CHAPTER FOUR
ACADEMIC SUCCESS

Universities must accept that the implications of offering access to non-traditional students does not end, but rather begins, at the point of entry. This means providing sustained support to students throughout the course in relation to the external and internal factors that affect the learning process. Account needs to be taken of necessary changes in assessment, curriculum and student support. There is a need, in other words, to acknowledge that individual learning needs to be understood within an appreciation of how the context shapes learners, educators and the learning transaction itself (Caffarella & Merriam, 1999). Thus emphasising the various factors influencing and impacting on ultimately being academically successful. This chapter defines academic success and also addresses the predictors of academic success, more specifically, cognitive predictors of academic success.

4.1. Academic Success

Firstly, what is academic success? According to Ellis & Worthington (1994) and Scheuermann (2000), academic success comprises of successful students that have learned to effectively manage the academic and social demands of school/university, that are expected to succeed, and may be described as socially proficient, intrinsically motivated and goal oriented. Strydom (1996) defines academic success as a situation where learners progress and adjust competently in a specific context according to their specific needs and abilities thereby maximizing their learning development. The present research deems a participant as achieving academic success if he/she has obtained a minimum final year mark of 50%.

Success should be mutually inclusive (shared by all) and exclusively individualised in a sense that success rates and exit levels remain specific to individual needs and circumstances. According to Cele and Brandt (2003) success should be diversified in among others the following ways:

- Allow learners to play multiple roles in teaching and learning.
- Differentiate materials of the same subjects, based on contextual factors.
- Use differentiated language mix mode for teaching and learning.
- Assess learners when they are ready for assessment.
- Different exit levels in programmes.
- Paced differently based on individual circumstances.
- Exiting programmes with different qualifications.
- Preparing learners for different professional focuses and specialisations within the same qualifications.
- Ability to transfer competencies and modules to other programme frameworks, etc.

If student's progress and success rates are enhanced, such success cannot be attributed to a single variable, but to multidimensional variables. On the same note it should be highlighted that these multidimensional variables may be challenging to assess thus making academic success a difficult area of research to measure.

Given historical and enduring inequities in schooling provision, the level of pass of the majority of black applicants is such that they do not meet the entry requirements of most of the country's selective institutions (Cliff, 2003). For example, in 1993, 93% of the students who obtained a matriculation exemption attained D or E aggregates. According to Yeld (2001b); Badsha, Blake and Brock-Utne (1986); and Shochet (1986) there are two main admissions-related problems with this. First, research has consistently indicated that results in the D/E aggregate range do not effectively predict future academic performance. Second, there are simply not enough students (black, or otherwise, but particularly black) with endorsement passes to fill the country's higher education places and meet its needs for skilled person power.

In looking at factors that influence academic success it is important to bear in mind what level of competence/cognitive level are students entering higher

education. Chapter 3 gave a basic understanding of what cognitive skills are to be expected for students entering university as well as an idea of the skills that can be developed. More specifically, however, in a study by Yeld (2003), for example, results showed that the majority of registered students experience difficulties with classification and categorization, at least when applied to graphs. It would, therefore, seem important that courses at a first-year level do not take these abilities for granted. Basic instruction in the interpretation of graphs, as a minimum, would be necessary. More fundamental assistance in separating example from argument/category, in classifying and categorizing, is also called for (Yeld, 2003). Thus, increasing the chances of improved learning, and improved academic success.

Cliff (2003) points out that there is a vast and growing corpus of research into factors that can be said to influence academic success, especially of undergraduate students, and the ways in which these factors are nuanced by changing student populations and their academic and other needs. He further postulates that there seems to be two major sets of insights into what makes students engage successfully in higher education:

1. That factors influencing success are a complex blend of cognitive, affective, motivational, dispositional, socio-cultural, economic and institutional variables and,
2. That the changing characteristics of student bodies worldwide have foregrounded the need to better understand the complex relations between student and institutional characteristics and success. Thus it is evident that both cognitive and non-cognitive variables contribute and are indicators of academic success.

4.1.1. Non-cognitive variables

According to Wiltse, Kruppa and Lindgren (1979), cognitive measures alone have shown to account for about half the variance of academic performance, leaving a considerable amount unexplained. There is an assertion by researchers that non-cognitive variables such as self-concept, educational and cultural background, family and peer support and financial stability are

associated with academic performance (Astin, 1976; Sedlacek & Brookes, 1976). Non-cognitive variables include motivational and personality variables, biographical factors such as age, gender, health and marital status, socio-economic factors, academic factors such as study habits and study skills, as well as personal aspects such as values, emotional intelligence, self-esteem, etc. Research has indicated that these variables are as important in predicting academic success as are cognitive variables (Astin, 1976; Biggs, 1985; Monk, 1998).

For Vermunt and Verloop (1999), students' persistence is related to the extent to which they (students) are able to adjust their study approaches to meet the qualitatively high-level demands placed on them in a context of higher education study. The concept of constructive friction, accordingly, refers to the ability of students to perceive the high-level demands being placed on them, to be aware of any mismatches between these demands and their own possibly inadequate study approaches. Tinto's model (Ashar & Skenes, 1993; Tinto, 1997; Tucker, 1999), on the other hand, focuses more on the variables of the higher education institutional climate that might be said to be associated with student persistence. As indicated above, these might include factors such as institutional support for student learning and personal development, and integration of students into an academic and collegial community.

