throughput of students.

The existence of staff of a high calibre, who could also serve as role models to students, is a factor which is continually assessed by the internal, external and student evaluations of programmes. All parties appeared to express satisfaction in the questionnaires with the quality of the staff of the programmes.

The question of relevant teaching approaches is one which is the subject of much debate. A significant conclusion reached in this research is that the paradigm underlying an organisation's approach is critical to the success of the approach. Of the paradigms discussed in chapter three, the deficit paradigm, on the basis of

the responses to the research and according to the information available, seems to have been the dominant paradigm in operation to date. Whether this paradigm is still appropriate currently forms the basis of debate and discussion in academic support circles, and a movement is being made towards the problem-solving paradigm, which encourages the development of problem-solving skills in students, within an experiental learning environment. The problem-solving paradigm emphasis the following:.

- teaching new or more effective strategies and techniques for problem solving, and emphasising decision making;
- exposing students to more appropriate study methods;
- encouraging students to become more organised, active and independent in the management of personal, educational and career goals;
- promoting more effective and adaptive communication;
- students developing an active approach to their own lives and initiating and carrying through self-help activities in the communities;
- insight into behaviours, knowledge and skills required to initiate, maintain and improve interpersonal and inter group interactions;
- encouraging critical thinking that is, questioning open-mindedly and objectively the reasoning and value judgements of opinions, statements and situations;
- participation in real and simulated situations and field experiences (Louw, 1985).

The above-mentioned factors, summarised in a quote by Louw (1985), were mentioned by various interviewees during the study. Although these factors are the opinon of a small sample, which is not necessarily representative, the commonality of responses indicates that the issues may be worth consideration in the design of programmes. However, the efforts of organisations which may be doing everything "correctly" by implementing the criteria of a successful programme may still have their efforts thwarted by institutions and structures within the profession or within society which are beyond their immediate control. The critical expression of these issues could, however, be seen as a first step towards rectifying the situation, since it is vital that these aspects of the problem be addressed.

6.2.2 Developmental factors

Under developmental factors, issues which affect individual organisations or students will be discussed. Important developmental factors established during the course of the study were the following:

- cognitive coping strategies;
- problem solving critical tasks;
- achievement and motivation;
- social coping strategies;
- informal education in the home and by the family, and
- other related individual factors.

These results should be seen in the light of the small sample size and the possibility that the respondents were not representative of the larger population of students. The commonality of the responses, however, indicates trends and possible critical areas, rather than the prevalence or degree of intensity of the problem, which may vary between individuals.

In respect of cognitive coping strategies, both organisations' and, to a lesser extent, students' responses to the questionnaires indicated that students were still relying on inappropriate forms of learning, such as memorisation, rote learning and "cramming" before examinations.

The critical tasks required in problem solving are the encoding or input of the problem (Siegler, 1985) and problem representation, conceptual solution and physical execution of the problem (Duran, 1985). Of particular relevance to this research is the work of Duran (1985) on problem solving of bilingual students, as well as the literature pertaining to the deficit paradigm, in order to attempt to assess what factors are in operation which could impact on problem solving at each of its stages. The results of the research indicate that organisations are aware of the problems of language (important in all stages of problem solving) and numeracy (important in problem representation, conceptual solution and physical execution of the problem). The problems of cognitive development can be addressed in the context of problem solving in a course or subject-specific environment, if a skills-based approach is employed.

As far as achievement and motivation are concerned, Lehr (1983) showed a correlation between a student's achievement and the student's acceptance of responsibility for the learning process. This appears to be borne out by the research, as the experiences of Nombembe (chapter two) and other accountants (chapter five) show a strong degree of control over the learning process and a high degree of personal motivation. The locus of control and responsibility for the learning process is located within the individuals rather than in any specific programme. This could be a reason why none of the accountants had participated in an academic support programme, other than those traditionally subscribed to by all students of all races. Another reason could be the fact that

persons responding to the research had been students during a time when such programmes were neither prevalent nor accessible. Brown (1980) concluded that students had a role as the "manager" of their own knowledge, that is, "knowing when, what, one knows, what one needs to know and the benefit of taking active steps in changing the current state of knowledge" (p. 323). This "management" was seen to be operating in the successful accountants. In most cases, there was an acknowledgement of learning problems by the student and proactive steps were undertaken by the person to overcome these problems. Selection bias may have affected these findings, since only successfully qualified black accountants were surveyed in the study. Validation of these findings can only be made effectively in a study in which the locus of control over learning of "successful" and "unsuccessful" students is compared.

With regard to social coping strategies, Meyer (1985), in her research on cognitive socialisation, suggests that programmes' efforts should be concentrated on encouraging students to "think and behave as accountants". Using this approach, the development of the individual as a professional is emphasised. The programmes which (perhaps unknowingly) conform to this ideal, are the in-house training and academic support programmes of accounting firms, which provide supplementary education to professional staff and require them to "think and behave as accountants" in the pursuit of their daily activities. In coping with the work situation, students are forced to adapt their approach to problem solving, ensuring that all critical tasks are adequately completed. Students' learner characteristics also have to undergo change, since rote learning is not only inappropriate, but cannot be applied. Language development, in particular oral and written communication, also has to occur at a rapid pace. Glaser (1985) warns about the problem of passive knowledge and a low level of basic knowledge was one of the factors which Weil (1989) found distinguished expert from novice accountants. For knowledge to be effective, it has to be put to use in thinking and learning. As Merton (1976, cited in Williams *et al*, 1988) and Milton, Pollio and Eison (1986) concluded, the choice exercised by students of how to learn is based on how they perceive the instructional tasks, and whether and how material is going to be examined. The fact that basic knowledge has to be acquired and put into use appropriately in practice, suggests part-time study as an effective form of study for accountants from the black community, who due to personal or financial considerations are unable to complete full-time study in a traditional educational environment. The trend towards the use of experiential learning by support programmes for full-time students is therefore encouraging, since it combines some of the positive aspects of part-time study,

while a number of problems related to part-time study, such as lack of time and excess stress, do not interfere with the learning process.

6.3 Addressing the hypotheses

In chapter one the null hypotheses were stated as follows:

$H0_1$: a significant number of factors have contributed to the shortage of black accountants in South Africa;

$H0_2$: academic support programmes and other similar organisations which have been formed, are addressing the shortage of black accountants comprehensively;

$H0_3$: there are critical factors which determine the success of programmes designed to increase the number of black accountants in South Africa.

The initial survey, discussed in chapter two, highlighted many factors which have contributed to the shortage of black accountants in South Africa. These ranged from socio-economic and macro environmental issues to problems which individuals had experienced with motivation and finances. On the basis of this exploratory research the first null hypothesis should therefore be accepted.

Of the factors identified, it was decided that as the educational factors were the most pervasive, and as these factors were being dealt with explicitly by organisations, that these factors be chosen as the focus of this research.

The identification of organisations concerned with increasing the number of black accountants was an ongoing process throughout the research. Due to the limited population, the main source of information was representatives of the organisations, and qualified black accountants. With respect to the comprehensiveness of the approach of the organisations, an evaluation of the results of the research leads to conflicting conclusions. On the one hand, programmes appear to have been successful in ensuring that the students who enter their programmes achieve academic success at various levels - either by attaining a degree, or by completing the chartered accountant's qualification after graduation. Programmes providing financial support have ensured that sufficient funds are available to enable students to finish their studies. However, it is difficult to assess whether programmes have actually contributed significantly to increasing the number of accountants or whether, in the words of Miller (1989), they are still just a "propping up operation," which continues to operate within

the status quo for those persons already in the educational system. The task is not made easier by the fact that of the 45 qualified black accountants identified in 1991, only 14 participated in various stages of the research. The sample can therefore not be considered to be representative, either of qualified black accountants, or of black accounting or commerce students as a whole. In addition, the lack of particpation of these respondents in organised support programmes could possibly be correlated better to the age of the participant, or the year of graduation, than to the efficacy of the programme. In addition, at the time of the research, little by way of statistics (besides the CAs' Eden Trust) was available, due to the short time of operation, the small number of participants or changes in programmes, leading to lack of comparability between years. These issues may be addressed more adequately in future research.

This study would, however, like to offer the following comment on the second hypothesis: it appears as if those respondents who did succeed in qualifying as chartered accountants, did so due to their own unique psychological and intellectual qualities, they took responsibility for their learning and took part in programmes which they had evaluated on the basis of the prior success of the programmes, which were no different to those participated in by white students. Of the accountants who responded to the research, none had received any academic support beyond that received by their white contemporaries. The support which they received consisted of the following:

- faculty-based support;
- in-house education - accounting firm academic support;
- in-house education - accounting firm general support (for all students);
- financial support, and
- Board courses (available to all students).

The above discussion therefore concludes more about the charateristics of the qualified accountants, than on the charateristics of "effective" support programmes. The form of support which does appear to have been effective is financial support (see statistics from the CAs' Eden Trust, Appendix M), since this met one of the most pressing needs of students.

On the balance of evidence from the literature review and the empirical research, there does not therefore appear to be sufficient evidence to either support or to reject the second null hypothesis.

The literature review concluded with the identification of critical success factors for academic support programmes. These were examined further in the pilot study and main survey and have been discussed in detail previously. The results support the third null hypothesis, that is, that there are critical factors which determine the success of programmes designed to increase the number of black accountants in South Africa. However, the non-quantifiable factors such as the motivation of individuals participating in programmes, and locus of control over learning, should not be underestimated. These areas merit further investigation in the future.

6.4 Implications

The findings of this research have both long and short-term implications. Naturally, the ways in which the accounting profession intends to proceed in the short term will impact on the long term. These implications will now be discussed separately.

6.4.1 Implications for the short term

By the creation of the CAs' Eden Trust the profession has both acknowledged the acuteness of the problem of the shortage of black accountants, as well as indicated its willingness (financially at least) to address the problem. There is, however, a pressing need for the profession to explore other non-financial ways of addressing the problem.

The profession will have to be more proactive in creating an awareness of the accounting profession in all communities. It is essential that students are given the necessary information at secondary school level, so that they can make timely and informed choices about subjects at school which will enable them to make appropriate career choices later. In addition, assistance at secondary school level, for example, in the form of tuturing and vacation work, should be encouraged.

Consideration should be given to allowing students to write the Qualifying Examination in their own languages. The current system of the examination being set and written only in English and Afrikaans presents an additional hurdle to many students.

6.4.2 Implications for the long term

Consideration needs to be given to the structure of the professional education of accountants. The profession needs to investigate methods of professional education employed in other countries which are considered to be leading countries in the fields of education in accounting and auditing, such as the United Kingdom, the Netherlands, the United States of America and Australia. One of the consequences of the recent political changes in South Africa is the opening of the academic and professional world to ideas and input from other countries, as well as international awareness of needs in South Africa.

Based on the opinions of persons interviewed in this research, there are indications that accounting firms' academic support or in-house education efforts have been successful in developing black chartered accountants. The accounting profession has an advantage over other professions, in that the training allows for part-time study. Accounting firms need to be stimulated in these endeavours. However, related issues also need to be considered. These include:

- whether the professional education of accountants, including the Post-Graduate Certificate in Accounting (a requirement to write the Qualifying Examination), is the responsibility of universities, the professional bodies, or other institutions, and
- whether accounting firms are able to train sufficient numbers of accountants from all races to meet the needs of the economy, or whether alternatives for the practical training of accountants at all levels, and not just chartered acccountants, need to be sought.

In order to maintain credibility and legitimacy in the longer term, an effort will have to be made to broaden the base of academic support programmes. By concentrating their efforts on only a few individuals at higher educational institutions, there is the risk that programmes could be labelled elitist. In this regard, the profession could consider the approach of PROTEC, an organisation which appears to have had success in creating an awareness of technical fields and is concentrating not only on attempting to procure eligible matriculants to enter those fields, but also to ensure that the pool of potential scientists and engineers is larger, by focusing its efforts at secondary school level.

At the time of the study, the impression was gained that the various bodies involved in accounting academic and educational support, namely, university academic support programmes, private endeavours, accounting firms, professional bodies and special interest groups, would benefit from the sharing of

experiences and the synergy of co-ordinated efforts. Parties could possibly benefit from a database of organisations, interested parties and students.

There are a number of ways in which facilities, experience and knowledge could be shared. These efforts would be complementary and would jointly represent a co-ordinated strategy to the problem. Joint ventures could be formed between commerce and industry, accounting firms and university academic support programmes, whereby university personnel could be used to lecture specialised areas such as language and thinking and learning skills to part-time students. Persons from accounting firms and commerce and industry could be used by the academic support programmes to assist in the preparation of case studies and workshops to facilitate experiential learning, as well as by acting in a mentor capacity. Commerce and industry, in conjunction with smaller businesses and entrepreneurs, could promote projects whereby students manage the accounting of businesses, which would otherwise be unable to employ an accountant.

6.5 Suggestions for further research

This research is exploratory and descriptive in nature. It is anticipated that it could form the framework for future research in this field. The non-quantitative nature of the study was due to the small populations available at the time. It is suggested that a similar study could be repeated, using larger databases, permitting meaningful statistical analysis and manipulation.

Future research directed at the following issues could be of value:

Experiential learning

The theories of cognitive socialisation have found practical application in an increasing emphasis on experiential learning. There are a number of practical feasibility studies which could be done, which would benefit not only black accounting students, but the black community as a whole. An example of this is a study into the viability of setting up a project for student accounting assistance to entrepreneurs.

Facilitated and informal study groups

More information is needed on the formal and informal education of persons from the black community at all levels, particularly with respect to commercial education.

Locus of control and responsibility for learning

Anecdotal evidence from this research appears to indicate that students who assume control and responsibility for the learning process, and manage this, are more successful than students who lack awareness of these processes. This needs to be assessed in an academically rigid manner.

Part-time study

A large number of qualified persons participating in the research had studied part-time. This appears to have had advantages, such as the operation of cognitive socialization. However, there are a number of disadvantages and problems related to part-time study, particularly for black persons, such as time management, the home environment and work-related stress. These aspects could be considered further.

Re-entry of older persons with other or lower qualifications, in to the field

The small pool of black persons who can potentially enter accounting studies (Hofmeyr and Spence, 1989) will remain an acute problem until attention can be paid to improving black secondary education. The viability of and ways in which older persons from other academic disciplines, with the potential to succeed, can be given the opportunity to enter the accounting field, should be investigated.

Comparative studies between successful and unsuccessful students within the black population

Academic success by students appears to be related to a number of environmental and personal factors. Comparison of a range of qualities could be made. Studies such as these would not only assist the students, but would also potentially be of assistance to employers and universities in identifying students with potential.

Comparative studies between black and white students

Suggestions have been made during the course of this research that both black and white students experience similar cognitive and learning difficulties in tertiary education, and that the problems are merely exacerbated in black students, due to disadvantages in primary and secondary education. These ideas could be more rigorously investigated.

Ways and viability of concentrating on secondary school students

The need to concentrate efforts at a broader level, including secondary school students, was indicated in the literature (Agar et al, 1991) and interviews (van Greuning, 1990). Ways in which this can be achieved practically, however, will need to be researched, particularly with a view to the present unrest prevailing in black secondary education in South Africa.

Bilingualism

Both this research and that of Sanders (1986) indicated that there are numerous language-based issues affecting the success of non-English speaking students. There is an awareness of the presence of these problems by organisations, although the full implications of and ways in which this issue can be addressed, are under-represented in the literature. In addition, there appears to be a lack of acknowledgement or even denial of a language problem on the part of the students. There is a particular paucity of research related to bilingualism in the multi-lingual South African context, the most relevant research having been conducted in the North American context by Duran (1985). It is suggested that research in this area should be practically, rather than linguistically, orientated to achieve the greatest relevance.

Other relevant accounting training

In order to limit the scope of this research, the investigation was limited to the training and education of chartered accountants. Questions such as the relevance of the training of chartered accountants to the current and future South African economy have deliberately been ignored, as has training at non-university level. These issues will need to be addressed.

In setting out potential areas for future research, consideration has been given to concentrating on practical research with immediate applicability, rather than to the development of theories.

6.6 Conclusion

Despite the methodological and sample size difficulties of this study, which have impacted on the strength of the results and conclusions which can be drawn, trends and common responses between the literature and surveyed populations can be inferred.

Agar *et al* (1991) underline the difference between finding an ideal and a replicable model of effective support programmes. Their criteria for replicability are transferability, affordability, and scale of needs; they conclude that effective programmes in South Africa in their present form are expensive, cannot be reproduced on a large scale and have limited transferability. Is academic support in its current form at the current costs worthwhile and legitimate, or can other means of spending the same amount of money more effectively be found?

These statements and questions do not, however, negate or minimise the considerable advances made and achievements accomplished, or the knowledge which has been build up over the years by these programmes; they merely point out that future effectiveness will depend on the application of this experience and knowledge to a broader population. The problem is one which needs to be addressed on a number of fronts. While continuing to provide support to persons currently involved in tertiary education, and developing intermediate and bridging programmes, significant inroads need to be made in broadening the base of educational support programmes to include secondary education.

BIBLIOGRAPHY

ABASA - Third Annual Convention of the Association of Black Accountants of Southern Africa - Information Brochure.

ABASA News, Newsletter of the Association of Black Accountants of Southern Africa, Vol. 3, No. 4, December 1990.

AECI Executive Education Report (1988).

Agar, D., J. Hofmeyr, and J. Moulder, "Bridging Education in the 1990's: Learning from Experience". The Education Foundation, working paper, 1991.

American Accounting Association, "Accounting Education and the Third World", (AAA, 1978).

Andrews, J. D. and N. B Sigband, "How Effectively Does the 'New' Accountant Communicate? Perceptions by Practitioners and Academics," The Journal of Business Communications (Spring 1984), pp. 15-24.

Arthur Andersen & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskins & Sells, Ernst & Whinney, Peat Marwick Main & Co., Price Waterhouse, Touche Ross,. "Perspectives on Education : Capabilities of Success in the Accounting Profession", April 1989, pp. 1-15.

Association of Black Accountants - Cape Region Skills Training Programme.

Austin, J.D., "When to Allow Student Questions on Homework," Journal for Research in Mathematics Education (January 1980), pp. 71-75.

Baker, R. E., J.R. Simon, and F.P. Bazeli, "Selecting Instructional Design for Introductory Accounting based on the Experiential Learning Model," Journal of Accounting Education (Vol. 5, 1987), pp. 207-226.

Bedford, N (Chair), "Future Accounting Education: Preparing for the Expanding Profession", The American Accounting Association Committee on the Future Structure, Content, and Scope of Accounting Education. "SPECIAL REPORT. Future Accounting Education : Preparing for the Expanding Profession," Issues in Accounting Education, (Spring 1986), pp. 168-195.

Belkaoui, A., "Learning Order and Acceptance of Accounting Techniques," The Accounting Review (October 1975), pp. 897-899.

Belkaoui, A., "The Accounting Students' Need for achievement and Career Aspirations: An Experiment," Issues in Accounting Education (Fall 1986) pp. 256-278.

Bereiter, C & M. Scardamalia, "Cognitive Coping Strategies and the Problem of "Inert Knowledge" pp. 65-80 in Segal, J.W., Chipman, S.F, and R. Glaser., (eds)., "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Bouwman, M. J., "Expert vs. Novice Decision Making in Accounting : A Summary, " Accounting, Organisations and Society (Vol. 9 (3/4), 1984), pp. 325-327.

Bouwman, M. J., "The Use of Protocol Analysis in Accounting", Accounting and Finance (May 1985), pp. 61-84.

Boritz, J.E, "Accounting curriculum development: an Alberta example." CA Magazine, (November 1987), pp. 60-65.

Bransford, J.D/, "Human Cognition" (Belmont, CA: Wadsworth Publishing Company, 1979).

Bransford, J.D., Arbitman-Smith, R., Stein, B.S., & Vye, N.J., "Analysis - Improving Thinking and Learning Skills: An Analysis of Three Approaches" pp. 133-208, in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol. 1): Relating Instruction to Research", (Lawrence Erlbaum Associates, 1985).

Brown, A.L. "Mental Orthopaedics, the Training of Cognitive Skills: An Interview with Alfred Binet", pp. 319-337, in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills" (Vol. 2): Research and Open Questions (Lawrence Erlbaum Associates, 1985).

Brown, A.L, J.D. Bransford and M.T.H Chi. "The development of expertise" Paper presented at the Michigan Conference on Experimental and Developmental Approaches to Memory Research (October 1979).

Cherry, A.A., and P.M.J. Reckers, "The Introductory Financial Accounting Course : Its Role in the Curriculum for Accounting Majors," Journal of Accounting Education (Spring 1983), pp. 71-82.

*Chipman, S.F & Segal, J.W., "Higher Cognitive Goals for Education; An Introduction." pp. 1-20, in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol 1): Relating Instruction to Research" (Lawrence Erlbaum Associates,1985).

Cloete, N. & Shochet, I., "Alternative to the Behavioural Technicist conception of study skills" ASPect 6, Journal of the Academic Support Programmes, December 1985, pp. 42-60.

Cottrell, R.G. "From the President: Continuing professional education" Accountancy SA, vol. 5, no. 3, 1988, p.112.

Covington, M. V. "Strategic thinking and the Fear of Failure" pp. 389-416, in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol. 1): Relating Instruction to Research" (Lawrence Erlbaum Associates, 1985).

Craig, A.P. "The conflict between the familiar and unfamiliar" SAJHE/SATHO (Vol. 3, No. 1), 1989, pp. 166-172.

Curtis, D. "Pre-University Bursary Scheme, Continuing Academic Tutorial System: Information for Prospective Sponsors". University of the Witwatersrand, Johannesburg, 1989.

Dansereau, D.F. "Learning Strategy Research", pp. 209-309 in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol. 1): Relating Instruction to Research", (Lawrence Erlbaum Associates, 1985).

De Avila, E. A & S. Duncan, "The Language-Minority Child: A Psychological, Linguistic, and Social Analysis." pp. 245-273, in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

De Bono, E. "The CoRT Thinking Program" pp. 363-388, in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol. 1): Relating Instruction to Research", (Lawrence Erlbaum Associates, 1985).

De Lange Report: Education Provision in the RSA. Human Sciences Research Council Investigation into Education (Reports of Committees), 1981.

Duran, R.P., "Influences of language skills on bilinguals' problem solving. " pp. 187-207 in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Educational Realities in South Africa 1990. Report: Nated 02-300 (91/06) June 1991. National Education Policy Branch, Department of National Education, Pretoria.

Educational Renewal Strategy. Discussion Document. June 1991. The Department of National Education. Pretoria.

Enthoven, A.J.H., "The Internationalization and Harmonization of Accounting Standard, Practices and Education in Developing Countries," Unpublished paper (International Accounting Congress, Lesotho, 1985).

Enthoven, A.J.H., "Accounting Education: Its Importance and Requirements (An Economic Development Focus)," V International Conference on Accounting Education (Ave Maria Press, 1987), pp. 11-46.

Estes, R., "The Profession's Changing horizons: A Survey of Practitioners on the Present and Future Importance of Selected Knowledge and Skills," The International Journal of Accounting Education and Research (Spring 1979), pp. 69-111.

Feuerstein, R., Y. Rand, M. Hoffman and R. Miller, Instrumental Enrichment (University Park Press, 1980).

Feuerstein, R. Jensen, M., Hoffman, M.B. & Y. Rand., "Instrumental Enrichment, An Intervention Program for Structural Cognitive Modifiability." pp. 42-82 in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Glaser, R., "Learning and Instruction: A Letter for a Time Capsule" pp. 609-618 in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Gough, H. G., and W.B Hall, "An Attempt to Predict Graduation from medical School," Journal of Medical Education (October 1975) pp. 596-604.

Gross, B., and R. Gross, A Review of Innovative Approaches to College Teaching (American Accounting Association, 1980).

Hawksworth, B, "PDC acts to increase black accountants", Accountancy SA, May 1991, pp. 135 -138.

Hayes, J. R., "Three Problems in Teaching General Skills", pp. 391-405, in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Hofmeyr, J & Spence, R., "Bridges to the Future", (1989), Optima, pp. 37-48.

Hopper, T. "Learning Management Skills and Professional Accounting Education and Training." Southampton Conference on Relevant Degrees and Professional Accountancy Education, September, 1982.

Howard. K. and Sharp, J.A. The Management of a student research project. Gower Publishing Company Ltd, 1983.

Hunter, A.P., "Quinquennium of academic support: issues and problems" ASPect 6, Journal of the Academic Support Programmes, December 1985, pp. 1-11.

Inhelder, B and Piaget, J. The growth of logical thinking from childhood to adolescence: an essay on the construction of formal operational structures. Translated by A. Parsons and S. Miligram. London: Routledge & Paul Kegan, 1958.

Joubert, D., "Dedicated to Development", Accountancy SA, (July 1988), pp. 197-200.

Lee, T. "Education, Practise and Research in Accounting: Gaps, Closed Loops, Bridges and Magic Accounting." Accounting and Business Research (Vol. 19, No. 75), pp. 237-253, 1989.

Leedy, P.D., "Practical Research: Planning and Design." Fourth Edition, Macmillan Publishing Company, New York, 1989.

Lehr, M., "Student Responsibility as a Factor in Determining Learning Achievement," Clearing House (February 1983) pp. 245-247.

Lipman, M., "Philosophy for Children, " Metaphilosophy (7(1), 1976).

Lipman, M., "Thinking Skills Fostered by Philosophy for Children" pp. 83-108 in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol.1): Relating Instruction to Research" (Lawrence Erlbaum Associates, 1985).

Lochhead, J., "Teaching Analytic Reasoning Skills Through Pair Problem Solving" pp. 109-132, in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol.1): Relating Instruction to Research" (Lawrence Erlbaum Associates, 985).

Loubser Commission into Developments in the Accountancy Profession in South Africa, (1980).

Louw, L.L. "Vocational Development, Guidance and Planning in the context of the current South African situation", paper for PROTEC (Programme for Technological and Engineering Careers), 1985. pp. 1-9.

Lowe, E.A., & A.M. Tinker., "An Educational design for `shifting' degenerate social science paradigms: An application of general systems theory" International Journal of General Systems, 1976, Vol. 2, pp. 231-237.