Much research has been done on different non-cognitive variables, attributing to and influencing academic success; however, to meet the aims of the present study, the researcher will only discuss cognitive variables in more detail. Although these variables are important, this study focuses on the cognitive variables used in the prediction of success, which follows in the next section.

4.2. Cognitive Predictors of Academic Success

Internationally, final year results from high school have generally been utilised for the purpose of admission to higher education. In South Africa particularly,

entry to higher education is primarily achieved by obtaining matriculation certificate with endorsement. Even though matriculation results remain the single best predictor of university success for white students (Griesel, Brandbury & Craig, 1993), it is also true that results in lower aggregate ranges of the Senior Certificate (SC) have been found to be very poor predictors of academic success (Yeld, 2001b). As by far the majority of educationally disadvantaged students achieve results in this range, it is neither helpful nor fair to base admissions decisions only on school-leaving results.

Therefore, success in this sense constitutes of the interplay between the language (medium-of-instruction) and the academic (typical tasks required in higher education) demands placed on the students, and having them eventually graduate with a qualification. This brings about the question of what are the language and thinking demands of the academic context that a student is expected to negotiate, and negotiate successfully. Cliff (2003) points out that successful students, by implication, are those who are able to negotiate the grammatical and textual structure of language and to understand its functional and socio-linguistic bases. In a higher education context, what this translates to is that successful students are able to:

1. Negotiate meaning at word, sentence, paragraph and whole-text level;
2. Understand discourse and argument structure and the text ‘signals’ that underlie this structure;
3. Extrapolate and draw inferences beyond what has been stated in text;
4. Separate essential from non-essential and super-ordinate from sub-ordinate information;
5. Understand and interpret visually encoded information, such as graphs, diagrams and flow-charts;
6. Understand and manipulate numerical information;
7. Understand the importance and authority of ‘own voice’;
8. Understand and encode the metaphorical, non-literal and idiomatic bases of language; and
9. Negotiate and analyse text genre.

This further emphasizes the importance of having an academic literacy profile of students. According to the above criteria of skills of successful students, it

can thus be deduced that the PTEEP language test should be an ideal tool to measure the cognitive predictors of academic success.

Successes and failures in academic achievement are not only attributed to differences in abilities but that factors such as thinking styles also have an effect on academic outcomes (Zhang, 2001). Results from a research, undertaken by Zhang (2001) of 424 university students from Hong Kong and China, found that certain thinking styles statistically contributed to the prediction of academic success. In another study by Cano-Garcia & Hewitt Hughes (2000) found that the interrelationship and influence of learning and thinking styles on academic achievement also provide evidence of a positive correlation between thinking styles and academic performance. These studies also emphasize the importance of the role cognitive development may play in academic literacy and academic success.

It has been found that students process what they learn in either ‘surface’ or ‘deep’ ways (Marton & Saljo, 1976a & b; 1984). This outlines the different ways we process information, thus, tapping into different cognitive skills used. According to Cliff (2003a) the ‘surface’ approach is characterized by learners (1) paying attention to the details of text without the necessary attention to underlying argument and meaning-making in that text; and (2) seeking to reproduce the content of text in a mechanistic sense to fulfill minimalist perceived assessment demands and without transforming that content and making sense of it for themselves. By contrast, the ‘deep’ approach is descriptive of learners who (1) actively seek to understand the point and the structure of the argument in what they are processing; and (2) transform what they are processing within their own meaning perspectives or seek to make meaning of their own. It would seem that students utilizing the ‘deep’ approach are more conducive to success in higher education. Marton & Saljo (1976a & b; 1984) also found that the way students processed text could at least to some extent be shaped by the kinds of questions they were asked about the particular text. The key issue of relevance is whether it is possible to identify ‘deep’ level students, or at least those with an aptitude for ‘deep’ level processing, prior to their commencing university study, by asking the kinds of

questions in an assessment task that demand this ‘deep’ level processing. Once again the PTEEP is proposed to be the measure that is capable of measuring students’ capacities for ‘deep’ level processing (Cliff, 2003a).

Furthermore, the PTEEP test is seen as a measure of the cognitive variable needed to predict academic success for the present study, as it proposes to include and test cognitive and language dimensions. It is important to note in a comparative study between a Language Proficiency test (HSRC) results and PTEEP in the Faculty of Business Informatics (IT, OMT, Banking), it was found that the PTEEP was the best predictor of students’ average performance in the first semester, which was also true for the black, African language group (Van der Walt, 2001). According to Van der Walt (2001) the PTEEP also contains a reasoning component and therefore will have more predictive value with regard to the Average mark. These results are not generalisable to students in the Faculty of Humanities, thus not valid for this cohort of students, emphasizing the importance of this study.

Therefore access should not only see student enrolment increasing, but also the increase in the rate of pipeline students’ progress, and student output/pass rates improved. Thus, outlining all the challenges facing higher education, more specifically access to higher education in South Africa and all the gaps that exist in access testing successfully being able to measure academic literacy and predicting academic success, the present study becomes an important one. Hence the aim of this study, to look at how a specific access test, the PTEEP, predicts academic success and literacy and how cognitive development plays a role in this.

4.3. Summary

In summary, academic success is defined by the present research as a minimum final year mark of 50%. The present research focuses on the influence of cognitive variables on academic success which constitutes of the interplay between the language (medium-of-instruction) and the academic (typical tasks required in higher education) demands placed on the students,

and having them eventually graduate with a qualification. It is further noted that even though there are criteria that translate what a successful student should be able to do, it is difficult to measure academic success. The next section discusses the methodology used in the present study.