Lowe, E.A. "Design Criteria for the Accounting Curriculum" A paper presented at the European Accounting Association Conference, Amsterdam, March 1980.

Lowe, A.E., "Alternative Scenarios: An outline of an Academic Viewpoint", Southampton Conference on Relevant Degrees and Professional Accountancy Education, September, 1982.

Markell, W., "Development of Accounting Education and the Accounting Profession in Third World Countries: Botswana." The International Journal of Accounting Education and Research, (vol. 21 Fall 1985), pp. 100-105.

Martineau, R. "First term report on the London compact" Personnel Management, April, 1989, pp. 37-41.

McKeachie, W.J., "Improving Lectures by Understanding Students' Information Processing," in McKeachie, W.J., ed., Learning Cognition, and College Teaching (San Francisco: Jossey- Bass, Inc., 1980), pp. 25-35.

Mehl M.C., and S. H. Weil, "Accounting Education in a Disadvantaged Socio-Economic Environment : A South African Case Study", Proceedings of the Sixth International Conference on Accounting Education (Greenwood Press and Yushodo Co., 1988), pp. 846-855.

Meichenbaum, D. "Teaching Thinking: A Cognitive-Behavioral Perspective", pp. 407-426, in Segal, J.W., Chipman, S.F, and R. Glaser, eds., "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Meyer, M. I. "Cognitive Socialization: A model for Cross-cultural Education Programmes", working paper (1985).

Miles, M. B. "Qualitative Data as an Attractive Nuisance: The Problem of Analysis" pp. 117 - 134, in Van Maanen, J (editor) "Qualitative Methodology" Sage Publications, Newbury Park, 1989.

Milton, O., H. R Pollio, and J.A Eison, Making Sense of College Grades (San Francisco: Jossey-Bass Publishers, 1986).

*Miller, R., "Conceptual issues in theorising about cognition", SAJHE/SATHO, (Vol. 3, No. 1), 1989, pp. 154-159.

Milligan, M. W., and R.L Reid, "Homework: Its relationship to Learning," Engineering Education (October 1973), pp. 32-38.

*Moll, I. & L. Slonimsky, "Towards an understanding of cognition and learning in the academic support context." SAJHE/SATHO (Vol. 3, No. 1), 1989, pp. 160-166.

More, C., "Israel Skosana, A Man You Can Count On", Tribute (April 1988), pp. 53-55.

Morphet, A. "Adult Learning" , working paper, 1991.

Morphet, A., "IR: developing and refining corporate ideology." HRM Yearbook, 1989, pp. 54-59.

National Education Policy Branch, "Education Realities in South Africa 1990", Report: Nated 02-300(91/06), June 1991, Department of National Education, Pretoria.

Pask, G., "Styles and Strategies of Learning", British Journal of Educational Psychology Vol. 46 (1976), pp. 128-148.

Perkins, D.N., "General Cognitive Skills: Why Not?", pp. 339-363, in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Perkins, D.N., and G.V. Salomon, "Teaching for Transfer," Educational Leadership, (September 1988), pp. 22-32.

Pettigrew, A. M. "On Studying Organisational Cultures" pp. 87-104 in Van Maanen, J (editor) "Qualitative Methodology" Sage Publications, Newbury Park, 1989.

Polson, P. G. & R. Jeffries, "Instruction in General Problem-Solving Skills: An Analysis of Four Approaches", pp. 417-455 in Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol. 1): Relating Instruction to Research" (Lawrence Erlbaum Associates, 1985).

PROTEC, "Student Enrichment Areas" Paper compiled by PROTEC (Programme for Technological and Engineering Careers), 1985.

PROTEC, Annual Report 1988/1989.

Putland, P., "The CA's Eden Trust" Accountancy SA, (February 1988).

Ramano, M., "Association of Black Accountants of Southern Africa - Reaching Out" Accountancy SA (November 1987), pp. 347-350.

Ramano, M., "The Association of Black Accountants", Tribute (April 1988), pp. 48-50.

Rowlands, J.E., "The Effect of Secondary School Accounting Study on Student Performance in the First Year University Financial Accounting Course", De Ratione (Volume 2, Number 2, Summer 1988).

Sanders, M.R., "What can we learn from the two and a half decades of American Research on Academic Support Programmes", ASPect 6, Journal of the Academic Support Programmes, December 1985, pp. 84-89.

Sanders, M. R., "An evaluation of the Zoology 1 Academic Support Programme at the University of the Witwatersrand." A Research Project Submitted to the Faculty of Education, University of the Witwatersrand, Johannesburg, in Part Fulfilment of the Requirements for the Degree of Master of Education, Johannesburg, 1986.

Sass, A., "Academic Support in Engineering at the University of Cape Town", SAJHE/SATHO (Vol. 2, No. 1, 1988), pp. 25-28.

Segal, J.W., Chipman, S.F, & R. Glaser., (eds.) "Thinking and Learning Skills (Vol.1): Relating Instruction to Research", (Lawrence Erlbaum Associates, 1985).

Segal, J.W., Chipman, S.F, and R. Glaser, eds., "Thinking and Learning Skills (Vol. 2): Research and Open Questions" (Lawrence Erlbaum Associates, 1985).

Selden, P., "Changing practices in Faculty Evaluation", Jossey-Bass Publishers, San Francisco, 1984.

Seneque, P.J.C., " Accounting and Financial Education and Training in Post Apartheid South Africa", Southern African Society of University Teachers of Accounting, Ninth Nation Congress, Concurrent Papers, Volume 1 (1987), pp. 38-69.

Shute, G.E., Accounting Students and Abstract Reasoning: An Exploratory Study. A Research Report (American Accounting Association, 1979).

Siegler, R.S., "Encoding and the Development of Problem Solving" pp. 161-185, in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions", (Lawrence Erlbaum Associates, 1985).

Simmons, W. "Social Class and Ethnic Differences in Cognition: A Cultural Practice Perspective", pp. 519-535, in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions", (Lawrence Erlbaum Associates, 1985).

Singleton, W.T., (ed.) "The analysis of Practical Skills", The study of real skills, (Vol. 1) MTP Press, Lancaster, 1978.

Slonimsky, l & Turton, R., "Developments in the conceptual skills programmes for Academic Support Programmes in the Faculty of Arts at Wits", ASPect 6, Journal of the Academic Support Programmes, December 1985, pp. 61-66.

Smith, J.G. "Survey Research Methodology and Questionnaire design - a skeletal outline." in Research Methods for higher degrees, Papers presented at a lecture series arranged by the Higher Degrees Committee in the Faculty of Education, February 1983. University of Cape Town, 1983.

Smith, P.M., "An Investigation into the Nature of, and Relationships between Educational Objectives as stated and those inherent in related examination questions for Auditing Courses at South African Universities", Unpublished Master's Thesis, University of Cape Town (1987).

Snow, R. E., and P. L. Peterson, "Recognising Differences in Student Attitudes," in McKeachie, W.J., (ed.), Learning Cognition, and College Teaching (San Francisco: Jossey- Bass, Inc., 1980).

South African Institute of Chartered Accountants "Message from the President introducing the Voluntary Employment Code", Accountancy S.A. (March 1988), pp. 65-70.

Sternberg, R. J., "Instrumental and componential approaches to the nature and training of intelligence," in Segal, J.W., Chipman, S.F, and R. Glaser., (eds.), "Thinking and Learning Skills (Vol. 2): Research and Open Questions", (Lawrence Erlbaum Associates, 1985) pp. 215-243.

Sudweeks, R.M. & Diamond, R.M., "Questions that should be considered in designing a comprehensive Evaluation of a college course", Occasional Paper, Center for Instructional Development, Syracuse University. 1975.

Surtees, P.G., "A possible Solution to our Manpower Shortage." Accountancy SA (June 1988). pp. 166, 184.

Swartz, T. R., W.I Davison, and F.J. Bonello, "Why have We Ignored the Distribution of Benefits From College Instruction?" Journal of Economic Education (Spring 1980), pp. 28-36.

Tabberer, R. Introducing study skills: an appraisal of initiatives at 16+. R. Tabberer and J. Allman (Windson NRER-Nelson, 1983).

The Business Magazine, "Bridging the Accounting Gap", (March 1988), pp. 12-13.

The CAs' Eden Trust, "Newsletter" (Winter 1988).

The CAs' Eden Trust, "Annual Report" 1989.

The CAs' Eden Trust, "Annual Report" 1990.

The CAs' Eden Trust, "Statement of Principles".

Thomas, L.F. "Learning Conversations: The skill of Managing Learning". Social skills: The study of real skills, Vol. 4, (ed.) W.T. Singleton, MTP Press, Lancaster, 1983.

University of Cape Town Academic Support Programme, "Director's Report of the ASP Committee on ASP Programmes and Activities in 1990".

University of Cape Town Academic Support Programme, "ASP in the 1990's: Planning for Educational Development": A discussion document for the ASP Committee/Staff Seminar on 20 May 1991.

Van Greuning, H., "Black Accountants - Facts the Profession Should Know", Accountancy S.A (June 1987), pp. 177-184.

Van Greuning, J. H., "'n Ondersoek na die Opleiding van Rekenmeesters in Suid-Afrika" Verhandeling voorgelê ter vervulling van die vereistes vir die graad Magister in die Ekonomiese en Bestuurswetenskappe, Randse Afrikaanse Universiteit, 1982.

Van Maanen, J (editor) "Qualitative Methodology" Sage Publications, Newbury Park, 1989.

Vilakazi, H.W. & Tema, B., "White Universities and the Black Revolution", ASPect 6, Journal of the Academic Support Programmes, December 1985, pp. 18-40.

Vygotsky, L.S., "Mind in Society: The Development of Higher Psychological Processes", Harvard University Press, Cambridge, 1978.

Weil, S.H., "Addressing the Problems of cognition in a first year accounting course at the University of the Western Cape", Thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy, University of the Western Cape, 1989.

Weil, S.H., Self-Teaching Units in Fundamental Accounting (Self-published, 1988).

Weil, S.H. & D.B.L., Molteno, "Accounting Education in a Changing South Africa: The Challenges of the Future", International Handbook of Accounting Education and Certification (Pergammon Press, 1992), pp 71-81.

Whimbey, A., and J. Lochhead, "Problem Solving and Comprehension : A Short Course in Analytic Reasoning" (The Franklin Institute Press, 1979).

*Williams, J.R., M.G. Tiller, H.C. Herring III, and J.H. Scheiner, A Framework for the Development of Accounting Education Research (Coopers and Lybrand Foundation and American Accounting Association, 1988).

Wilson, R.M.S., "An approach to developing the skills of an effective accountant". Draft copy of paper, undated.

Yin, R. K. "Case Study Research: Design and Methods" Applied Social Research Methods Series, Volume 5 (Sage Publications, 1989).

APPENDIX A
INITIAL SURVEY QUESTIONNAIRE

1. TYPE OF ORGANISATION

1.1	Name of organisation:	
1.2	Name of interviewee:	
1.3	Membership numbers:	
1.4	When was your organisation formed?	
1.5	Why was your organisation formed?	
1.6	Do you see yourself as primarily a :	
	* Professional organisation	
	* Industry-based organisation	
	* Community-based organisation	
	* Educational organisation	
	* Other (specify)	

2. AIMS OF ORGANISATION

2.1	Do you have a mission statement?	
2.2	If yes, what is it?	
2.3	If no, what is the aim of your organisation?	

3. TARGET AUDIENCE

3.1	At which persons/ group of persons do you target your activities?	
	* Secondary School	
	* Tertiary education - Technikon - University	
	* Employees	
	* Community	
	* Other (Please elaborate)	
3.2	Do you target different programmes at different audiences?	
3.3	If yes, can you elaborate?	

4. ADMINISTRATION

4.1	Number of administrative staff	
	* Full Time	
	* Part Time	
4.2	Number of teaching staff	
	* Full Time	
	* Part Time	
4.3	Do you experience difficulties in attracting employees to? (specify per programme)	
	* Co-ordinate & plan your activities	
	* Administer	
	* Teach	
4.4	If yes to any of the above, can you identify the nature of the difficulty?	
	* Calibre/qualifications	
	* Remuneration	
	* Perceptions of organisation	
	* Other	
4.5	Do you wish to comment on any of the above factors?	
4.6	What is the typical length of your programmes?	

5. FINANCIAL DETAILS OF ORGANISATION

5.1	Do you charge for your services?	
5.2	If yes, what are your fees?	
5.3	Can you express this as an hourly rate?	
5.4	Is your organisation financially self-supporting?	
5.5	If no, what is the source of your financial aid? (government, private body, industry or other)	
5.6	If other, please elaborate.	
5.7	Do you reduce expenditure on training in an economic downswing, rather than rationalise other expenditures?	
5.8	Do you have difficulty in obtaining funding in times of an economic downswing?	

6. FINANCIAL DETAILS OF STUDENTS

6.1	Do you give financial assistance to students attending your programmes?	
6.2	Is this assistance for?	
	* Books	
	* Transport	
	* Course costs	
	* Exam fees	
	* Residence	
	* Other (specify)	
6.3	Are there any other sources of financial assistance for those whom you do not assist?	
6.4	Do you put students in contact with those sources?	
6.5	How?	
6.6	Is this effective?	

7. NON-FINANCIAL ASSISTANCE

7.1	Do you receive non-financial assistance?	
7.2	If yes, from whom, and what type of assistance?	
7.3	Do you have the support of unions?	
7.4	If yes, what type of support do you receive?	
	* Encouragement of employees to join	
	* Monetary support	
	* Teachers	
	* Other	

8. ADMISSION TO PROGRAMME

8.1	How many people apply for your programme, and how many are accepted?	
	* Apply	
	* Accepted:	
8.2	Do you have admission requirements / criteria?	
8.3	If yes, specify	
8.4	Do you have entry exams or tests?	
8.5	If yes, specify	
8.6	Are there prerequisite skills or experiences necessary to succeed in your programme?	
8.7	What problems are experienced by students who do not have these pre-requisites?	

9. STUDENT RESISTANCE TO PROGRAMME

9.1	Do you experience difficulty in attracting persons wanting to participate in your programmes and activities?	
9.2	If yes, is this because of:	
	* Inability of candidates to meet entry or admission requirements	
	* Difficulty of organisation in identifying potential in candidates	
	* Candidates not aware of own needs	
	* Inability of candidate to afford services - their perceptions of paternalism - perceptions of your self-interest (i.e. of the organisation)	
	* The nature of your programme	
	* Other (please specify)	

9.3	Is there community resistance to what you are attempting to achieve?	
9.4	If yes, why do you feel there is resistance?	
9.5	What form does this resistance take?	

10. NATURE OF ACTIVITIES

10.1	What is the nature of your activities?				
	* Training programmes (with teaching content)	CA	IAT	CMA	CIS
		B.Commerce		Other business degree	
	* Tutorial programmes (supplement content taught elsewhere)	University	Technikon	Other	
	* Mentoring				
	* Business skills				
	* Interpersonal skills				
	* Communication skills				
	* Financial aid				
	* Orientation programmes				
	* Bridging programmes				
	* Vacation employment				
	* Job placement				
	* Career advice				
	* Other				
10.2	Do your activities centre on?				
	* Technical accounting skills				
	* Social skills				
	* Both of the above				
10.3	If both, please estimate the % split between the two				

11. LANGUAGE CONTENT

11.1	Do you have any language courses?			
11.2	If yes, do you teach?	Read	Write	Speak
	* English			
	* Afrikaans			
	* Zulu			
	* Xhosa			
	* Other (specify)			

12. CULTURAL/SOCIAL CONTENT

12.1	If you teach social skills, which of the following are addressed?	
	* Communication - oral - small group - presentations - non-verbal - interpersonal - written	
	* Cultural norms - dress - telephone - self-confidence - projection of corporate image - other (specify)	
	* Other (please specify)	

13. ISSUES DEALT WITH

13.1	What do you perceive to be the major difficulties your students experience and therefore need help with?	
13.2	What do you feel is important about the style you employ in teaching, training or assisting persons from a disadvantaged educational background?	

14. EDUCATIONAL FACTORS

14.1	How many contact hours do you have per week?			
14.2	What is your instructional mode?	Tutorials	Lectures	Small group discussion
		Self-instruction	Experiential learning	Computer learning
14.3	Do your students write exams?			

14.4	Are they evaluated in some other way? (please elaborate)			
14.5	Which of the following audio-visual media do you use in teaching?	Text books	Videos / television	Computer
		Overheads	Other	
14.6	Do you encourage participative learning?			

15. VALUES

15.1	What do you feel are the values underlying your organisation and what it is attempting to achieve?	
15.2	Do you feel you have influenced or changed the * Values * Attitudes * Priorities * Aspirations * Interests of persons participating in your programme? Can you elaborate?	
15.3	Do you feel you are imposing a dominant cultural ideology on your students?	

16. RESEARCH / DESIGN OF PROGRAMME

16.1	How much time have you put into researching the design of your programmes?	
16.2	How much money have you spent in researching the design of your programmes? (specify each programme and money spent)	

16.3	Who assisted you in designing your programmes?			
	* Educationalists	School	Tertiary education	Adult education
	* Staff / employees			
	* Specialists (elaborate)			
	* Consultants / experts			
	* No-one			
	* Unions			
	* University Academic Support			
	* Faculty at university			
	* Other (elaborate)			
16.4	If you have changed your programme since the initial design can you explain why?			

17. IMPLEMENTATION OF PROGRAMME

17.1	How much money have you spent on the implementation of your programme? (specify per programme)					
17.2	What are the annual running costs of your programme?					
17.3	What sources of educational materials do you use	Own	Univ	Tech	Spec	Other
	* Audio-visual					
	* Textbooks					
	* Case studies					
	* Exams					
	* Questions					
	* Tutorials					
	* Solutions					
	* Other					

Key to source:

Own = Own material
Univ = University
Tech = Technikon
Spec = Specialist
Other = Other

18. EVALUATION OF PROGRAMME

18.1	Have you done follow-up research on the effectiveness of your programmes?		
18.2	If yes, where have you looked for evidence of the effectiveness of your programmes, and what type of evidence was obtained?	**Source of evidence**	**Type of evidence**
		Students	Course evaluation
		Industry	Anecdotal
		Employers	Opinion
		Other organisations	
		Graduates	
18.3	If no, what other criteria (if any) do you use to judge the effectiveness of your programmes?		
	* Examination results		
	* Throughput of students		
	* Demand for courses from students		
	* Industry demand for your students		
	* Employment statistics		
	* Student satisfaction (evaluation)		
	* Other feedback (specify)		
18.3	Do you feel you have achieved the aims you stated earlier? If so, in what way? (Targets met, etc.)		

19. CO-ORDINATION OF EFFORTS

19.1	Are you aware of other organisations doing the same type of work as you are?	
19.2	If yes, please specify these.	
19.3	Do you feel the service you provide to be superior to theirs?	
19.4	Please specify why.	
19.5	Do you have any contact with any of the following organisations?	

ORGANISATION	A	B	C	D	E	F	G
Academic Support							
UCT							
WITS							
NATAL							
RHODES							
Educational Support							
Mangosuthu							
Peninsula Technikon							
Natal							
Khanya College							
Leaf College							
Private schools							
Nest							
Woodmead							
Sacred Heart							
St Barnabas							
St Josephs							
Bishops							
Michael House							
St Ansgars							
St Johns							
Kearsney College							
University Preparation Programme							
Gold Fields Resource Centre (UWC)							
Program for Technological Careers (PROTEC)							
SACHED							
Careers Research and Information Centre							
Science and Engineering Academy SA							
Association of Black Accountants of SA (ABASA)							
CAs' Eden Trust							
Others							

Key to extent of contact:

A No knowledge
B Know of existence
C Know individuals
D Have liased with
E Have consulted
F Source of materials
G Held projects in conjunction with

20. Are there any people you could recommend I speak to?

APPENDIX B
PILOT QUESTIONNAIRE - ORGANISATIONS

1. Objectives

1.1 What are the objectives of your organisation?
1.2 Has your programme been designed to meet your objectives, as outlined in 1.1?

2. Needs assessment

2.1 Do you assess the needs of your students?
2.2 If yes, how is needs assessment undertaken?
2.3 When does such needs assessment occur?
2.4 How are the needs identified integrated into the design of your programme?
2.5 Could you briefly describe what your student's needs are?
2.6 Are your objectives as highlighted in one, related to the needs assessment?

3. Educational methodology

3.1 Does your organisation use a recognised educational methodology?
3.2 If yes, which, and could you describe it?
3.3 If not, could you describe what type of support is given, with your rationale for providing such support?
3.4 Have there been changes to the design of your programme? Could you describe these?

4. Evaluation

4.1 How is your organisation evaluated?
4.2 Who does the evaluation?
4.3 Who are the results of the evaluation available to?
4.4 How do you evaluate your students?
4.5 Who does the evaluation?
4.6 Who are the results of the evaluation available to?
4.7 What follow-up or accountability is there?
4.8 Do you have statistics or any other information which could be used in this research?

5. General

5.1 Do you feel there is anything special about your programme which results in a higher success rate than any other available programmes?

APPENDIX C
PILOT QUESTIONNAIRE - ACCOUNTANTS

1. Organisation

1.1 Did you receive academic or other support from any organisation?
1.2 If so, which?
1.3 If you did not receive support from an organisation, proceed to Section 6.

2. Objectives

2.1 What do you believe were the objectives of the above mentioned support organisation?
2.2 Do you think the programme was designed to meet those objectives, as outlined in 2.1?

3. Needs assessment

3.1 Do you think your needs were assessed?
3.2 How was needs assessment undertaken?
3.3 When did needs assessment occur?
3.4 How were the needs identified integrated into the design of the programme?
3.5 Could you briefly describe what your needs at the time were?
3.6 Were the objectives as highlighted in one, related to the needs assessment?

4. Educational methodology

4.1 Did the organisation use any educational methodology?
4.2 If yes which, and could you describe it?
4.3 If not, could you describe what type of support was given, with what you believe the rationale for providing the support was?
4.4 Were there changes to the design of the programme in the time you participated in it?
4.5 Can you describe these changes?

5. Evaluation

5.1 How was the organisation evaluated?
5.2 Who did the evaluation?
5.3 Who were the results of the evaluation available to?
5.4 How were you as a student evaluated?
5.5 Who did the evaluation?
5.6 Who were the results of the evaluation available to?
5.7 What follow-up or accountability was there?

5.8 Do you have statistics or any other information which could be used in this research?
5.9 Do you feel there is anything special about the programme you participated in which resulted in a higher success rate than any other available programme?

6. General

6.1 Are there any factors which you considered critical to your success in qualifying as an accountant?
6.2 What would you consider the fundamental problems resulting in failure in fellow students?
6.3 Do you feel there is a need for academic support programmes?
6.4 If you were to design such a programme, what elements would you include?
6.5 Which subjects did you feel you needed the most and the least support in?
6.6 Are there any other factors you would like to discuss?

APPENDIX D
QUESTIONNAIRE - ORGANISATIONS

QUESTIONNAIRE

A DEMOGRAPHIC INFORMATION

1 **NAME OF ORGANISATION:** _____

2 **NAME[1] OF RESPONDENT:** _____

3 **WHAT LANGUAGES DO YOU TEACH IN?**

a. ENGLISH ❑
b. AFRIKAANS ❑
c. XHOSA ❑
d. ZULU ❑
e. SHONA ❑
f. TSWANA ❑
g. OTHER (PLEASE SPECIFY) _____

4 **HIGH SCHOOL INFORMATION**

a. DO THE MAJORITY OF YOUR STUDENTS COME FROM GOVERNMENT ❑
OR PRIVATE SCHOOLS? ❑

b. DO YOU FEEL THEY HAD A DISADVANTAGED SECONDARY EDUCATION?

YES ❑
NO ❑

5 **DO ANY OF YOUR STUDENTS STUDY ON A PART-TIME BASIS?**

YES ❑
NO ❑

a. IF YES, WHICH COURSES ARE STUDIED PART TIME?

COURSE	YEAR
_____	_____
_____	_____
_____	_____

---

1. ALL INFORMATION IN THIS QUESTIONNAIRE WILL BE REGARDED AS CONFIDENTIAL. HOWEVER, YOU NEED NOT FILL IN YOUR NAME.

B ACADEMIC SUPPORT DETAILS[2]

1 DO YOU PROVIDE ANY ACADEMIC SUPPORT?

YES ❑
NO ❑

2 IS THIS IN THE FORM OF

a. POST MATRIC YEAR ❑
b. BRIDGING PROGRAMMES ❑
c. SPECIAL ADMISSION PROGRAMME AT A UNIVERSITY ❑
d. UNDERGRADUATE ACADEMIC SUPPORT PROGRAMME ❑
e. POSTGRADUATE ACADEMIC SUPPORT PROGRAMME ❑
f. ACADEMIC SUPPORT ORGANISED BY AN ACCOUNTING FIRM ❑
g. BOARD COURSE ❑
h. OTHER (EG FINANCIAL SUPPORT, PRIVATE TUTORING, STUDY GROUPS, STUDYING FACILITIES). PLEASE STATE WHICH. ❑

_____
_____
_____

3 COULD YOU DESCRIBE WHAT THE EDUCATIONAL OBJECTIVES OF THE PROGRAMME ARE

_____
_____
_____
_____
_____
_____
_____
_____

4 WHAT DO THE COURSES COST?

_____
_____
_____

---

2. IN THE CONTEXT OF THIS RESEARCH, ACADEMIC SUPPORT IS TAKEN TO MEAN ANY SUPPORT GIVEN BY ANY ORGANISATION OVER AND ABOVE NORMAL LECTURES AND TUTORIALS, TOWARDS THE ATTAINMENT OF AN ACADEMIC OR PROFESSIONAL QUALIFICATION.

5 **WHO PAYS FOR THE COURSES?**

_____

_____

_____

6 **CAN YOU DESCRIBE HOW TEACHING IN THE ACADEMIC SUPPORT OCCURS BY TICKING OR FILLING IN THE FOLLOWING SECTION AS APPROPRIATE.**

a. LECTURES ❑
b. TUTORIAL GROUPS ❑
c. SIZE OF TUTORIAL GROUPS _____
d. SIMULATED EXAMS ❑
e. HOW MANY CONTACT HOURS PER WEEK WERE THERE FOR ASP? _____
f. HOMEWORK ASSIGNMENTS ❑
g. CORRESPONDENCE COURSE ❑
h. SIZE OF ASP GROUP _____
i. WERE COURSES CREDIT-BEARING? (UNIVERSITY ASP ONLY) ❑
j. WAS ATTENDANCE COMPULSORY? ❑
k. WERE LECTURING AND TUTORING STAFF EXPERIENCED IN TEACHING? ❑

7 **WHAT TYPE OF AIDS ARE USED?**

a. COMPUTERS ❑
b. AUDIO VISUAL (EG. VIDEOS, OVERHEADS, ETC) ❑
c. EXTRA NOTES/TEXT BOOKS ❑
d. OTHER (PLEASE ELABORATE): ❑

_____

_____

_____

8 **WHAT TYPE OF SUPPORT IS GIVEN?**

a. SPECIFIC SUBJECTS OR TOPICS TAUGHT ❑
b. STUDY SKILLS TAUGHT ❑
c. EXAM TECHNIQUES TAUGHT ❑
d. GENERAL SKILLS TAUGHT ❑
eg COMMUNICATION, TIME MANAGEMENT ETC.
e. FINANCIAL SUPPORT ❑
f. COMMERCE FACULTY-BASED SUPPORT ❑
g. GENERAL UNIVERSITY SUPPORT ❑
h. OTHER (PLEASE DESCRIBE) ❑

_____

_____

9 **DO YOU USE A FORMALLY CONSTRUCTED EDUCATIONAL METHODOLOGY – FOR EXAMPLE – MEDIATED LEARNING, STERNBERG'S THEORY, ETC**

YES ❑ IF YES, STATE METHODOLOGY.
NO ❑ IF NO, PLEASE DESCRIBE HOW TEACHING OCCURS.

_____
_____
_____
_____
_____
_____

10 **ARE YOUR STAFF PROFICIENT IN LANGUAGE AND NUMERACY SKILLS?**

YES ❑
NO ❑

PLEASE ELABORATE

_____
_____
_____

11 **DOES YOUR SUPPORT PROGRAMME USE PROGRESSIVE SELECTION PROCEDURES (EG. SPECIAL ADMISSIONS PROGRAMMES)?**

YES ❑
NO ❑

IF YES, PLEASE DESCRIBE

_____
_____
_____

12 **ARE YOUR STUDENTS PERMITTED TO OBTAIN THEIR DEGREES IN A PERIOD LONGER THAN MAIN-STREAM STUDENTS?**

YES ❑
NO ❑

IF YES, PLEASE ELABORATE

_____
_____
_____

13 IS YOUR SUPPORT PROGRAMME EVALUATED ON A REGULAR BASIS?

a. BY STUDENTS ❑
b. BY ADMINISTRATORS OF THE PROGRAMME ❑
c. BY SPONSORS AND BURSARS ❑
d. BY THE ORGANISATION FOR WHOM YOU WORK ❑
e. OTHER (PLEASE ELABORATE) ❑

14 IS ANY RESEARCH BEING DONE ON YOUR PROGRAMME? (PLEASE DESCRIBE BRIEFLY)

_____

_____

_____

_____

_____

C STUDY GROUPS

1 DO YOUR STUDENTS PARTICIPATE IN STUDY GROUPS AT ANY STAGE?

YES ❑
NO ❑

2 WHO INITIATES THESE STUDY GROUPS?

_____

_____

_____

3 HOW LARGE ARE THE GROUPS?

_____

_____

_____

4 DO YOU HAVE ANYONE FACILITATING OR ASSISTING THE GROUPS? (PLEASE DESCRIBE)

_____

_____

_____

5 HOW OFTEN DO THE GROUPS MEET?

_____

_____

_____

6 CAN YOU DESCRIBE WHAT HAPPENS AT A TYPICAL STUDY GROUP MEETING?

_____

_____

_____

_____

D NEEDS

THE FOLLOWING ARE ENCOUNTERED BY COMMERCE STUDENTS, SOME OF WHICH ARE PROBLEMATIC. COULD YOU PLEASE RANK THESE ITEMS IN ORDER OF DIFFICULTY WHERE 1 IS THE MOST DIFFICULT

		RANK ORDER (1 TO 10)
1	A SPECIFIC SUBJECT	
	a. ACCOUNTING	_____
	b. ECONOMICS	_____
	c. MANAGEMENT ACCOUNTING	_____
	d. COST ACCOUNTING	_____
	e. FINANCIAL MANAGEMENT	_____
	f. STATISTICS	_____
	g. MATHEMATICS	_____
	h. LAW	_____
	i. TAXATION	_____
	j. OTHER (PLEASE LIST)	_____

_____

_____

		(1 TO 3)
2	ENGLISH	
	a. WRITING EXAMS, ESSAYS AND ASSIGNMENTS	_____
	b. UNDERSTANDING LECTURES	_____
	c. READING TEXTBOOKS, NOTES AND EXAM QUESTIONS	_____

3 NUMERICAL **(1 to 4)**

a. ARITHMETIC (ADDITION / MULTIPLICATION ETC) _____
b. USE OF CALCULATORS AND COMPUTERS _____
c. STATISTICS _____
d. UNDERSTANDING AND INTERPRETING NUMERICAL DATA SUCH AS GRAPHS AND FORMULAE _____

4 EXAM TECHNIQUES AND STUDY SKILLS (PLEASE SPECIFY)

_____

_____

E TICK LIST

THE FOLLOWING STATEMENTS CONTAIN DESCRIPTIONS OF STUDENTS. COULD YOU PLEASE INDICATE BY TICKING THE APPROPRIATE NUMBER WHICH OF THE STATEMENTS DESCRIBE YOUR STUDENTS

THE RATING SCALE IS AS FOLLOWS, DEPENDING ON WHETHER THE STATEMENT APPLIES TO YOUR STUDENTS

ALWAYS	5
MOSTLY	4
OCCASIONALLY	3
SELDOM	2
NEVER	1

1.	*THEY ARE HIGHLY MOTIVATED TO STUDY.*	*1*	*2*	*3*	*4*	*5*
2.	*THEY STUDY CONSISTENTLY DURING THE YEAR.*	*1*	*2*	*3*	*4*	*5*
3.	*THEY HAVE A GOOD UNDERSTANDING OF THE CONTENT OF ALL THEIR SUBJECTS.*	*1*	*2*	*3*	*4*	*5*
4.	*THEY UNDERSTAND ALL THE QUESTIONS IN THE EXAMS.*	*1*	*2*	*3*	*4*	*5*
5.	*THEY NEED HELP IN STUDY SKILLS.*	*1*	*2*	*3*	*4*	*5*
6.	*THEY NEED HELP IN EXAM TECHNIQUES.*	*1*	*2*	*3*	*4*	*5*
7.	*THEY NEED HELP IN ACCOUNTING.*	*1*	*2*	*3*	*4*	*5*
8.	*THEY HAVE NO DIFFICULTY IN USING A FINANCIAL CALCULATOR.*	*1*	*2*	*3*	*4*	*5*
9.	*THEY FEEL IN CONTROL OF THEIR LEARNING.*	*1*	*2*	*3*	*4*	*5*
10.	*THEY TEND TO RELY ON MEMORIZING IN THE LEARNING OF THEIR SUBJECTS.*	*1*	*2*	*3*	*4*	*5*

28.	*THEY DO NOT THINK THEY NEED ACADEMIC SUPPORT IN THEIR UNDERGRADUATE YEARS.*	1	2	3	4	5
29.	*THEY RECOGNIZE THE NEED FOR ACADEMIC SUPPORT LATER*	1	2	3	4	5
30.	*THEIR SECONDARY SCHOOLING WAS ADEQUATE IN PREPARING THEM FOR UNIVERSITY STUDY.*	1	2	3	4	5
31.	*THEY WORK BEST IN A GROUP.*	1	2	3	4	5
32.	*THEY THINK ACADEMIC SUPPORT SHOULD BE COMPULSORY*	1	2	3	4	5

APPENDIX E
COVERING LETTER AND INFORMATION SHEET - ACCOUNTANTS

Department of Accounting

Leslie Commerce Building
Engineering Mall · Upper Campus
OR Private Bag · Rondebosch 7700
Tel: 650-2269
18 August 1991 Telex: 57-21439
Tel. Add.: ALUMNI, Cape Town
Fax No: (021) 650-3789

Dear

RESEARCH INTO THE EDUCATION OF BLACK ACCOUNTANTS IN SOUTH AFRICA

The shortage of black accountants in South Africa is an important issue, especially as we enter a new era in this country, where participation in the economy by all is needed. As a master's student at the University of Cape Town, my research involves evaluating organisations which attempt to assist in increasing the number of black accountants in South Africa. These organisations include the Association of Black Accountants of South Africa, various university Academic Support Programmes, bridging programmes, the efforts of commerce and industry and other private endevours. I am attempting to isolate the critical issues which result in the success or failure of persons from a disadvantaged background who attempt to qualify as accountants.

As a successful accountant, I am sure these issues are of great concern to you both personally and professionally, and I hope you will therefore be kindly disposed towards assisting me in my research. I believe that you, Yanta as a successful black accountant, are the most suitably qualified source of information for my research. Irrespective of whether you were part of or assisted by an organisation such as the above-mentioned, I would be most interested in talking to you.

The following points would be covered in our discussion:

1. What academic or other support was received?
2. Discussion of the support organisation (if applicable) in terms of
    * Objectives
    * Needs assessment of students
    * Educational methodology
    * Course evaluation
3. Factors considered to be critical for success in qualifying as an accountant.
4. Problems resulting in the failure of other disadvantaged students.
5. Whether there is a need for support programmes.
6. Which elements should be included in a support programme.
7. In which subjects the most assistance is needed.
8. Any other factors considered important by you.

I am aware that this will unfortunately take some of your valuable time however, I feel that an issue as complicated as this can only be addressed by a personal interview, rather than a questionnaire. If you are able to assist me in my research, could you please complete the information sheet attached, and send it to me in the self-addressed envelope.

I can be contacted at the following address:

Deloitte Pim Goldby
Private Bag X3
BENMORE
2010
(Telephone: (H) 011 - 883 5162
(W) 011 - 883 1500),

should you have any questions in this regard. All matters discussed and information contributed by yourself will be considered to be confidential, unless your express permission is given to use your name with regard to comments.

Yours faithfully

Signed by candidate

Nadine Bailey

INFORMATION SHEET:

1. FIRST NAME:

2. SURNAME:

3. HOME ADDRESS:
(Correct if necessary)

POSTAL CODE:

TELEPHONE NUMBER: .....

4. BUSINESS ADDRESS: .....
.....
.....
.....

POSTAL CODE: .....

TELEPHONE NUMBER:

5. CURRENT OCCUPATION: .....

6. POSITION: .....

7. COMPANY: .....

8. ACADEMIC QUALIFICATIONS: .....

UNIVERSITY:	DEGREE:	YEAR:
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

9. DID YOU PARTICIPATE IN ANY ACADEMIC SUPPORT OR BRIDGING PROGRAMMES?:

YES / NO : .....

IF YES COULD YOU BRIEFLY DESCRIBE THEM:

.....

.....

.....

.....

10. YEAR FINAL QUALIFYING EXAM PASSED: .....

11. ARE YOU WILLING TO PARTICIPATE IN THIS STUDY?

YES / NO : .....

12. WILL YOU BE IN JOHANNESBURG AT ANY TIME BETWEEN SEPTEMBER AND DECEMBER 1991 AND BE AVAILABLE TO BE INTERVIEWED?:

YES / NO : .....

12(a) IF YES, WHICH DATES AND TIMES WOULD SUIT YOU BEST FOR AN INTERVIEW?:

.....

.....

.....

.....

12(b) IF NO, WOULD YOU BE PREPARED TO COMPLETE A WRITTEN QUESTIONNAIRE?

.....

.....

.....

.....

Thank you for your assistance.

APPENDIX F
QUESTIONNAIRE - ACCOUNTANTS

QUESTIONNAIRE

A DEMOGRAPHIC INFORMATION

1 NAME[1]: _____

2 WHAT ARE YOUR HOME LANGUAGES?

a. ENGLISH ❑
b. AFRIKAANS ❑
c. XHOSA ❑
d. ZULU ❑
e. SHONA ❑
f. TSWANA ❑
g. OTHER (PLEASE SPECIFY) _____

3 WHICH LANGUAGE DID YOU STUDY IN AT UNIVERSITY?

_____

4 WHICH HIGH SCHOOL DID YOU ATTEND?

_____

a. WAS THIS A GOVERNMENT OR PRIVATE SCHOOL? ❑ ❑

b. DO YOU FEEL YOU HAD A DISADVANTAGED SECONDARY EDUCATION?

YES ❑
NO ❑

5 WHAT ARE YOUR PARENTS OCCUPATIONS?

a. FATHER _____
b. MOTHER _____

6 WHICH FIRMS WERE YOU ARTICLED AT?

FIRM	TOWN/CITY	YEARS
_____	_____	_____
_____	_____	_____
_____	_____	_____

---

1. ALL INFORMATION IN THIS QUESTIONNAIRE WILL BE REGARDED AS CONFIDENTIAL. HOWEVER, YOU NEED NOT FILL IN YOUR NAME.

7 **WHICH UNIVERSITIES DID YOU ATTEND?**

UNIVERSITY	COURSE	YEARS (Enrolled and graduated)	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

8 **WERE ANY OF YOUR STUDIES DONE ON A PART-TIME BASIS?**

YES ☐
NO ☐

a. IF YES, WHICH COURSES WERE STUDIED PART TIME?

COURSE	YEAR(S)
_____	_____
_____	_____
_____	_____

9 **HOW MANY TIMES DID YOU ATTEMPT THE BOARD EXAM BEFORE PASSING?**

_____

10 **WHAT YEAR DID YOU PASS THE BOARD EXAM?**

_____

B MOTIVATION

1 **WHAT MOTIVATED YOU TO BECOME AN ACCOUNTANT?**

_____
_____
_____
_____

2 **WHERE DID YOU GET INFORMATION ABOUT CHARTERED ACCOUNTANTS?**

a. A PERSON ☐
b. NEWSPAPER/MAGAZINE ARTICLE ☐
c. OTHER ☐

PLEASE EXPLAIN YOUR ANSWER _____
_____

3 **WERE YOU AT ANY TIME DEMOTIVATED IN YOUR STUDIES?**

YES ❑
NO ❑

IF YES, PLEASE DESCRIBE THE CIRCUMSTANCES AND EXPLAIN WHAT MOTIVATED YOU TO CONTINUE.

4 **WAS THERE ANY PERSON, COURSE OR EVENT WHICH YOU CONSIDERED CRITICAL IN ASSISTING YOU TO COMPLETE YOUR STUDIES? COULD YOU PLEASE DESCRIBE THIS IN AS MUCH DETAIL AS POSSIBLE.**

5 **DID YOU AT ANY POINT IN YOUR ACADEMIC CAREER (UP TO PASSING THE BOARD EXAM) HAVE A MENTOR OR ANY OTHER PERSON WITH WHOM YOU COULD DISCUSS YOUR PROGRESS, PROBLEMS OR CAREER? PLEASE COULD YOU DESCRIBE THIS.**

6 **DID YOU FEEL DISCRIMINATED AGAINST AT ANY STAGE OF ATTAINING YOUR PROFESSIONAL QUALIFICATION? COULD YOU PLEASE DESCRIBE THE CIRCUMSTANCES.**

C ACADEMIC SUPPORT DETAILS[2]

1 DID YOU RECEIVE ANY ACADEMIC SUPPORT? IF NO, PROCEED TO SECTION D

YES ☐
NO ☐

2 WAS THIS IN THE FORM OF

a. POST MATRIC YEAR ☐
b. BRIDGING PROGRAMMES ☐
c. SPECIAL ADMISSION PROGRAMME AT A UNIVERSITY ☐
d. UNDERGRADUATE ACADEMIC SUPPORT PROGRAMME ☐
e. POSTGRADUATE ACADEMIC SUPPORT PROGRAMME ☐
f. ACADEMIC SUPPORT ORGANISED BY AN ACCOUNTING FIRM. ☐
g. BOARD COURSE ☐
h. OTHER (EG FINANCIAL SUPPORT, PRIVATE TUTORING, STUDY GROUPS, STUDYING FACILITIES) ☐

IF OTHER, PLEASE ELABORATE.

_____
_____
_____

PLEASE ELABORATE ON UP TO THREE OF THE MOST SIGNIFICANT BELOW AND IN THE FOLLOWING QUESTIONS.

1. _____
_____

2. _____
_____

3. _____
_____

---

2. IN THE CONTEXT OF THIS RESEARCH, ACADEMIC SUPPORT IS TAKEN TO MEAN ANY SUPPORT GIVEN BY ANY ORGANISATION OVER AND ABOVE NORMAL LECTURES AND TUTORIALS, TOWARDS THE ATTAINMENT OF AN ACADEMIC OR PROFESSIONAL QUALIFICATION.

3 COULD YOU DESCRIBE WHAT YOU PERCEIVED THE OBJECTIVES OF THE SUPPORT PROGRAMME OR ORGANISATION TO BE?

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

4 WHAT DID THE COURSES COST?

1. _____

2. _____

3. _____

5 WHO PAID FOR THE COURSES?

1. _____

_____

2. _____

_____

3. _____

_____

6 **CAN YOU DESCRIBE HOW TEACHING IN THE ACADEMIC SUPPORT OCCURRED BY TICKING OR FILLING IN THE FOLLOWING SECTION AS APPROPRIATE.**

	1	2	3
a. LECTURES	☐	☐	☐
b. TUTORIAL GROUPS	☐	☐	☐
c. SIZE OF TUTORIAL GROUPS	_____	_____	_____
d. SIMULATED EXAMS	☐	☐	☐
e. HOW MANY CONTACT HOURS PER WEEK WERE THERE FOR ASP?	_____	_____	_____
f. HOMEWORK ASSIGNMENTS	☐	☐	☐
g. CORRESPONDENCE COURSE	☐	☐	☐
h. SIZE OF ASP GROUP	_____	_____	_____
i. WERE COURSES CREDIT-BEARING? (UNIVERSITY ASP ONLY)	☐	☐	☐
j. WAS ATTENDANCE COMPULSORY?	☐	☐	☐
k. WERE LECTURING AND TUTORING STAFF EXPERIENCED IN TEACHING?	☐	☐	☐

7 **WHAT TYPE OF AIDS WERE USED?**

	1	2	3
a. COMPUTERS	☐	☐	☐
b. AUDIO VISUAL (EG. VIDEOS, OVERHEADS, ETC)	☐	☐	☐
c. EXTRA NOTES/TEXT BOOKS	☐	☐	☐
d. OTHER (PLEASE ELABORATE):	☐	☐	☐

_____

_____

_____

8 **WHAT TYPE OF SUPPORT WAS GIVEN?**

	1	2	3
a. SPECIFIC SUBJECTS OR TOPICS TAUGHT	☐	☐	☐
b. STUDY SKILLS TAUGHT	☐	☐	☐
c. EXAM TECHNIQUES TAUGHT	☐	☐	☐
d. GENERAL SKILLS TAUGHT eg COMMUNICATION, TIME MANAGEMENT ETC.	☐	☐	☐
e. FINANCIAL SUPPORT	☐	☐	☐
f. COMMERCE FACULTY-BASED SUPPORT	☐	☐	☐
g. GENERAL UNIVERSITY SUPPORT	☐	☐	☐
h. OTHER (PLEASE DESCRIBE BELOW)	☐	☐	☐

1. _____

_____

2. _____

_____

3. _____

_____

9 **WAS THE SUPPORT PROGRAMME EVALUATED ON A REGULAR BASIS?**

	1	2	3
a. BY STUDENTS	❑	❑	❑
b. BY ADMINISTRATORS OF THE PROGRAMME	❑	❑	❑
c. BY SPONSORS AND BURSARS	❑	❑	❑
d. BY THE ORGANISATION FOR WHOM YOU WORK	❑	❑	❑
e. OTHER (PLEASE ELABORATE)	❑	❑	❑

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

10 **DID THE SUPPORT ORGANISATION USE PROGRESSIVE SELECTION PROCEDURES (EG. SPECIAL ADMISSIONS PROGRAMMES)?**

YES ❑
NO ❑

IF YES, PLEASE DESCRIBE

_____

_____

_____

11 **WERE YOU PERMITTED TO SPREAD YOUR DEGREE OVER A PERIOD LONGER THAN THREE YEARS?**

YES ❑
NO ❑

D STUDY GROUPS

1 DID YOU PARTICIPATE IN STUDY GROUPS AT ANY STAGE?

YES ❑
NO ❑

2 WHO INITIATED THESE STUDY GROUPS?

3 HOW LARGE WERE THE GROUPS?

4 DID YOU HAVE ANYONE FACILITATING OR ASSISTING THE GROUPS? (PLEASE DESCRIBE)

5 HOW OFTEN DID THE GROUPS MEET?

6 CAN YOU DESCRIBE WHAT HAPPENED AT A TYPICAL STUDY GROUP MEETING?

THE FOLLOWING ARE ENCOUNTERED BY COMMERCE STUDENTS, SOME OF WHICH ARE PROBLEMATIC. COULD YOU PLEASE RANK THESE ITEMS IN ORDER OF DIFFICULTY WHERE 1 IS THE MOST DIFFICULT

		RANK ORDER (1 TO 10)
1	**A SPECIFIC SUBJECT**	
	a. ACCOUNTING	_____
	b. ECONOMICS	_____
	c. MANAGEMENT ACCOUNTING	_____
	d. COST ACCOUNTING	_____
	e. FINANCIAL MANAGEMENT	_____
	f. STATISTICS	_____
	g. MATHEMATICS	_____
	h. LAW	_____
	i. TAXATION	_____
	j. OTHER (PLEASE LIST)	_____

_____

_____

		(1 TO 3)
2	**ENGLISH**	
	a. WRITING EXAMS, ESSAYS AND ASSIGNMENTS	_____
	b. UNDERSTANDING LECTURES	_____
	c. READING TEXTBOOKS, NOTES AND EXAM QUESTIONS	_____
3	**NUMERICAL**	**(1 to 4)**
	a. ARITHMETIC (ADDITION / MULTIPLICATION ETC)	_____
	b. USE OF CALCULATORS AND COMPUTERS	_____
	c. STATISTICS	_____
	d. UNDERSTANDING AND INTERPRETING NUMERICAL DATA SUCH AS GRAPHS AND FORMULAE.	_____
4	**EXAM TECHNIQUES AND STUDY SKILLS (PLEASE SPECIFY)**	_____

_____

_____

F TICK LIST

THE FOLLOWING STATEMENTS CONTAIN DESCRIPTIONS OF STUDENTS. COULD YOU PLEASE INDICATE, BY TICKING THE APPROPRIATE NUMBER, WHICH OF THE STATEMENTS DESCRIBE YOU WHEN YOU WERE STUDYING TOWARDS YOUR DEGREE AND PROFESSIONAL QUALIFICATION.

THE RATING SCALE IS AS FOLLOWS, DEPENDING ON WHETHER THE STATEMENT APPLIED TO YOU

ALWAYS	5
MOSTLY	4
OCCASIONALLY	3
SELDOM	2
NEVER	1

1.	*I WAS HIGHLY MOTIVATED TO STUDY.*	*1*	*2*	*3*	*4*	*5*
2.	*I STUDIED CONSISTENTLY DURING THE YEAR.*	*1*	*2*	*3*	*4*	*5*
3.	*I HAD A GOOD UNDERSTANDING OF THE CONTENT OF ALL MY SUBJECTS.*	*1*	*2*	*3*	*4*	*5*
4.	*I UNDERSTOOD ALL THE QUESTIONS IN THE EXAMS.*	*1*	*2*	*3*	*4*	*5*
5.	*I NEEDED HELP IN STUDY SKILLS.*	*1*	*2*	*3*	*4*	*5*
6.	*I NEEDED HELP IN EXAM TECHNIQUES.*	*1*	*2*	*3*	*4*	*5*
7.	*I NEEDED HELP IN ACCOUNTING.*	*1*	*2*	*3*	*4*	*5*
8.	*I HAD NO DIFFICULTY IN USING A FINANCIAL CALCULATOR.*	*1*	*2*	*3*	*4*	*5*
9.	*I FELT IN CONTROL OF MY LEARNING.*	*1*	*2*	*3*	*4*	*5*
10.	*I TENDED TO RELY ON MEMORIZING IN THE LEARNING OF MY SUBJECTS.*	*1*	*2*	*3*	*4*	*5*
11.	*I FOUND LECTURERS AND TUTORS APPROACHABLE IF I HAD DIFFICULTIES WITH SUBJECTS.*	*1*	*2*	*3*	*4*	*5*
12.	*I HAD DIFFICULTIES IN MANAGING MY TIME.*	*1*	*2*	*3*	*4*	*5*
13.	*I FOUND IT DIFFICULT TO MOTIVATE MYSELF.*	*1*	*2*	*3*	*4*	*5*

14.	I TENDED TO "CRAM" JUST BEFORE EXAMS.	1	2	3	4	5
15.	I TRIED TO UNDERSTAND MY SUBJECTS RATHER THAN RELYING ON MEMORIZATION OF FACTS.	1	2	3	4	5
16.	IF I HAD PROBLEMS IN MY STUDIES THERE WAS NO ONE I COULD TALK TO.	1	2	3	4	5
17.	I HAD DIFFICULTIES IN COMPLETING ASSIGNMENTS.	1	2	3	4	5
18.	I OFTEN FAILED EXAMS ALTHOUGH I THOUGHT THAT I HAD PASSED.	1	2	3	4	5
19.	I GOT VERY NERVOUS DURING EXAMS.	1	2	3	4	5
20.	I ALWAYS FINISHED TESTS AND EXAMS ON TIME.	1	2	3	4	5
21.	I FOUND THE TEXT BOOKS USED DIFFICULT TO UNDERSTAND.	1	2	3	4	5
22.	I FOUND TUTORIAL GROUPS A GOOD WAY OF LEARNING.	1	2	3	4	5
23.	I DID NOT UNDERSTAND MY LECTURES.	1	2	3	4	5
24.	I WAS INTERESTED IN MY SUBJECTS AND READ UP FOR FURTHER INFORMATION.	1	2	3	4	5
25.	I FOUND IT DIFFICULT TO REPRESENT DATA GRAPHICALLY.	1	2	3	4	5
26.	I OFTEN MADE CARELESS CALCULATION MISTAKES.	1	2	3	4	5
27.	I PREFERRED TO WORK ON MY OWN.	1	2	3	4	5
28.	I DID NOT THINK I NEEDED ACADEMIC SUPPORT IN MY UNDERGRADUATE YEARS.	1	2	3	4	5
29.	I NOW THINK I NEEDED ACADEMIC SUPPORT DURING MY UNDERGRADUATE YEARS.	1	2	3	4	5
30.	MY SECONDARY SCHOOLING WAS ADEQUATE IN PREPARING ME FOR UNIVERSITY STUDY.	1	2	3	4	5
31.	I WORK BEST IN A GROUP.	1	2	3	4	5
32.	ACADEMIC SUPPORT SHOULD BE COMPULSORY	1	2	3	4	5

APPENDIX G
SUMMARY OF RESPONSES - ORGANISATIONS

CONTACT PERSON	ORGANISATION	TYPE OF ORGANISATION	RESPONSE
Mr. D. Curtis	University of the Witwatersrand CACTUS/PBS	Faculty-based academic support	Interviewed - initial survey
Mr. N. Demaine	KPMG - Aiken and Peat in-house education	Accounting firm in-house education	Returned questionnaire
Ms J. Flockeman	University of Natal, Durban - Commerce ASP	Faculty-based academic support	No response
Dr. H. van Greuning	Ex-Deloitte Pim Goldby	Accounting firm in-house education	Interviewed - initial survey
Mr. C. Hattingh	Hattingh Board Course	Private board course	No response
Ms S. Herbst	Deloitte Pim Goldby in-house education	Accounting firm in-house education	Returned Questionnaire
Ms K. Hughes	PROTEC	Commerce and industry sponsored programme	Interviewed - pilot study
Professor King	WITS commerce department	Faculty-based academic support	Interviewed - initial survey
Mr. M. Mulcahy	LEAF College	Commerce and industry sponsored programme	Interviewed - pilot study
Mr. L. Mitchell	Natal Board Course	University Board course	No response
Mr. T. Moore	Deloitte Pim Goldby in-house education	Accounting firm in-house education	Interviewed - initial survey
Ms A. Murray	Ex-Deloitte Pim Goldby in-house education	Accounting firm in-house education	Interviewed - initial survey
Mr. P. Pillay	University of Cape Town - Commerce ASP	Faculty-based academic support	Interviewed - initial survey
Mr. P. Putland	CAs' Eden Trust	Member professional body	Interviewed - pilot study
Mr. M. Ramano	ABASA	Member professional body	Interviewed - initial survey

Mr. D. Sieberhagen	Rhodes University - Commerce ASP	Faculty-based academic support	Returned questionnaire
Mr. R. Spence	Anglo American Corporation	Commerce and industry	Interviewed - initial survey
Ms L. Steynbank	University of Natal, Pietermaritzburg - Commerce ASP	Faculty-based academic support	No response
Mr. T. Woolley	AECI	Commerce and industry	Interviewed - initial survey

APPENDIX H

SUMMARY OF RESPONSES - ACCOUNTANTS

Number	Response Information Sheet	Response Questionnaire	Code for subsequent appendices	Academic 1 University	Degree	Year	Academic 2 University	Degree	Year	ASP Details	Year QE Passed
1	Letters returned to sender	Not returned									
2	Not a black accountant	Not returned									
3	No response	Not returned									
4	Would not participate - study considered rascist	Not returned									
5	Returned	Not returned		Unisa	B.Comm	1977	Unisa	B.Compt (Hons)	1980	none	1981
6	Returned	Not returned		Rhodes	B. Comm	1987	Rhodes	H.Dip Acc	1988	none	1991
7	Returned	Not returned		Unitra	B.Comm	1983	Unisa	B.Compt (Hons)	1986	Neville Demaine - CTA ; Hattingh Board cour	1987
8	Returned	Returned	A	Unitra	B.Comm	1983	UCT	B.Comm (Hons), CTA	1985	none	1987
9	Letters returned to sender	Not returned									
10	Not returned	Interviewed		Unitra			Unisa			Natal Board course	1991
11	Returned	Not returned		Unisa	B.Compt	1985	Unisa	B.Compt (Hons)	1987	DPG ASP	1988
12	Not returned	Returned	B								
13	Letters returned to sender	Not returned									
14	No response	Not returned									
15	Returned	Returned	C	North	B.Comm	1982	Unisa	B.Compt (Hons)	1987	DPG ASP	1991
16	Letters returned to sender	Not returned									
17	No address known	Not returned									
18	Returned	Not returned		Zululand	B.Comm	1987	Unisa	B.Compt (Hons)	1990	none	1991
19	Returned	Returned	D	Rhodes	B.Comm	1987	Rhodes	H. Dip Acc	1988	none	1991
20	No response	Not returned									
21	Returned	Returned	E	UCT	B.Comm	1987	UCT	GDA	1988	Post matric Michaelhouse	1990
22	Returned	Not returned		WITS	B.Comm	1986	WITS	B.Acc	1988	Anglo Cadet Scheme	1989
23	No response	Not returned									
24	No response	Not returned									
25	Returned	Not returned		Fort Hare	B.Comm	1979	Unisa	B.Compt (Hons)	1984	none	1986
							RAU	H.Dip Tax Law	1991		
26	No response	Not returned									
27	Not returned	Returned	F								
28	No response	Not returned									
29	Not returned	Interviewed									
30	Returned	Not returned		Fort Hare	B.Comm	1980	Unisa	B.Compt (Hons)	1984	none	1987
31	Returned	Returned	G	UCT	B.Comm	1985	UCT	GDA	1987	none	1989
32	No response	Not returned									
33	Returned	Returned	H	WITS	B.Comm	1986	WITS	B.Acc	1987	Anglo Cadet Scheme	1988
34	No response	Not returned									
35	No response	Not returned									
36	No response	Not returned									
37	No response	Not returned									
38	No response	Not returned									
39	No response	Returned	I								
40	No response	Returned	J								
41	No response	Returned	K								
42	Returned	Returned	L	North	B.Comm	1976	Unisa	B.Compt (Hons)	1983	none	1987
43	No response	Not returned									
44	No response	Not returned									
		Not returned		North	B.Comm	1981	Unisa	B.Compt (Hons)	1986	DPG ASP	1988

APPENDIX I

ORGANISATIONS - RESPONSES TO SECTION (D): NEEDS

Question	1 A SPECIFIC SUBJECT										2 ENGLISH			3 NUMERICAL				4 EXAM	Properly
Respondent	a	b	c	d	e	f	g	h	i	j	a	b	c	a	b	c	d		Answered
Demaine	2	8	3	4	1	4	5	7	6	N	1	3	2	4	3	1	2	1	YES
Herbst	1	9	5	4	7	6	3	8	2	N	1	3	2	3	4	2	1	1	YES
Sieberhagen	1	2	N	N	3	N	N	4	N	N	1	3	2	2	3	4	1	1	NO
	4	19	8	8	11	10	8	19	8	0	3	9	6	9	10	7	4	3	
Responses	3	3	2	2	3	2	2	3	2	0	3	3	3	3	3	3	3	3	
AVERAGE	1.33	6.33	4.00	4.00	3.67	5.00	4.00	6.33	4.00	0.00	1.00	3.00	2.00	3.00	3.33	2.33	1.33	1.00	
MODE	1	-	-	4	-	-	-	-	-	-	1	3	2	-	3	-	1		
Ranking of difficulty	1	7	3	3	2	4	3	7	3	-	1	3	2	3	4	2	1		

N = No response

APPENDIX J

ACCOUNTANTS - RESPONSES TO SECTION (E): NEEDS

Question	1 A SPECIFIC SUBJECT										2 ENGLISH			3 NUMERICAL				4 EXAM	Properly
Respondent	a	b	c	d	e	f	g	h	i	j	a	b	c	a	b	c	d		Answered
A	4	8	3	1	2	5	6	7	9	0	1	2	3	4	3	2	1	N	YES
B	N	N	N	N	N	N	N	N	N	N	N	N	1	N	N	N	1	N	NO
C	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NO
D	6	4	5	3	2	9	10	7	8	1	1	2	3	4	1	2	3	9	YES
E	7	2	5	4	8	6	9	3	10	1	3	3	3	3	3	2	2	2	YES
F	9	5	7	8	7	7	7	4	7	0	1	2	2	4	3	3	2	1	NO
G	7	9	5	4	7	7	7	7	7	0	3	3	3	4	4	3	3	3	NO
H	3	7	1	5	2	6	4	9	8	0	1	3	2	4	3	1	2	N	YES
I	1	8	2	5	3	4	1	7	6	0	1	3	1	3	3	3	3	N	NO
J	5	5	4	4	5	7	0	5	5	5	2	2	2	4	4	3	3	3	NO
K	N	N	N	1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NO
L	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	NO
	42	48	32	35	36	51	44	49	60	7	13	20	20	30	24	19	20	18	
Responses	8	8	8	8	8	8	8	8	8	3	8	8	9	8	8	8	9	5	
AVERAGE	5.25	6.00	4.00	4.38	4.50	6.38	5.50	6.13	7.50	2.33	1.63	2.50	2.22	3.75	3.00	2.38	2.22	3.60	
MODE	7	8;5	5	4	2	7	7	7	7;8	-	1	2;3	3	4	3	3	3	3	
Ranking of difficulty	4	6	1	2	3	8	5	7	9	-	1	3	2	4	3	2	1		

N = No response

APPENDIX K1
ORGANISATIONS' TICKLIST RESPONSES

QUESTION	DEMAINE	HERBST	SIEBERHAGEN	TOTAL	RESP	AVERAGE
1	4	4	4	12	3	4.00
2	4	3	3	10	3	3.33
3	4	3	3	10	3	3.33
4	4	3	4	11	3	3.67
5	5	5	4	14	3	4.67
6	5	5	4	14	3	4.67
7	3	4	5	12	3	4.00
8	3	2	3	8	3	2.67
9	3	3	3	9	3	3.00
10	2	4	4	10	3	3.33
11	4	5	3	12	3	4.00
12	4	3	3	10	3	3.33
13	2	4	2	8	3	2.67
14	4	5	4	13	3	4.33
15	3	3	3	9	3	3.00
16	3	2	2	7	3	2.33
17	3	4	3	10	3	3.33
18	2	3	4	9	3	3.00
19	4	4	4	12	3	4.00
20	4	2	3	9	3	3.00
21	1	2	3	6	3	2.00
22	5	4	4	13	3	4.33
23	2	2	3	7	3	2.33
24	4	2	4	10	3	3.33
25	1	3	3	7	3	2.33
26	2	3	3	8	3	2.67
27	3	2	3	8	3	2.67
28	4	4	2	10	3	3.33
29	5	4	2	11	3	3.67
30	4	3	2	9	3	3.00
31	4	3	4	11	3	3.67
32	4	3	3	10	3	3.33
	109	106	104	319	96	3.32

APPENDIX K2
ORGANISATIONS' ADJUSTED TICKLIST RESPONSES

QUESTION	DEMAINE	HERBST	SIEBERHAGEN	Total	RESP	AVERAGE
1	4	4	4	12	3	4.00
2	4	3	3	10	3	3.33
3	4	3	3	10	3	3.33
4	4	3	4	11	3	3.67
5	1	1	2	4	3	1.33
6	1	1	2	4	3	1.33
7	3	2	1	6	3	2.00
8	3	2	3	8	3	2.67
9	3	3	3	9	3	3.00
10	4	2	2	8	3	2.67
11	4	5	3	12	3	4.00
12	2	3	3	8	3	2.67
13	4	2	4	10	3	3.33
14	2	1	2	5	3	1.67
15	3	3	3	9	3	3.00
16	3	4	4	11	3	3.67
17	3	2	3	8	3	2.67
18	4	3	2	9	3	3.00
19	2	2	2	6	3	2.00
20	4	2	3	9	3	3.00
21	5	4	3	12	3	4.00
22	5	4	4	13	3	4.33
23	4	4	3	11	3	3.67
24	4	2	4	10	3	3.33
25	5	3	3	11	3	3.67
26	4	3	3	10	3	3.33
27	3	2	3	8	3	2.67
28	4	4	2	10	3	3.33
29	5	4	2	11	3	3.67
30	4	3	2	9	3	3.00
31	4	3	4	11	3	3.67
32	4	3	3	10	3	3.33
	113	90	92	295	96	3.07

APPENDIX K3
ORGANISATIONS' TICKLIST RESPONSES ADJUSTED AND CLUSTERED

QUESTION	DEMAINE	HERBST	SIEBERHAGEN	TOTAL	RESP	AVERAGE
MOTIVATION						
1	4	4	4	12	3	4.00
13	4	2	4	10	3	3.33
AVERAGE	4	3	4	11	3	3.67
NEEDS						
4	4	3	4	11	3	3.67
5	1	1	2	4	3	1.33
6	1	1	2	4	3	1.33
7	3	2	1	6	3	2.00
8	3	2	3	8	3	2.67
12	2	3	3	8	3	2.67
21	5	4	3	12	3	4.00
23	4	4	3	11	3	3.67
25	5	3	3	11	3	3.67
26	4	3	3	10	3	3.33
AVERAGE	3.20	2.60	2.70	8.50	3.00	2.83
LOCUS OF CONTROL OVER LEARNING / LEARNING AND STUDY HABITS						
2	4	3	3	10	3	3.33
3	4	3	3	10	3	3.33
9	3	3	3	9	3	3.00
10	4	2	2	8	3	2.67
11	4	5	3	12	3	4.00
14	2	1	2	5	3	1.67
15	3	3	3	9	3	3.00
16	3	4	4	11	3	3.67
17	3	2	3	8	3	2.67
18	4	3	2	9	3	3.00
19	2	2	2	6	3	2.00
20	4	2	3	9	3	3.00
22	5	4	4	13	3	4.33
24	4	2	4	10	3	3.33
27	3	2	3	8	3	2.67
31	4	3	4	11	3	3.67
AVERAGE	3.50	2.75	3.00	9.25	3.00	3.08
VIEWS ON ASP / SECONDARY SCHOOLING						
28	4	4	2	10	3	3.33
29	5	4	2	11	3	3.67
30	4	3	2	9	3	3.00
32	4	3	3	10	3	3.33
AVERAGE	4.25	3.50	2.25	10.00	3.00	3.33

APPENDIX L1
ACCOUNTANTS' TICKLIST RESPONSES

	A	B	C	D	E	F	G	H	I	J	K	L	TOTAL	NO.	AVERAGE
QUESTION															
1	4	5	5	4	5	5	4	4	N	4	4	N	44	10	4.40
2	3	5	3	4	5	4	5	1	N	4	4	N	38	10	3.80
3	4	4	4	4	4	3	4	5	N	4	4	N	40	10	4.00
4	5	4	5	4	4	3	4	4	N	4	3	N	40	10	4.00
5	3	3	3	1	2	3	2	2	N	2	2	N	23	10	2.30
6	2	3	3	3	3	3	3	2	N	2	3	N	27	10	2.70
7	2	1	2	2	2	2	3	2	N	2	1	N	19	10	1.90
8	1	1	5	N	5	3	5	5	N	N	1	N	26	8	3.25
9	4	5	5	4	4	4	4	3	N	5	5	N	43	10	4.30
10	2	3	4	2	2	3	3	3	N	2	1	N	25	10	2.50
11	5	4	4	5	4	5	5	5	N	4	3	N	44	10	4.40
12	2	1	5	3	2	4	2	3	N	3	3	N	28	10	2.80
13	2	2	1	2	1	3	2	2	N	2	1	N	18	10	1.80
14	2	1	3	2	2	1	2	2	5	3	2	N	25	11	2.27
15	5	4	5	5	4	4	N	4	1	4	4	N	40	10	4.00
16	1	3	1	1	2	1	3	1	3	1	3	N	20	11	1.82
17	1	3	1	3	2	2	2	3	5	1	1	N	24	11	2.18
18	1	2	1	2	1	3	2	2	5	2	1	N	22	11	2.00
19	3	3	5	1	2	3	1	1	3	2	1	N	25	11	2.27
20	5	4	4	4	4	4	4	5	1	4	4	N	43	11	3.91
21	3	2	1	2	2	3	2	1	3	2	1	N	22	11	2.00
22	4	4	3	4	5	5	3	4	1	3	3	N	39	11	3.55
23	2	2	1	2	2	3	3	1	4	2	1	N	23	11	2.09
24	3	3	3	3	4	4	3	3	1	3	3	N	33	11	3.00
25	3	3	1	1	3	3	1	2	5	2	1	N	25	11	2.27
26	3	3	1	2	2	2	2	3	3	2	2	N	25	11	2.27
27	4	4	3	2	4	5	5	5	1	4	4	N	41	11	3.73
28	4	4	4	1	4	N	4	N	3	4	5	N	33	9	3.67
29	1	2	1	5	1	5	2	1	1	2	N	N	21	10	2.10
30	5	2	1	2	4	4	1	5	4	2	1	N	31	11	2.82
31	4	3	3	5	1	2	3	2	5	2	1	N	31	11	2.82
32	4	3	5	1	3	5	1	3	3	5	1	N	34	11	3.09
	97	96	96	86	95	104	90	89	57	88	74	0	972	333	2.92

N = No response

APPENDIX L2
ACCOUNTANTS' ADJUSTED TICKLIST RESPONSES

QUESTION	A	B	C	D	E	F	G	H	I	J	K	L	TOTAL	NUMBER	AVERAGE
1	4	5	5	4	5	5	4	4	N	4	4	N	44	10	4.40
2	3	5	3	4	5	4	5	1	N	4	4	N	38	10	3.80
3	4	4	4	4	4	3	4	5	N	4	4	N	40	10	4.00
4	5	4	5	4	4	3	4	4	N	4	3	N	40	10	4.00
5	3	3	3	5	4	3	4	4	N	4	4	N	37	10	3.70
6	4	3	3	3	3	3	3	4	N	4	3	N	33	10	3.30
7	4	5	4	4	4	4	3	4	N	4	5	N	41	10	4.10
8	1	1	5	N	5	3	5	5	N	N	1	N	26	8	3.25
9	4	5	5	4	4	4	4	3	N	5	5	N	43	10	4.30
10	4	3	2	4	4	3	3	3	N	4	5	N	35	10	3.50
11	5	4	4	5	4	5	5	5	N	4	3	N	44	10	4.40
12	4	5	1	3	4	2	4	3	N	3	3	N	32	10	3.20
13	4	4	5	4	5	3	4	4	N	4	5	N	42	10	4.20
14	4	5	3	4	4	5	4	4	1	3	4	N	41	11	3.73
15	5	4	5	5	4	4	N	4	1	4	4	N	40	10	4.00
16	5	3	5	5	4	5	3	5	3	5	3	N	46	11	4.18
17	5	3	5	3	4	4	4	3	1	5	5	N	42	11	3.82
18	5	4	5	4	5	3	4	4	1	4	5	N	44	11	4.00
19	3	3	1	5	4	3	5	5	3	4	5	N	41	11	3.73
20	5	4	4	4	4	4	4	5	1	4	4	N	43	11	3.91
21	3	4	5	4	4	3	4	5	3	4	5	N	44	11	4.00
22	4	4	3	4	5	5	3	4	1	3	3	N	39	11	3.55
23	4	4	5	4	4	3	3	5	2	4	5	N	43	11	3.91
24	3	3	3	3	4	4	3	3	1	3	3	N	33	11	3.00
25	3	3	5	5	3	3	5	4	1	4	5	N	41	11	3.73
26	3	3	5	4	4	4	4	3	3	4	4	N	41	11	3.73
27	4	4	3	2	4	5	5	5	1	4	4	N	41	11	3.73
28	4	4	4	1	4	N	4	N	3	4	5	N	33	9	3.67
29	1	2	1	5	1	5	2	1	1	2	N	N	21	10	2.10
30	5	2	1	2	4	4	1	5	4	2	1	N	31	11	2.82
31	4	3	3	5	1	2	3	2	5	2	1	N	31	11	2.82
32	4	3	5	1	3	5	1	3	3	5	1	N	34	11	3.09
Average	3.84	3.63	3.75	3.69	3.91	3.74	3.68	3.97	2.05	3.81	3.74	0.00			

N = No response

APPENDIX L3
ACCOUNTANTS' TICKLIST RESPONSES ADJUSTED AND CLUSTERED

QUESTION	A	B	C	D	E	F	G	H	I	J	K	L	TOTAL	NO.	AVERAGE
MOTIVATION															
1	4	5	5	4	5	5	4	4	N	4	4	N	44	10	4.40
13	4	4	5	4	5	3	4	4	N	4	5	N	42	10	4.20
AVERAGE	4.00	4.50	5.00	4.00	5.00	4.00	4.00	4.00	0.00	4.00	4.50	0.00	43	10	4.30
NEEDS															
4	5	4	5	4	4	3	4	4	N	4	3	N	40	10	4.00
5	3	3	3	5	4	3	4	4	N	4	4	N	37	10	3.70
6	4	3	3	3	3	3	3	4	N	4	3	N	33	10	3.30
7	4	5	4	4	4	4	3	4	N	4	5	N	41	10	4.10
8	1	1	5	N	5	3	5	5	N	N	1	N	26	8	3.25
12	4	5	1	3	4	2	4	3	N	3	3	N	32	10	3.20
21	3	4	5	4	4	3	4	5	3	4	5	N	44	11	4.00
23	4	4	5	4	4	3	3	5	2	4	5	N	43	11	3.91
25	3	3	5	5	3	3	5	4	1	4	5	N	41	11	3.73
26	3	3	5	4	4	4	4	3	3	4	4	N	41	11	3.73
AVERAGE	3.40	3.50	4.10	4.00	3.90	3.10	3.90	4.10	2.25	3.89	3.80	0.00	37.8	10.2	3.71
LOCUS OF CONTROL OVER LEARNING / LEARNING AND STUDY HABITS															
2	3	5	3	4	5	4	5	1	N	4	4	N	38	10	3.80
3	4	4	4	4	4	3	4	5	N	4	4	N	40	10	4.00
9	4	5	5	4	4	4	4	3	N	5	5	N	43	10	4.30
10	4	3	2	4	4	3	3	3	N	4	5	N	35	10	3.50
11	5	4	4	5	4	5	5	5	N	4	3	N	44	10	4.40
14	4	5	3	4	4	5	4	4	1	3	4	N	41	11	3.73
15	5	4	5	5	4	4	N	4	1	4	4	N	40	10	4.00
16	5	3	5	5	4	5	3	5	3	5	3	N	46	11	4.18
17	5	3	5	3	4	4	4	3	1	5	5	N	42	11	3.82
18	5	4	5	4	5	3	4	4	1	4	5	N	44	11	4.00
19	3	3	1	5	4	3	5	5	3	4	5	N	41	11	3.73
20	5	4	4	4	4	4	4	5	1	4	4	N	43	11	3.91
22	4	4	3	4	5	5	3	4	1	3	3	N	39	11	3.55
24	3	3	3	3	4	4	3	3	1	3	3	N	33	11	3.00
27	4	4	3	2	4	5	5	5	1	4	4	N	41	11	3.73
31	4	3	3	5	1	2	3	2	5	2	1	N	31	11	2.82
AVERAGE	4.19	3.81	3.63	4.06	4.00	3.94	3.93	3.81	1.73	3.88	3.88	0.00	40	10.63	3.76
VIEWS ON ASP/SECONDARY SCHOOLING															
28	4	4	4	1	4	N	4	N	3	4	5	N	33	9	3.67
29	1	2	1	5	1	5	2	1	1	2	N	N	21	10	2.10
30	5	2	1	2	4	4	1	5	4	2	1	N	31	11	2.82
32	4	3	5	1	3	5	1	3	3	5	1	N	34	11	3.09
AVERAGE	3.50	2.75	2.75	2.25	3.00	4.67	2.00	3.00	2.75	3.25	2.33	0.00	29.75	10.25	2.90

N= No response

APPENDIX M
STATISTICS - THE CAs' EDEN TRUST

THE CAs' EDEN TRUST

THE CHARTERED ACCOUNTANTS' EDUCATION ENDOWMENT TRUST
STATISTICAL DATA

YEAR HELPED	PASSED ALL SUBJECTS				PASSED MOST SUBJECTS (A)				MOVED TO PART-TIME (B)				TERMINATED (C)				TOTAL			
	'89	'90	'91	'92	'89	'90	'91	'92	'89	'90	'91	'92	'89	'90	'91	'92	'89	'90	'91	'92
STUDY YEAR																				
1	23	15	20	25	7	16	5	12	4		1		14	12	16	15	48	43	42	52
2	7	26	33	15	6	10	10	9	1		2	1	1	9	8	10	15	45	53	35
3	11	18	21	40	9	5	11	2	2	5	7	6	1	4	2	10	23	32	41	58
4	3	5	12	17	4	4	3	1	1	4	8	9		1	4	2	8	14	27	29
TOTAL	44	64	86	97	26	35	29	24	8	9	18	16	16	26	30	37	94	134	163	174

(A) Sufficient credits to be promoted to the next year of study and will continue to be supported by the Trust.

(B) Students will study part-time and have entered into traineeship contracts.

(C) Students who have reached the limit for the renewal of their bursaries.

SUMMARY

	'89	'90	'91	'92
	%	%	%	%
Passed all subjects	47	48	53	56
Passed most subjects	28	26	18	14
Moved to part-time	8	7	11	9
	83	81	82	79
Terminated	17	19	18	21
	100	100	100	100

This is in line with university experience as a whole

PAAB RESULTS

YEAR	'90	'91	'92
Passed	–	4	6
Failed	3	4	13
Total	3	8	19